

WASTEWATER TREATMENT PLANT INSPECTION PROGRAM 2012 – 2013 DATA REPORT



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LIST OF ABBREVIATIONS

ACEPD – Alachua County Environmental Protection Department

BNR – Biological Nutrient Removal

DMR – Discharge Monitoring Report

FDEP – Florida Department of Environmental Protection

GREC – Gainesville Renewable Energy Center

GRU – Gainesville Regional Utilities

MGD – Million Gallons per Day

MHP – Mobile Home Park

MW – Groundwater Monitoring Well

NOx – Nitrate plus Nitrite

RAS – Return Activated Sludge

TKN – Total Kjeldahl Nitrogen

TMDL – Total Maximum Daily Load

TN – Total Nitrogen

TP – Total Phosphorus

WAS – Waste Activated Sludge

WWTF – Wastewater Treatment Facility

1.0 REPORT SCOPE

This data report focuses on the results from Alachua County Environmental Protection Department's (ACEPD) inspections of wastewater treatment facilities (WWTFs) within Alachua County. This report concentrates on the data collected in 2012 and 2013, but includes data extending as far back as 2008 for the purpose of demonstrating data trends. Facility-reported nutrient parameters vary by permit; data were obtained from the Florida Department of Environmental Protection Department (FDEP). Effluent data collected during inspections conducted by ACEPD was also utilized. Nutrient loading rates were estimated by multiplying self-reported flow data and average effluent nutrient concentrations for each facility. Groundwater monitoring data were provided by FDEP for those treatment facilities that are required to submit this information, generally the larger municipal facilities. FDEP also provided data on biosolids/sludge disposal.

2.0 BACKGROUND AND INTRODUCTION

There are 18 wastewater treatment facilities (WWTFs) located in Alachua County that were permitted by Florida Department of Environmental Protection Department (FDEP) during 2012 and 2013 (Table 1 and Figure 1). The operators or owners of the WWTFs are required by their FDEP permit to self-monitor the quality of the effluent and to report the results to FDEP on a monthly basis. Facility requirements and the inspection program are presented in the Alachua County Unified Land Development Code Chapter 406 Article 12, Wastewater Treatment Facilities. The Alachua County Environmental Protection Department (ACEPD) has a wastewater program partially funded by the annual fees paid to the County by the owners of 16 of WWTFs. ACEPD does not inspect the UF WWTF, because they are considered a state entity and Gainesville Raceway does not pay annual fees. ACEPD does not permit wastewater facilities, but currently conducts inspections and collects effluent samples at most facilities on a quarterly basis. After each inspection ACEPD staff writes a letter communicating inspection results, noted concerns, and any compliance issues. The inspection form, the effluent data, and the summary letter are sent to the plant owner, plant operator, and FDEP's Northeast District Office Domestic Wastewater staff.

The wastewater facilities are inspected by ACEPD to ensure that they are operating properly, with an emphasis on nutrient removal. The FDEP permit does not require all facilities to sample for nutrient species in their monthly sampling, therefore ACEPD effluent grab samples are usually analyzed for nitrate + nitrite, Total Kjeldahl Nitrogen (TKN), ammonia, total nitrogen (TN), and total phosphorus (TP). This report will focus on nitrate (as it is the most mobile and environmentally sensitive form of nitrogen), total nitrogen, and total phosphorus. Nitrate + nitrite data is used as a surrogate for nitrate in situations where data are not available. The nitrite portion in wastewater effluent is normally low, with nitrate and ammonia typically composing the dominant forms of nitrogen.

Treated wastewater effluent is disposed of in various permitted ways including: public access re-use, treatment wetlands, sprayfields, injection wells, surface water discharges, absorption fields, and percolation ponds (also called rapid infiltration basins). The permitted effluent disposal methods for

each facility are listed in Table 1 and included in the following summary sections. FDEP considers all effluent disposal methods that recharge groundwater, including sprayfields, as re-use. However, for this report re-use refers to effluent that is treated to public access re-use standards and used in place of potable water, such as landscape irrigation. Regardless of disposal method, treated wastewater eventually becomes groundwater or surface water and can contribute to environmental degradation if it has high concentrations of nitrogen and/or phosphorus. Excessive nutrients can cause algal blooms, prolific plant growth, and fish kills in springs and surface waters. However, this water can also provide the important function of recharging the aquifer. Facilities discharging effluent to groundwater either directly or indirectly are also required to submit groundwater reports to FDEP; this data is included in the following sections.

Nutrient data used for this report include ACEPD's effluent sampling results and the facility's Discharge Monitoring Reports (DMR) obtained from FDEP. Effluent samples are collected by ACEPD as grab samples and are analyzed by a Florida Department of Health certified laboratory. Some of the FDEP nutrient permit limitations for the larger treatment facilities are based on flow proportioned composite samples, to compensate for variability of flow throughout the day. Since samples collected during ACEPD inspections are grab samples, the data collected by ACEPD for these parameters cannot be used to verify that the effluent at the larger facilities is in compliance with their permits. However, the data indicate the nutrient concentrations that are being released to the environment at the time of inspection and sampling.

The concentration of nutrients alone can be deceiving because the flow rates vary significantly between the facilities. The maximum permitted capacity ranges from 4,250 gallons per day to 14.9 million gallons per day (MGD). To gain perspective on possible environmental impacts from treated effluent, nutrient loading rates were estimated. The monthly average flow rate reported by each facility in their DMRs was used to calculate an average flow value for 2012 and 2013. The average effluent nutrient concentrations incorporated data collected by the facilities and ACEPD inspectors. The estimated nutrient loading rates are summarized in Table 2 and discussed for each facility in the following sections.

Wastewater sludge is a semi-solid byproduct material that is created as a residual during the wastewater treatment process. The mass of sludge is typically an accumulation of the dead microorganisms which are utilized to remove carbon and nutrients from the influent. Wastewater sludge can be further processed and treated to create biosolids. Biosolids that have been treated to the applicable standards can be land applied to dispose of the material while adding nutrients to the soil. The small package plants in Alachua County do not have the technology to process sewage sludge into biosolids, so they pay to have the sludge hauled to larger facilities for treatment and disposal. These smaller facilities generate less sludge, since they treat lower volumes of wastes. The following sections will include the mass of wastewater sludge, or biosolids, generated from the municipal facilities (Table 3)).

Table 1. Permitted Wastewater Treatment Facilities in Alachua County (2012 – 2013)

	Facility Name	Facility ID	Permit Expiration	Maximum Permitted Capacity (gallons/day)	Effluent Disposal Method	Nutrient Effluent Limitations* (mg/L)
MUNICIPAL FACILITIES	City of Gainesville GRU - Kanapaha	FL0112895	11/11/2015**	14,900,000	Underground Injection and Public Re-use (also have a permitted surface water discharge for emergencies)	Nitrate < 10 mg/L, Total Organic Nitrogen, Ammonia, TKN, Total Phosphorus, and Orthophosphate must be reported.
	City of Gainesville GRU - Main Street	FL0027251	3/18/2020	7,500,000	Surface Water Discharge to Sweetwater Branch and Public Re-use	Total Organic Nitrogen < 3.5 mg/L, Ammonia < 4.87 or 3.64 (depending on season), Unionized Ammonia < 0.02, Total Nitrogen, TKN, and Total Phosphorus must be reported. Total Nitrogen must be less than 40,380 lb/yr.
	University of Florida	FLA011322	12/8/2020	3,000,000	Underground Injection and Public Re-use	Total Nitrogen and Total Phosphorus must be reported
	City of Alachua	FLA011290	7/19/2016	1,500,000	Spray, Irrigation and Public Re-use	Nitrate + Nitrite and TKN must be reported
	City of Newberry	FLA011292	38/3/2016	415,000	Spray Irrigation	Total Nitrogen and Total Phosphorus must be reported
	City of High Springs	FLA286095	1/22/2018	240,000	Spray Irrigation	Nitrate must be reported
	City of Hawthorne	FLA011291	10/3/2020	150,000	Rapid Infiltration Basin	Total Nitrogen, Total Phosphorus, Nitrate + Nitrite must be reported
	City of Waldo	FL0042242	4/27/2013	99,000	Treatment Wetland to Surface Water (Wetland)	Total Nitrogen < 6 mg/L, Ammonia < 3.2, Unionized Ammonia < 0.02, Total Phosphorus < 2 (post wetland)
PACKAGE PLANTS	Arredondo Farms MHP (The Palms)	FLA011315	4/28/19	60,000	Rapid Infiltration Basin	Nitrate < 12 mg/L
	Brittany Estates MHP	FL0040215	8/28/2016	60,000	Surface Water Discharge to Little Hatchet Creek	Nitrate < 12 mg/L, Ammonia < 4.8, Total Organic Nitrogen < 6.4, and Total Phosphorus must be reported
	Camp Kulaqua	FLA011302	6/30/19	20,100	Rapid Infiltration Basin	Nitrate < 12 mg/L
	Micanopy Inn (formerly Knight's Inn and now Welcome Inn)	FLA011317	4/25/2020	15,000	Spray Irrigation	Nitrate must be reported
	Florida Welcome Station	FLA011313	6/30/19	9,000	Rapid Infiltration Basin	Nitrate < 12 mg/L
	Archer Homes	FLA011298	10/13/2020	8,300	Absorption Field	Nitrate < 12 mg/L
	Gainesville Raceway	FLA011312	5/9/2017	8,250	Spray Irrigation	No limitations
	Camp McConnell YMCA	FLA011293	3/11/2020	7,500	Absorption Field	Nitrate < 12 mg/L
	Archer Community School	FLA011281	8/18/24	5,000	Rapid Infiltration Basin	Nitrate < 12 mg/L
	Prairie View Apartments	FLA011307	9/9/2020	4,200	Rapid Infiltration Basin	Nitrate < 12 mg/L

* Facilities with groundwater effluent disposal do not have phosphorus permit limitations.

**FDEP Intent to Issue sent out 12/2/2015.

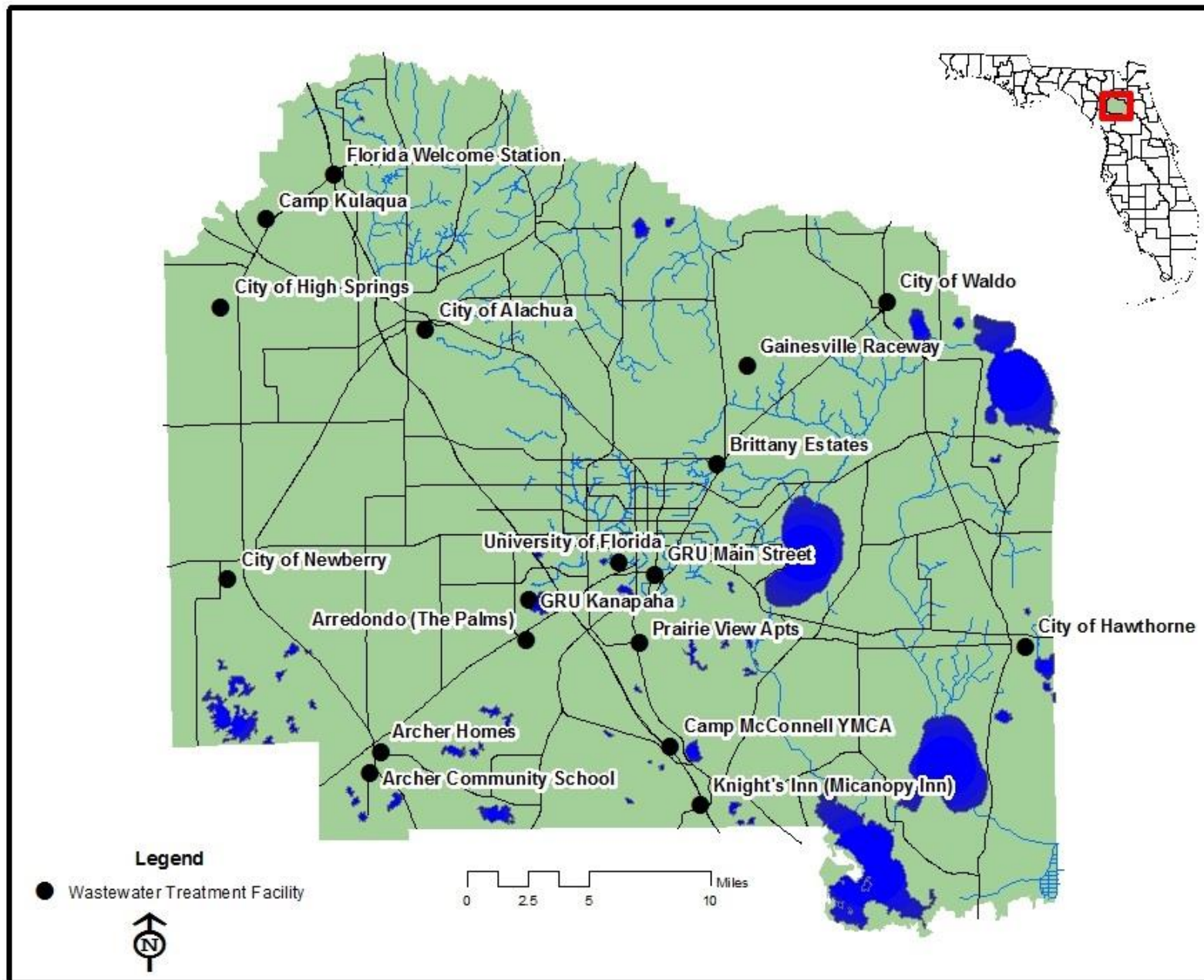


Figure 1. Location of Permitted Wastewater Treatment Facilities in Alachua County (2012 - 2013)

**Table 2. Estimated Average Nutrient Loading from Wastewater Treatment Facilities
(2012 - 2013)**

Facility Name	Total Nitrogen (lb/year)	Total Phosphorus (lb/year)
GRU - Main Street	118,758	23,159
GRU - Kanapaha	80,390	42,013
City of Newberry	19,191	3,904
University of Florida	18,836	10,706
City of Alachua	5,776	5,549
City of High Springs	4,154	1,638
Arredondo Farms MHP	2,321	382
City of Hawthorne	1,701	1,618
Brittany Estates MHP	742	263
City of Waldo (post-wetland)	680	382
Archer Community School	517	54
Florida Welcome Station	249	48
Archer Homes	208	48
Micanopy Inn (formerly Knight's Inn now Welcome Inn)	127	27
Camp Kulaqua	82	17
Camp McConnell YMCA	70	16
Prairie View Apartments	63	11

3.0 MUNICIPAL FACILITIES

There are eight municipal wastewater treatment facilities (WWTF) in Alachua County, including the University of Florida's facility. Municipal facilities are centralized wastewater facilities that treat a larger volume of wastewater compared to package plants, and the treatment facility is built on-site. Package plants are typically pre-fabricated and shipped to the site as one unit (WEF, 1985). The plant operators are required to spend more time at the municipal facilities (due to their larger treatment volume) and the facilities tend to utilize more advanced technologies compared to package plants, which tend to reduce nutrient concentrations further than package plants. The municipal facilities treat and discharge large volumes of effluent, which increases their potential to degrade water quality. The maximum permitted capacity for municipal facilities in Alachua County range from 0.099 million gallons per day (MGD) for the City of Waldo to 14.9 MGD for the Gainesville Regional Utilities (GRU) - Kanapaha WWTF. However, a joint project to decommission the City of Waldo wastewater treatment facility and connect to the GRU collection system was completed in August 2013. Currently the smallest municipal facility in the County services the City of Hawthorne with a maximum permitted capacity of 0.15 MGD.

The average total nitrogen and total phosphorus concentrations include reported nutrient data from each facility's Discharge Monitoring Report (DMR) and effluent sampling data from the ACEPD inspections (Figure 2). Effluent quality varied among the sampling events and among the various facilities. Some facilities were sampled more frequently than others and some have different reporting requirements for their DMRs. Each municipal facility is discussed in the following sections.

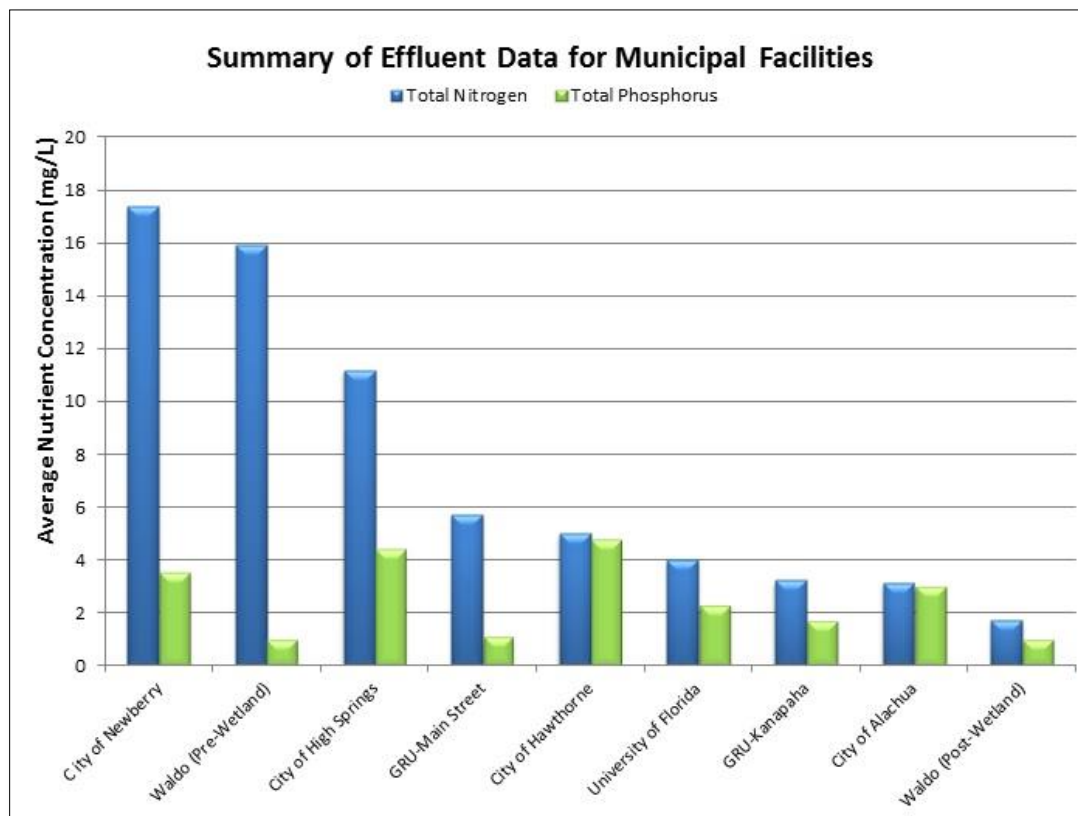


Figure 2. Average Effluent Nutrient Data for Municipal Facilities (2012 - 2013)

The environmental nutrient loading rates were estimated for each facility (Figure 3). The nutrient loading rates were estimated based on average flow rates and average nutrient concentrations for 2012 and 2013. Nutrient loading is largely driven by flow rates and the largest loading values are produced by the Gainesville Regional Utilities (GRU) Main Street and Kanapaha WWTFs (greater than 100,000 lb of Total Nitrogen per year at each facility, since they have the largest flows (average of 6.81 and 8.21 MGD, respectively).

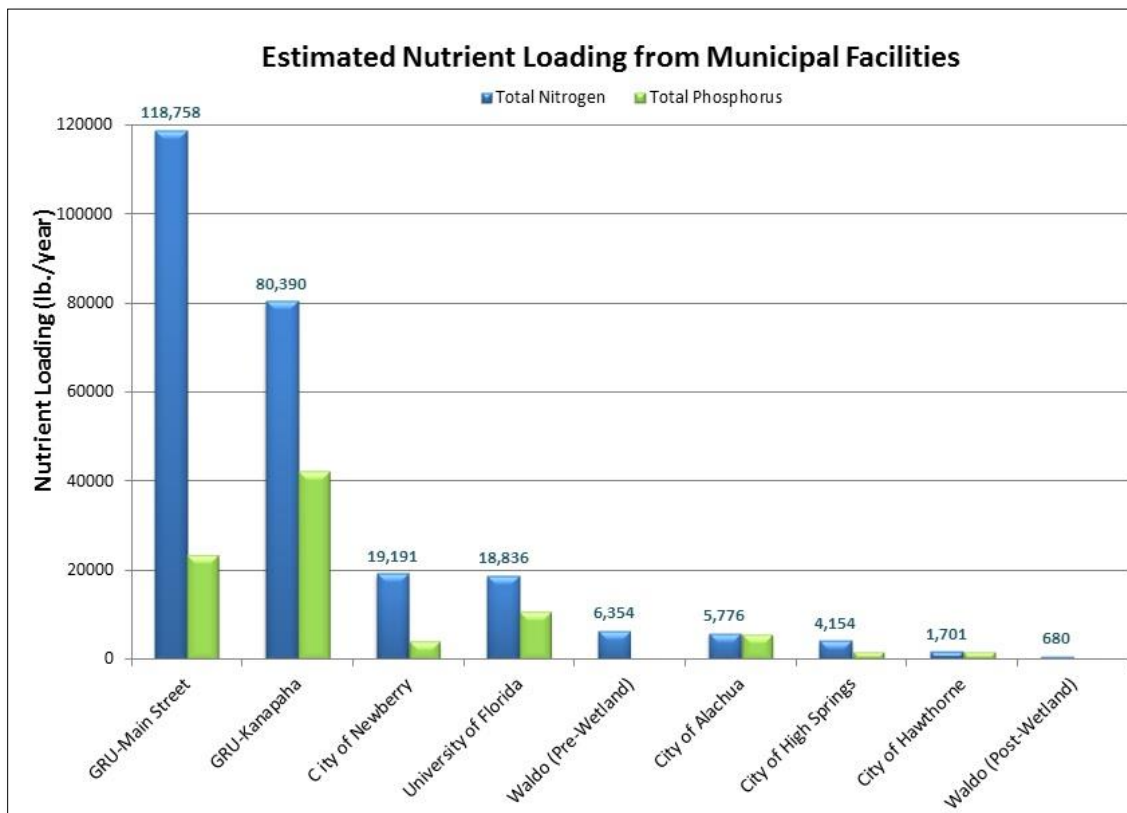


Figure 3. Estimated Nutrient Loading from Municipal Facilities (2012 - 2013)

The quantity of biosolids, or treated wastewater sludge, produced at the five largest municipal facilities during 2012 and 2013 were obtained from the DMRs and is summarized in Table 3. The disposal methods for each facility are discussed in the following sections. Biosolids (Class B) from the GRU Kanapaha and Main Street facilities are land applied at Whispering Pines Ranch, southwest of Archer. Many of the municipal WWTFs and package treatment plants transport their wastewater sludge to GRU for treatment and land application.

Table 3. Self-Reported Biosolids/Sludge Disposal Data for Municipal Wastewater Treatment Facilities (2012 – 2013)

Facility Name*	2012 Annual Quantity (dry-ton)	2013 Annual Quantity (dry-ton)	Disposal Method	Final Disposal Location
GRU - Main Street	1,108	1,033	Land Application	Whispering Pines Ranch
GRU - Kanapaha	2,103	2,539	Land Application	Whispering Pines Ranch
City of Newberry	11.7	4.1	Land Application	City of Newberry Treatment Facility Spray Field Site
University of Florida	1,606	NR	Hauled to GRU	Whispering Pines Ranch
City of Alachua	136.4	145.8	Land Application	Farms in Columbia and Suwannee Counties

NR = Not Reported

*City of High Springs, City of Waldo, and City of Hawthorne hauled to GRU for final disposal at Whispering Pines Ranch via land application

3-1 The City of Alachua

Facility size: 1.50 MGD

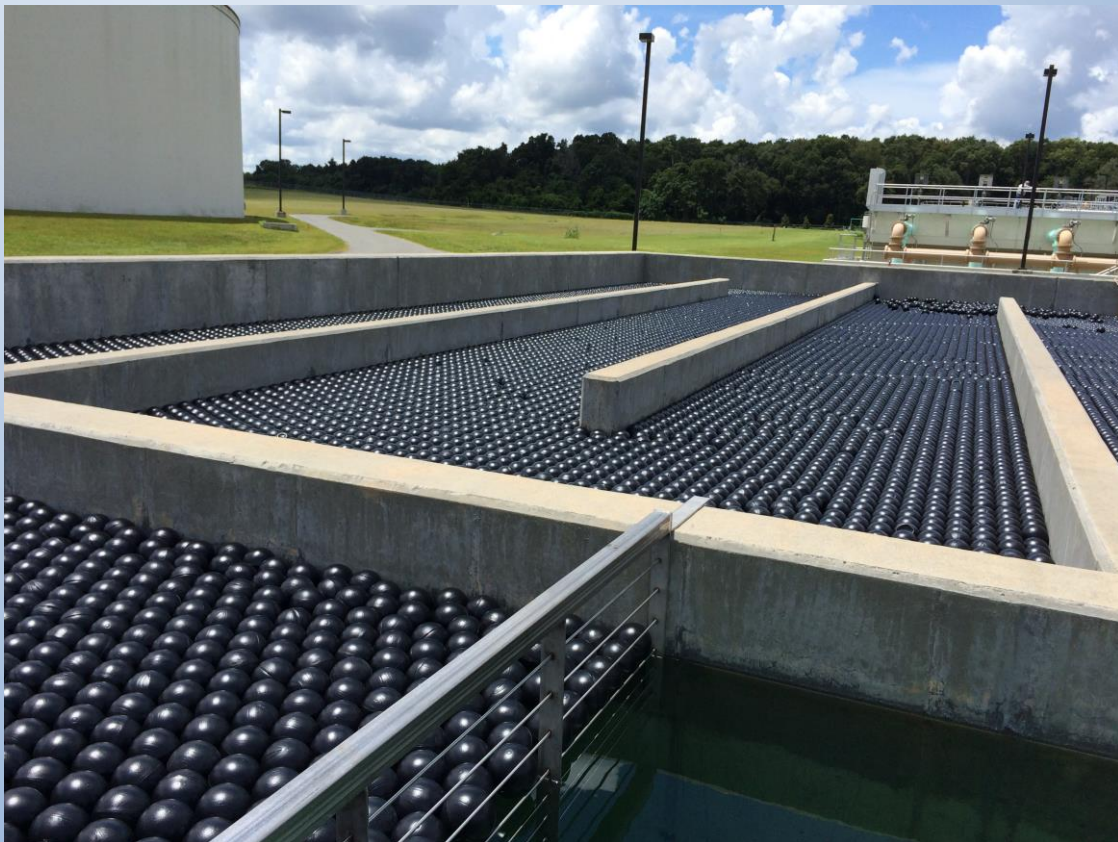
Permit expiration date: 7/19/2016

Permitted effluent disposal:

105 acre spray field, 244 acre area for re-use irrigation, and 197 acre golf course (public access re-use); course is currently inactive. As of October 2013, the effluent is transported via pipeline to the Gainesville Renewable Energy Center (GREC) for use as cooling water, and the existing spray field is utilized as a backup system when the GREC is not operational.

Residuals disposal:

Hauled to Class I landfill, or treated and land applied in Columbia and Suwannee Counties.



The chlorine contact chamber at the City of Alachua facility, plastic balls are used to reduce evaporation and cut down on disinfection costs

The City of Alachua domestic wastewater treatment facility was upgraded in March 2011. The plant now consists of two 0.75-MGD oxidation ditches for biological nutrient removal (BNR) using a Modified-Ludzack Ettinger process configuration, two secondary clarifier basins, return/waste activated sludge (RAS/WAS) pumping stations, sand filter, and two chlorine contact chambers. This facility was found to be in compliance during the four ACEPD inspections conducted in 2012 and 2013. Since the new plant went into operation, effluent sampling results indicate the upgraded plant is providing consistent nutrient removal (Figure 4). The current plant has two oxidation ditches which create zones of aerobic and anaerobic activity allowing microbes to breakdown nitrogen species into nitrogen gas which is released into the atmosphere. Effluent from this plant should be able to maintain nitrogen concentrations lower than the previous plant.

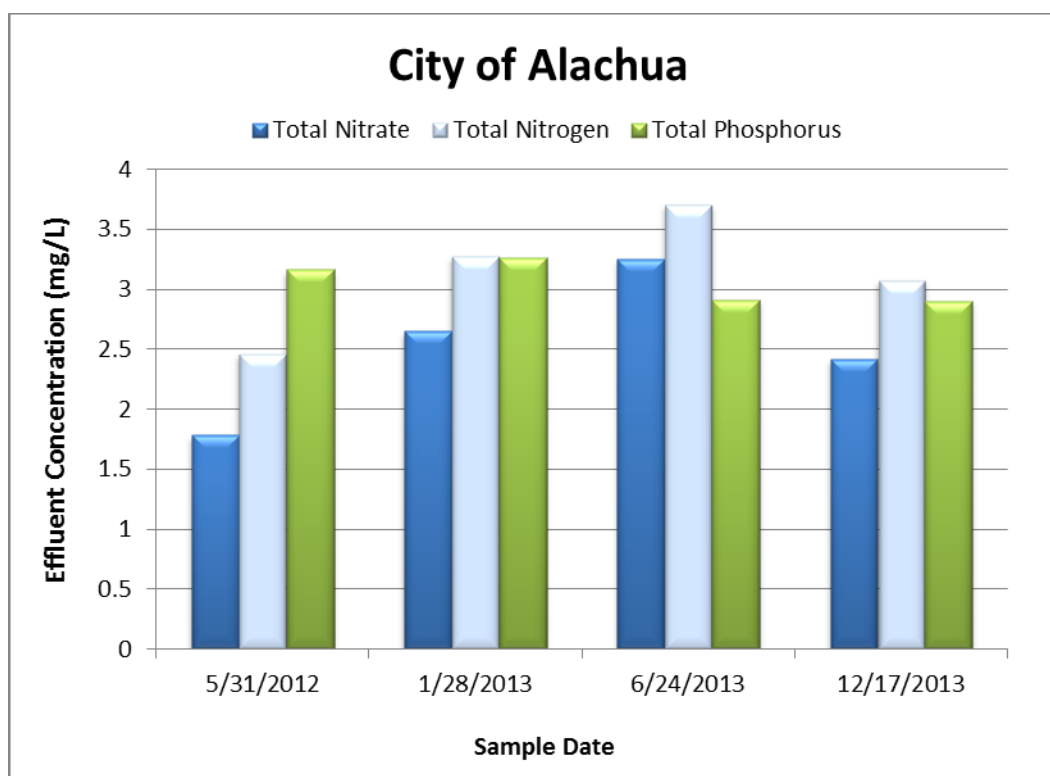


Figure 4. Effluent data from samples collected during ACEPD inspections at the City of Alachua WWTF

The monthly average flows in 2012 and 2013 (monitoring location EFB-1, monitoring group R-001) were used to calculate an average flow of 0.61 MGD. Nutrient concentrations collected by ACEPD and reported by facility operators were then averaged and used to estimate the nutrient loading rate from this facility. Nitrate data, reported as maximum values observed by the facility, and total nitrate data collected by ACEPD were used to estimate a loading of 6,045 lb/year. The City of Alachua is not required to monitor for total phosphorus or total nitrogen; ACEPD inspection data were used to estimate loadings of 5,776 lb/year and 5,549 lb/year, respectively (note that nitrate values were calculated using both data reported from the facility and ACEPD, and in this case, more nitrate values were reported, yielding a higher loading rate than total nitrogen). There was a noticeable decrease in total nitrogen loading, after the facility upgrade in 2011; and a similar decline in nitrate loading (Figure 5). Table 2 compares these values to those of the other wastewater treatment facilities located in Alachua County.

Large nitrate loads, regardless of the source, are a concern in such proximity to the Santa Fe River and springs system. A dye trace study conducted by Karst Environmental Services for ACEPD found a connection from nearby Lee Sink and the Mill Creek Sink to Hornsby Springs, a first magnitude spring on the Santa Fe River (Butt et al., 2006). When the City of Alachua upgraded their plant it was designed to maximize de-nitrification with a new oxidation ditch treatment facility. If effluent concentrations remain constant, the new facility may be able to double its treatment volume and have the same total nitrogen loading rate as the previous WWTF. Loading rates for total phosphorus indicate that the new plant and its larger volumes are discharging more phosphorus than the previous facility. Typically wastewater treatment does not focus on phosphorus removal; however, it may be important for the City of Alachua to keep watch on their total phosphorus loading so it does not accumulate in the soil over time.

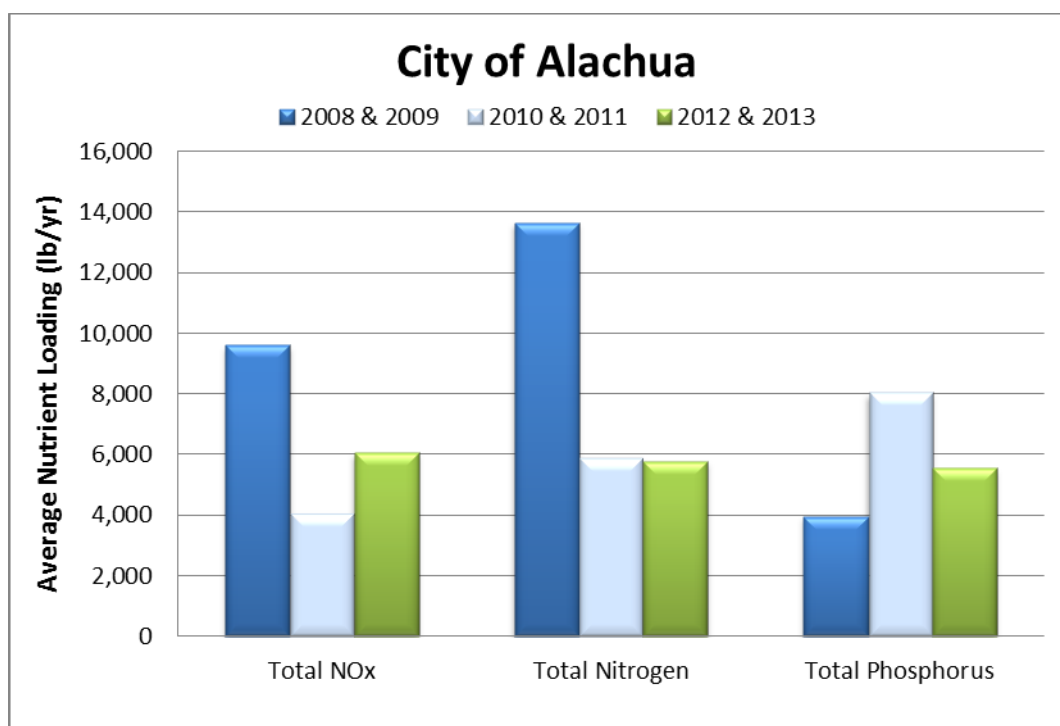


Figure 5. Estimated Nutrient Loading Values for the City of Alachua WWTF (2008 – 2013)

The City of Alachua is required by FDEP to sample their groundwater monitoring wells on a quarterly basis. The background wells are labeled with a “B”, compliance wells are labeled with a “C”, and intermediate wells are labeled with an “I”. High nitrate values were consistently measured at Compliance Well One (MWC-1), and the City of Alachua argued in 2006 that this well is up-gradient of their effluent disposal. FDEP worked with the City of Alachua and re-designated this well as a background monitoring well (MWB-1, Figure 6). The high nitrate values detected at this well are thought to be influenced by the groundwater contamination at the adjacent site which is the former Copeland Sausage Plant (JEA, 1998 and Universal Engineering Sciences, 2010). The concentration of nitrates in the groundwater of this area often exceed the drinking water standard of 10 mg/L. With the expansion of the facility, new compliance wells were installed in 2011 (MWC-7 and MWC-8).

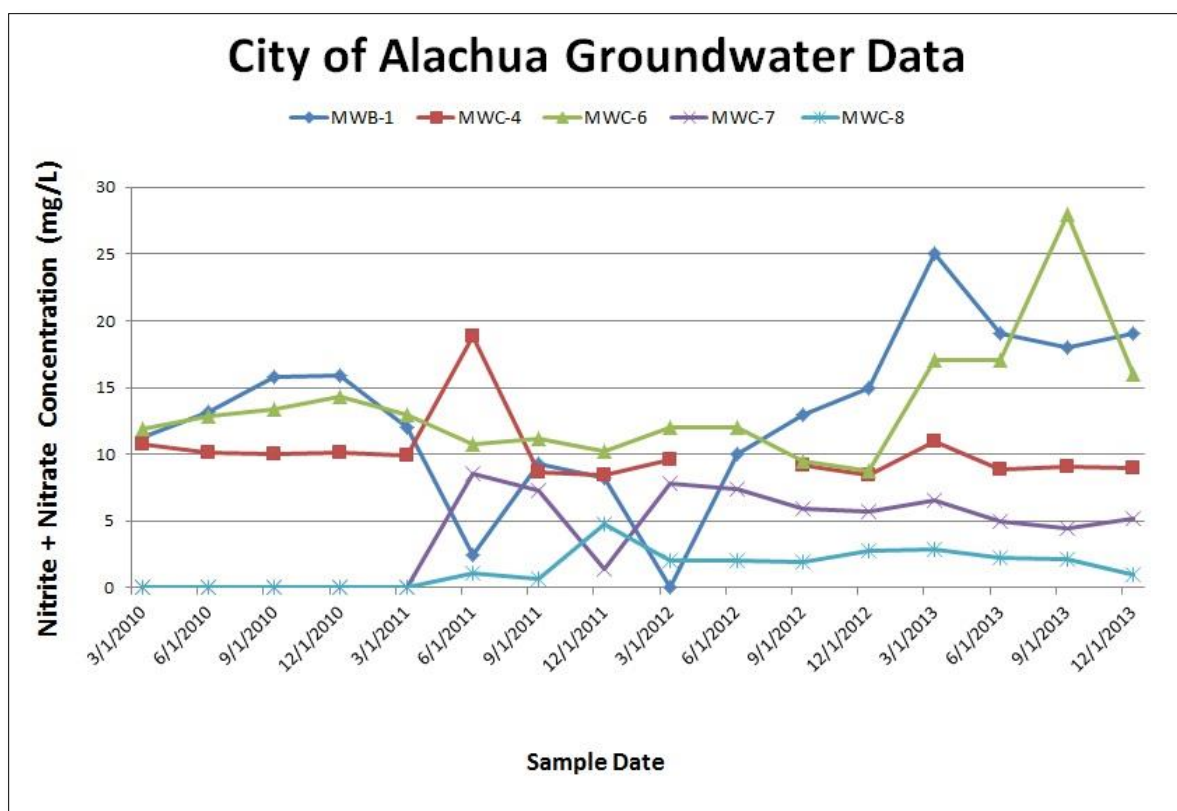


Figure 6. Groundwater Data from the City of Alachua WWTF for Nitrite + Nitrate

The treatment facility is permitted to land apply biosolids that have achieved class B pathogen reduction. According to data provided by FDEP, the facility produced 136 dry tons of biosolids in 2012 and 146 dry tons in 2013 (Table 3). These biosolids are treated and are land applied at the Glenn Farms RAF and Rolling R Ranch RAF in Columbia and Suwannee Counties.

3-2 The City of Gainesville, GRU – Kanapaha Facility**Facility Size:** 14.9 MGD**Permit expiration date:** 11/11/2015**Permitted effluent disposal:**

Underground injection well and 6.89 MGD public access re-use.

Residuals disposal:

Land applied at Whispering Pines Ranch.



The clarifiers at the GRU Kanapaha facility

The Gainesville Regional Utilities Kanapaha WWTF includes a 10 MGD Modified Ludzak-Ettinger extended aeration activated sludge system and a 4.9 MGD oxidation ditch system with pre-denitrification biological nutrient removal. The plant is inspected annually by ACEPD and was found in compliance during the 2012 and 2013 inspections. The effluent sample results were within the FDEP permit limitations and the nutrient concentrations were relatively low (Figure 7).

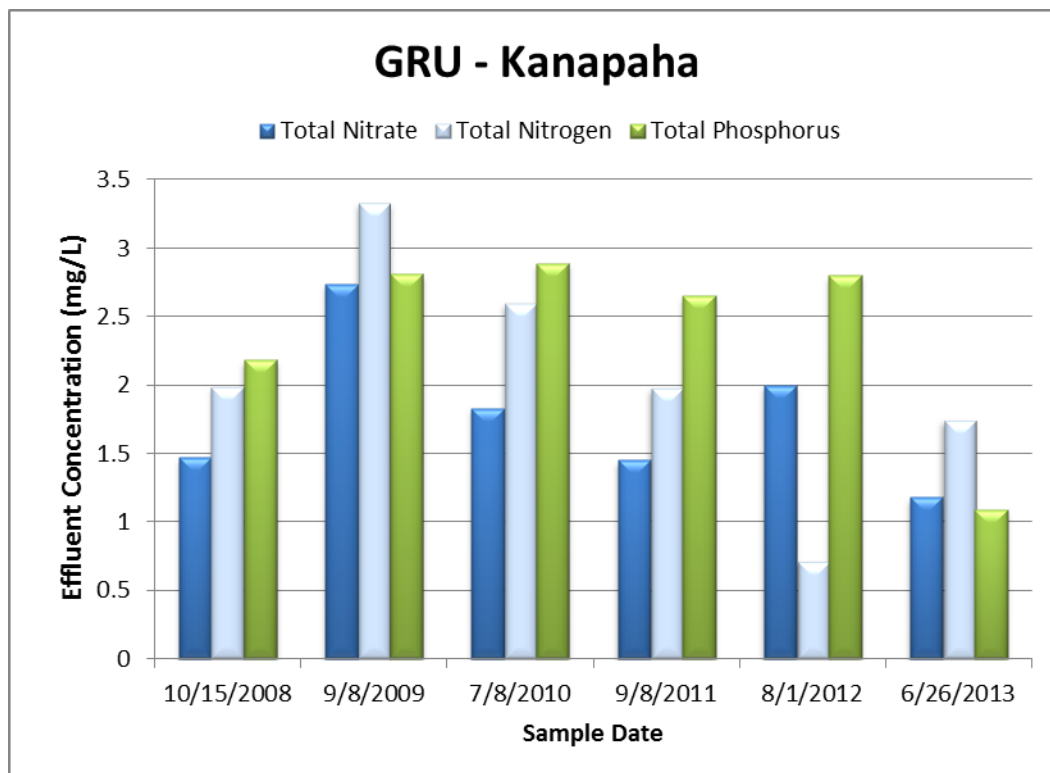


Figure 7. Effluent data from samples collected during ACEPD inspections at the GRU - Kanapaha WWTF

The majority of the Kanapaha effluent is injected into the Floridan aquifer via deep well injection, at a depth interval of 450 – 1200 feet via four wells. Up to 6.89 MGD of Kanapaha effluent is permitted for public access re-use for applications such as irrigating schools, residential lawns, parks, fire protection, Kanapaha Botanical gardens, and tanker trucks for pesticide application, dust control, and other activities. Effluent data collected by the facility and ACEPD during inspections in 2012 and 2013 were used to determine the average nutrient concentration and estimate nutrient loading values for this facility (Table 4).

Table 4. Effluent loading rates at the GRU Kanapaha facility

GRU Kanapaha WWTF	Flow Rate (MGD)	Nitrate (lb/year)	Total Nitrogen (lb/year)	Total Phosphorus (lb/year)
Total Inflow	8.21	70,158	80,390	42,013
Deep Well Injection	6.31	53,878	77,881	32,315
Public Re-Use	1.88	16,069	23,228	9,638

Table 2 compares the total loading values to those of the other wastewater treatment facilities located in Alachua County. Loading from 2012 - 2013 continue to show a decreasing trend when compared to previous year's data (Figure 8). Lower loading rates are a result of lower flows; GRU has been directing a portion of the flow to the GRU-Main Street WWTF to operate that facility near maximum capacity.

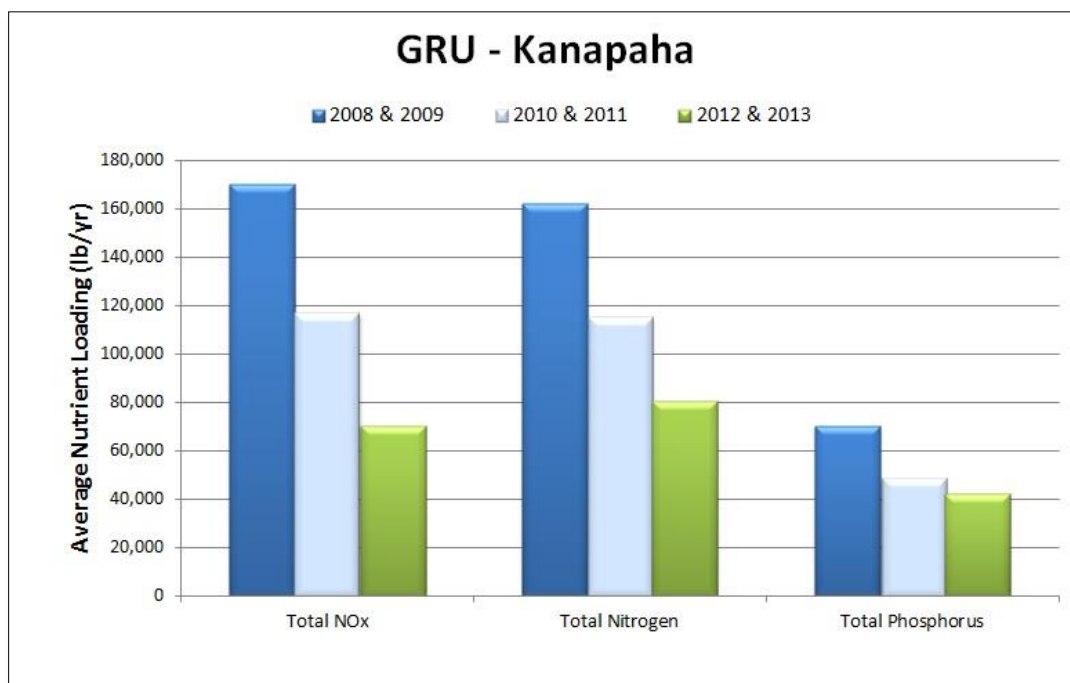


Figure 8. Estimated Nutrient Loading Values for the GRU – Kanapaha WWTF (2008 – 2013)

GRU is required to sample their groundwater monitoring wells at the Kanapaha facility and submit the results to FDEP. The background wells are labeled with a “B” and the compliance wells are labeled with a “C”. Two specific conductive zones are monitored by the wells, a shallow zone above 250 feet below the land surface (labeled with a “S”) and a deeper zone below 450 feet below land surface (labeled with a “D”). The MWC-2 wells are located less than one-tenth of a mile west of the facility. The nitrate concentrations at monitoring well MWC-2D are not steady, but do appear to be increasing (Figure 9). A longer period of record would be needed to confirm this observation.

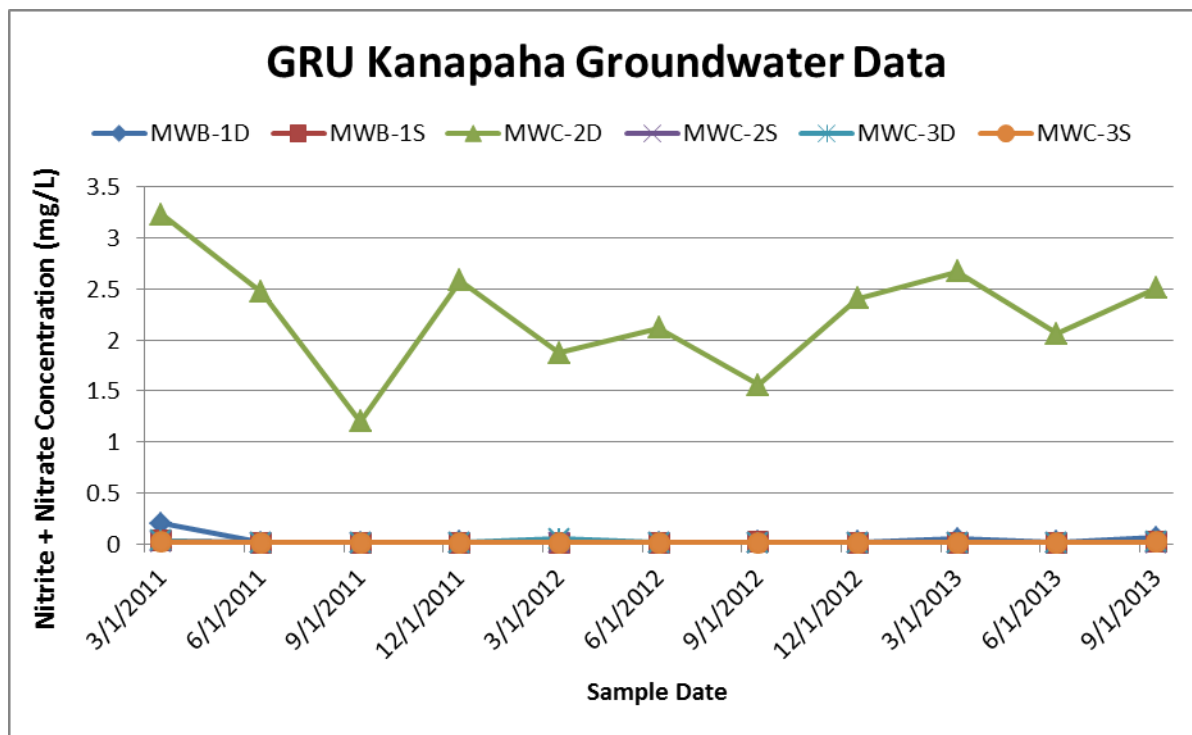


Figure 9. Groundwater Data from the GRU – Kanapaha WWTF for Nitrite + Nitrate

The wastewater residuals (sludge) are treated to Class B standards and then land applied as outlined in the facility’s Agriculture Use Plan(s). The disposal site is Roger Williams Farm/Whispering Pines Ranch. According to FDEP’s records, 2,103 dry tons of biosolids were produced in 2012 and 2,539 dry tons were produced in 2013.

3-2 The City of Gainesville, GRU – Main Street Facility

Facility Size: 7.5 MGD

Permit expiration date: 3/18/2020

Permitted effluent disposal:

7.5 MGD discharge to Sweetwater Branch and 3.309 MGD public re-use.

Residuals disposal:

Land applied at Whispering Pines Ranch.



The aeration basin at the GRU Main St. Facility

The Gainesville Regional Utilities Main Street facility is an advanced secondary activated sludge plant and is inspected annually by ACEPD. The plant was found in compliance during the 2012 and 2013 inspections and the effluent was within the FDEP permit limitations (Figure 10). The effluent from the Main Street facility is discharged to Sweetwater Branch that historically was channelized through Paynes Prairie State Preserve, before discharging directly to the Floridan aquifer via Alachua Sink. There are no groundwater monitoring wells associated with the Main Street facility, since this plant discharges to surface waters.

Alachua Sink has a Total Maximum Daily Load (TMDL) requiring a 45% reduction in nitrogen inputs. Construction started on the Paynes Prairie Sheetflow Restoration Project in 2012 to reduce nutrient loading to Alachua Sink by restoring sheetflow and eliminating the direct discharge of water from Sweetwater Branch to Alachua Sink. This project, completed in 2015, includes constructed treatment wetlands to reduce nutrients and recharge Paynes Prairie. In 2014 the Main Street WWTF began adding aluminum sulfate to meet loading requirements for the newly constructed wetland. Additional plans to upgrade the facility to further reduce nutrient loading to Sweetwater Branch and Paynes Prairie to meet the TMDL include replacing the headworks within the next five years.

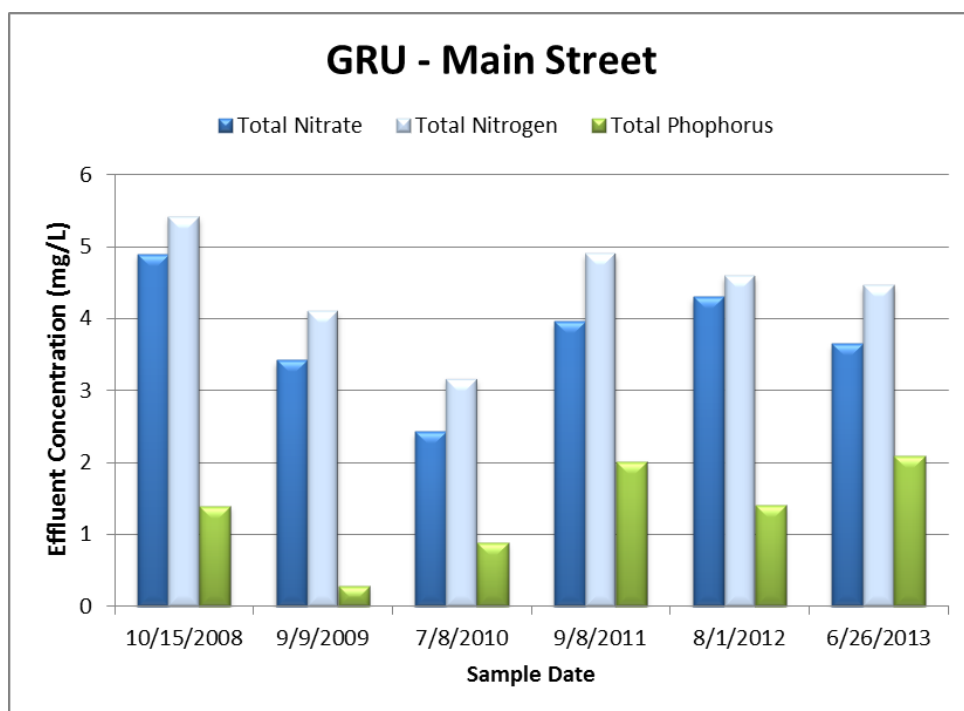


Figure 10. Effluent data from samples collected during ACEPD inspections at the GRU – Main Street WWTF

Monthly average effluent flow data from 2012 and 2013 were used to calculate an average flow of 6.81 MGD. Average nutrient concentrations were then multiplied by this flow rate to estimate the nutrient loading rate from the facility (Figure 11). Monthly average data reported by the facility and ACEPD inspection data were averaged to estimate loading of 81,862 lb/year of nitrate, 118,758 lb/year of total nitrogen, and 23,159 lb/year of total phosphorus. The estimated nutrient loads have been increasing as expected, since flows diverted from the GRU Kanapaha WWTF have increased during this reporting period.

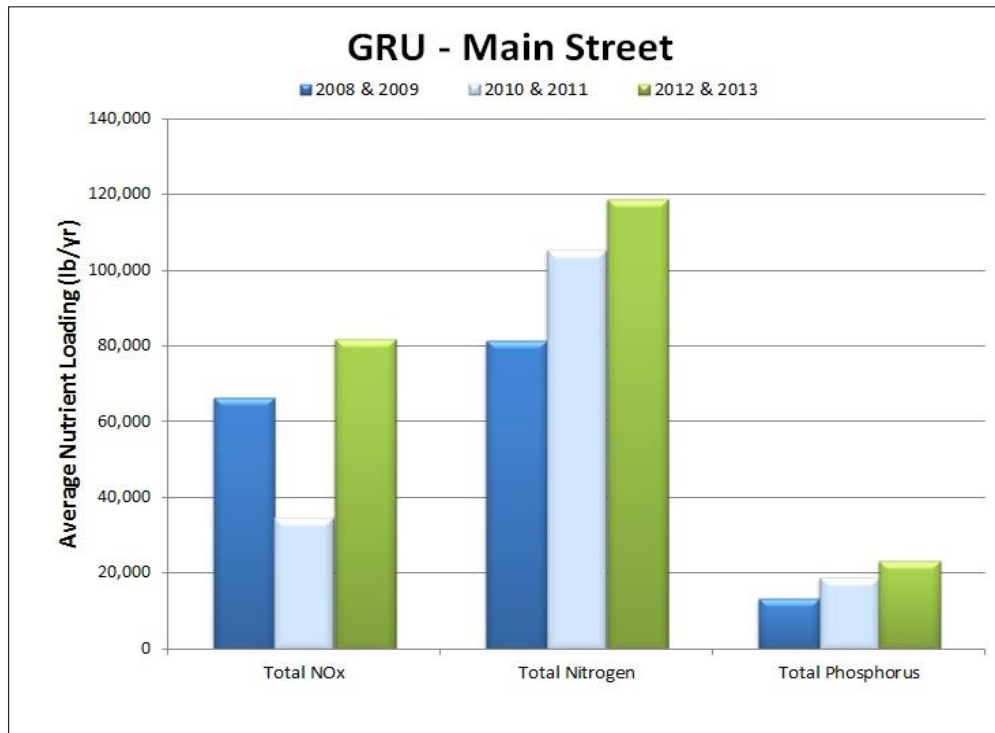


Figure 11. Estimated Nutrient Loading Values for the GRU – Main Street WWTF (2008 – 2013)

The wastewater residuals (sludge) are treated to Class B standards and then land applied as outlined in the facility's Agriculture Use Plans. The disposal site is Roger Williams Farm/Whispering Pines Ranch. According to FDEP's records, 1,108 dry tons of biosolids were produced in 2012, while 1,033 dry tons were produced in 2013 at the Main Street Facility.

3-4 The City of Hawthorne

Facility size: existing 0.15 MGD

Permit expiration date: 10/3/2020

Facility to be expanded to 0.50 MGD

Permitted effluent disposal:

1.79 acres of rapid infiltration basins to be expanded to 4.77 acres.

Residuals disposal:

Transported to GRU.



The City of Hawthorne Wastewater Treatment Facility

The City of Hawthorne municipal wastewater treatment plant is an extended aeration secondary treatment plant. ACEPD conducted five inspections during 2012 and 2013 and the facility was found to be in compliance during all inspections. Effluent sample results were relatively low for most of the inspections. However, the samples collected during the September 2013 inspection resulted in the highest nutrient results since January 2010, with total nitrogen of 12.1 mg/L and total phosphorus of 7.67 mg/L (Figure 12). Elevated nutrient concentrations levels are a concern with the proximity of Little Orange Lake. However, the effluent was in compliance with the FDEP permit, as this permit does not have numeric limitations for nutrients.

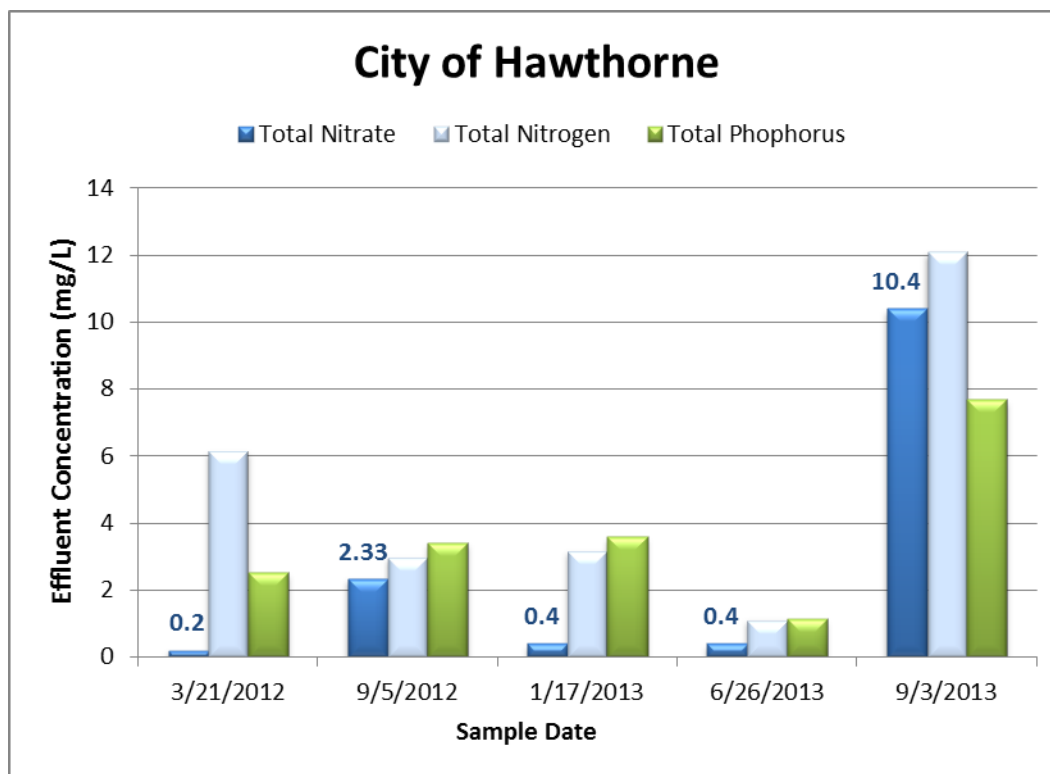


Figure 12. Effluent data from samples collected during ACEPD inspections at the City of Hawthorne WWTF

The monthly average flows of effluent from 2012 and 2013 were used to calculate an average flow of 0.11 MGD. Average nutrient concentrations were then multiplied by this flow rate to estimate a nutrient loading rate from the facility. Monthly maximum nutrient concentrations as reported by DMRs and data collected by ACEPD during 2012 and 2013 were used to calculate a loading of 453 lb/year of nitrate (Figure 13). Although the facility does not have a numeric limitation for total nitrogen and total phosphorus, they are required to report the concentrations in their effluent. The estimated loading rates for total nitrogen and total phosphorus are 1,701 and 1,618 lb/year, respectively. The estimated total nitrogen loading for this period is the lowest observed since 2008. Nitrate and total phosphorus loading rates are similar to the 2010 – 2011 data, and lower than the 2008 – 2009 data. Table 2 compares these values to those of the other wastewater treatment facilities located in Alachua County.

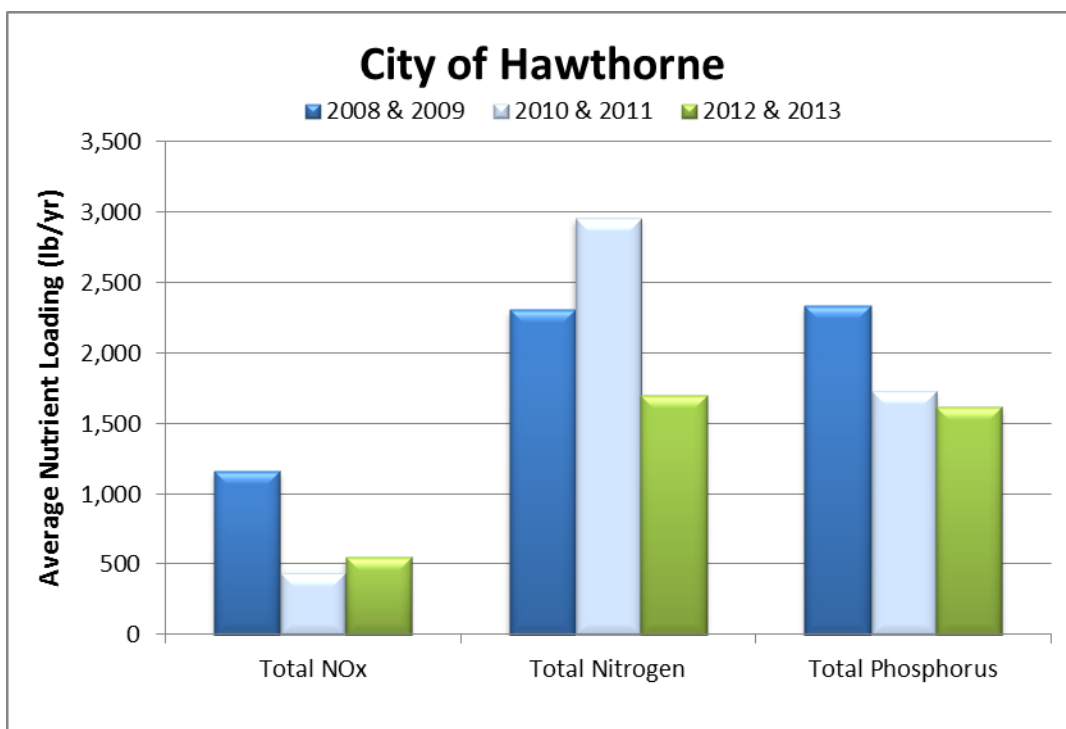


Figure 13. Estimated Nutrient Loading Values for City of Hawthorne WWTF (2008 – 2013)

The City of Hawthorne is required to sample their groundwater monitoring wells and submit the results to FDEP on a quarterly basis. The background well is labeled with a “B” and the compliance wells are labeled with a “C”. All of these wells are open to the surficial aquifer. The nitrate concentrations varied among the wells and the sampling events but none exceed the drinking water standard of 10mg/L (Figure 14). In 2012, the facility ceased monitoring at MWC-2, MWC-3, and MWC-4 and initiated monitoring at MWC-5 and MWC-6 when the rapid infiltration basins were expanded.

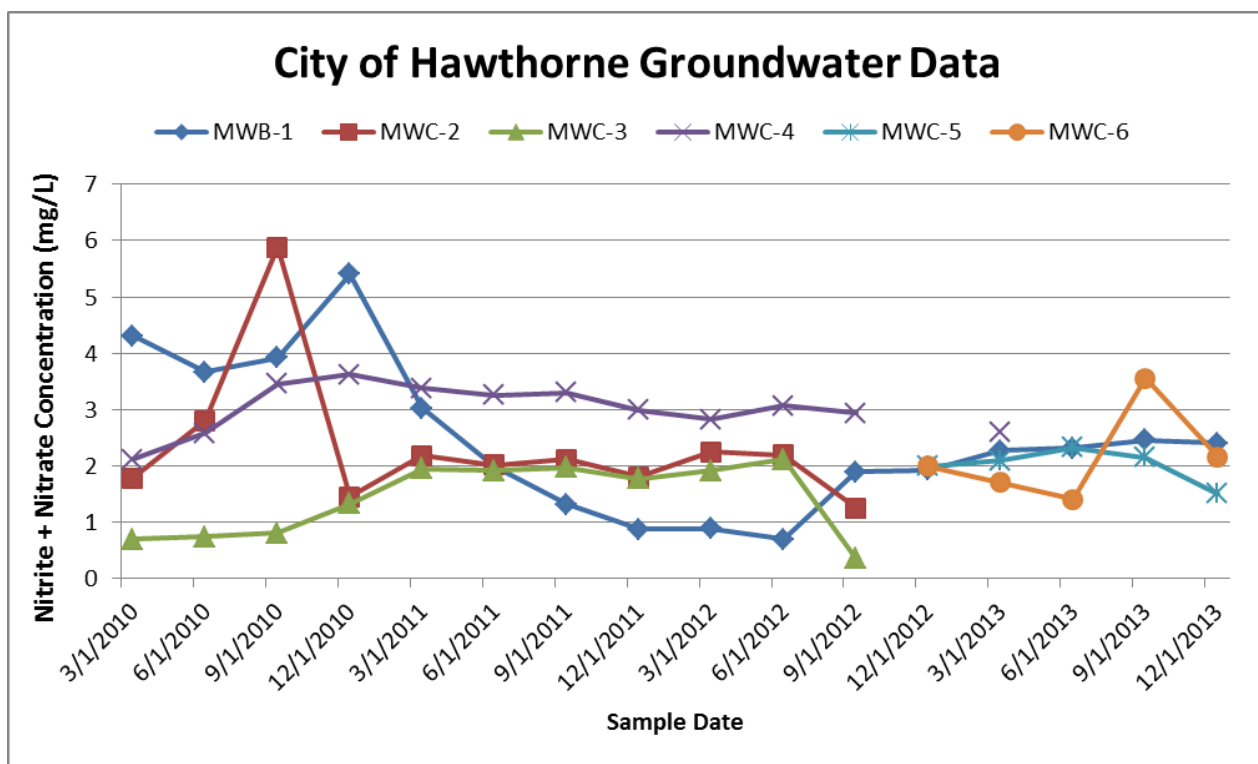


Figure 14. Groundwater Data from the City of Hawthorne WWTF for Nitrite + Nitrate

The City of Hawthorne hires Gainesville Regional Utilities to pump their residuals (sewage sludge) and to haul it for further treatment at one of Gainesville Regional Utilities' treatment facilities.

3-5 The City of High Springs

Facility size: 0.24 MGD

Permit expiration date: 1/22/2018

Permitted effluent disposal: 16.25 acres of spray field.

Residuals disposal: Transported to GRU.



The City of High Springs aeration basin

The City of High Springs municipal wastewater treatment plant is a Ludzak-Ettinger activated sludge plant. This facility was found to be in compliance during all seven of the ACEPD inspections conducted in 2012 and 2013. The occasional elevated nitrogen and phosphorus concentrations in the treated effluent (Figure 15) are of concern in the karst setting of the plant's spray field and with its proximity to the Santa Fe River and its springs. FDEP has required The City of High Springs to demonstrate an established cover crop on the existing spray field before the spray field can be expanded as planned in the most recent permit.

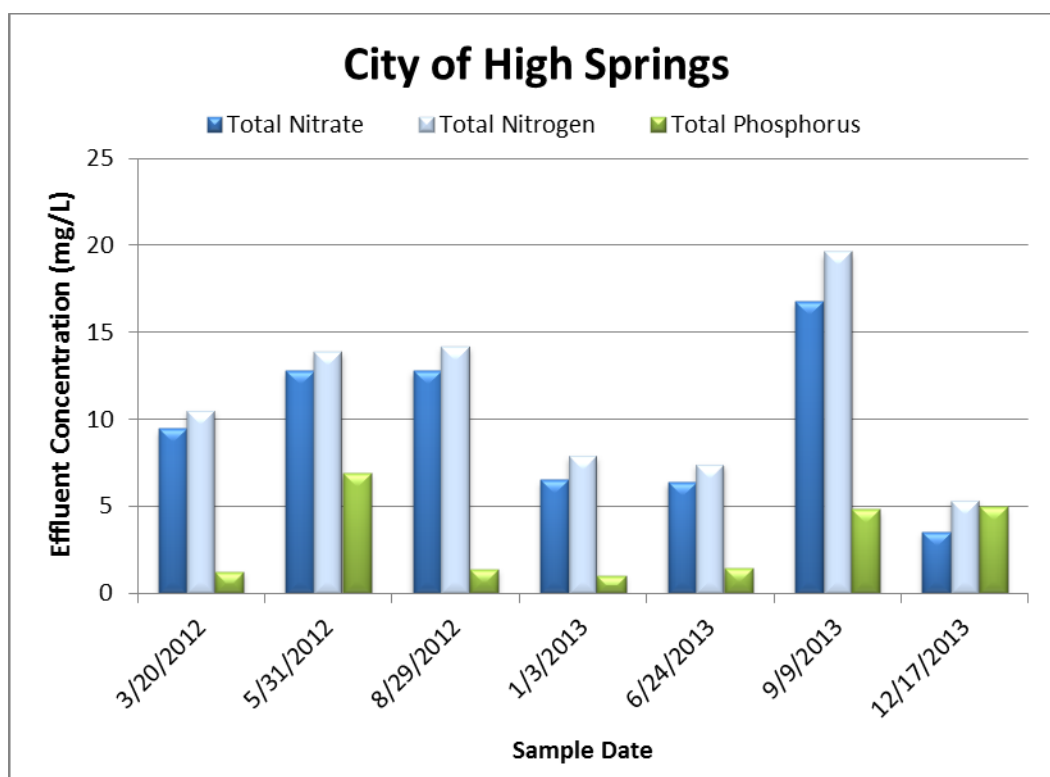


Figure 15. Effluent data from samples collected during ACEPD inspections at the City of High Springs WWTF

The monthly average flow of effluent from 2012 and 2013 were used to calculate an average flow of 0.12 MGD. Average nutrient concentrations were then multiplied by this flow rate to calculate an average loading rate from the facility. Monthly maximum nutrient data reported by the facility and data collected by ACEPD during inspections were combined to estimate loading of 3,932 lb/year of nitrate, 4,154 lb/year of total nitrogen, and 1,638 of total phosphorus (Figure 16). These values are similar to the 2010 – 2011 data but larger than previous results. The treatment volume to the High Springs WWTF increased after the 2008 – 2009 reporting period causing increased nutrient loading. Table 2 compares these values to those of the other wastewater treatment facilities located in Alachua County.

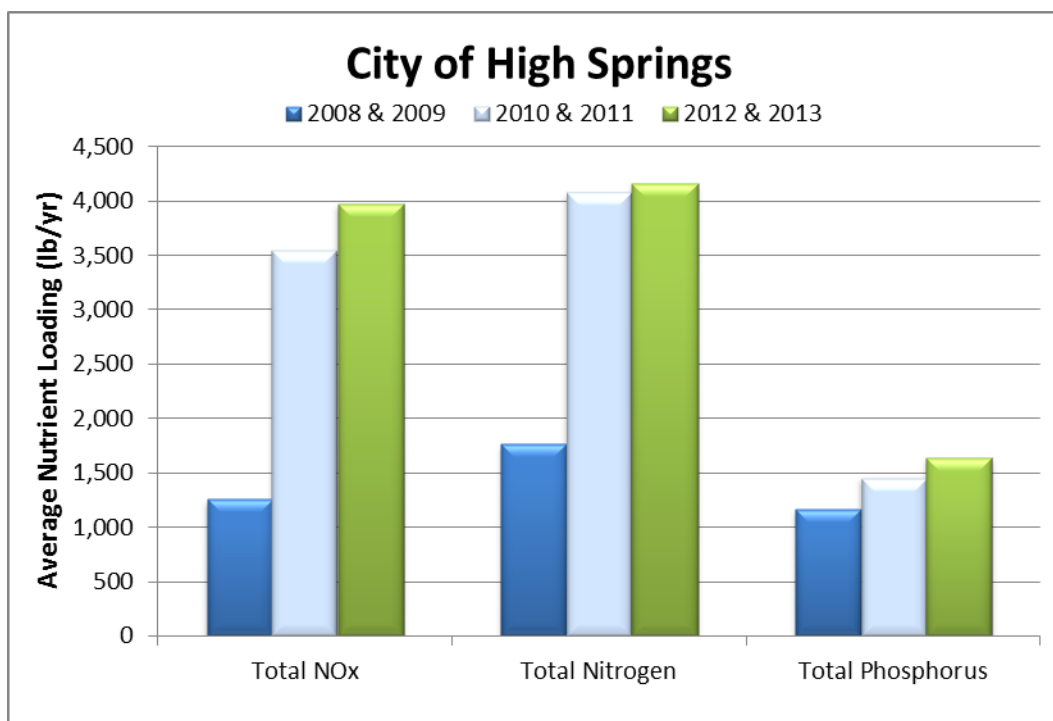


Figure 16. Estimated Nutrient Loading Values for the City of High Springs WWTF (2008 – 2013)

The City of High Springs is required to sample the groundwater monitoring wells and submit the results to FDEP on a quarterly basis. The background well is labeled with a “B”, intermediate wells are labeled with an “I”, and the compliance wells are labeled with a “C”. These monitoring wells are open to the Floridan aquifer, which is unconfined in this portion of Alachua County. The elevated nitrate concentrations in the background well are a concern and makes one question the relative location of the well in regards to the spray field with respect to ground water movement (Figure 17). It seems that nitrate values have decreased in the background well since it was installed. Compliance wells have maintained relatively constant concentrations. Concentrations in MWB-1, which is in the center of the spray field, had a similar trend of decreasing concentrations when they stabilized. Nitrate values at MWI-2, also in the center of the spray field, have been elevated since the middle of 2012.

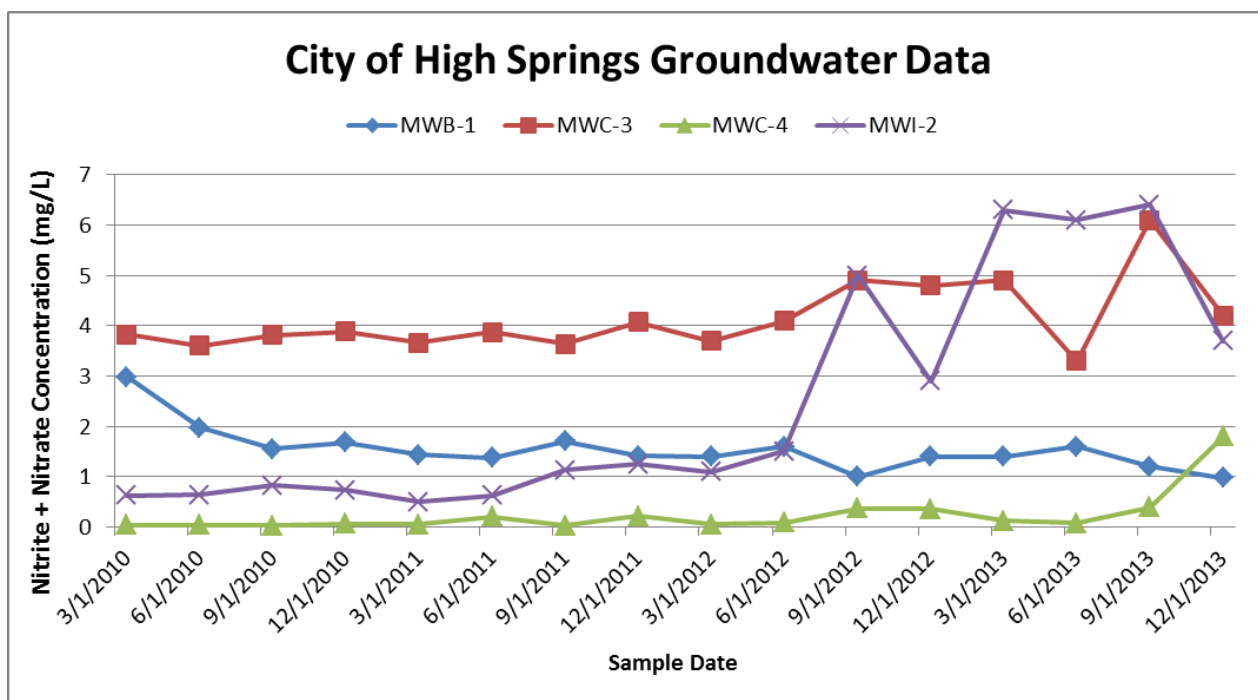


Figure 17. Groundwater Data from the City of High Springs WWTF for Nitrite + Nitrate

The City of High Springs hires Gainesville Regional Utilities to pump their sewage sludge and to haul it for further treatment to one of Gainesville Regional Utilities' treatment facilities.

3-6 The City of Newberry

Facility size: up to 0.415 MGD

Permit expiration date: 8/3/2016

Permitted effluent disposal: 40 acres of spray field.

Residuals disposal: Land applied to spray field on site.



The City of Newberry Plant 1

The City of Newberry's municipal wastewater treatment plant is an activated sludge secondary treatment plant. The facility was expanded in 2013 to accommodate an additional 0.21 MGD in treatment capacity. This WWTF was found to be in compliance for the eight ACEPD inspections conducted during 2012 and 2013. However, plant appearance and compliance has decreased slightly since the 2008 - 2009 reporting period. Nitrate and total phosphorus levels are relatively low and consistent with historical data. However, total nitrogen results are considerably higher, ranging from 11.9 to 27.8 mg/L (Figure 18).

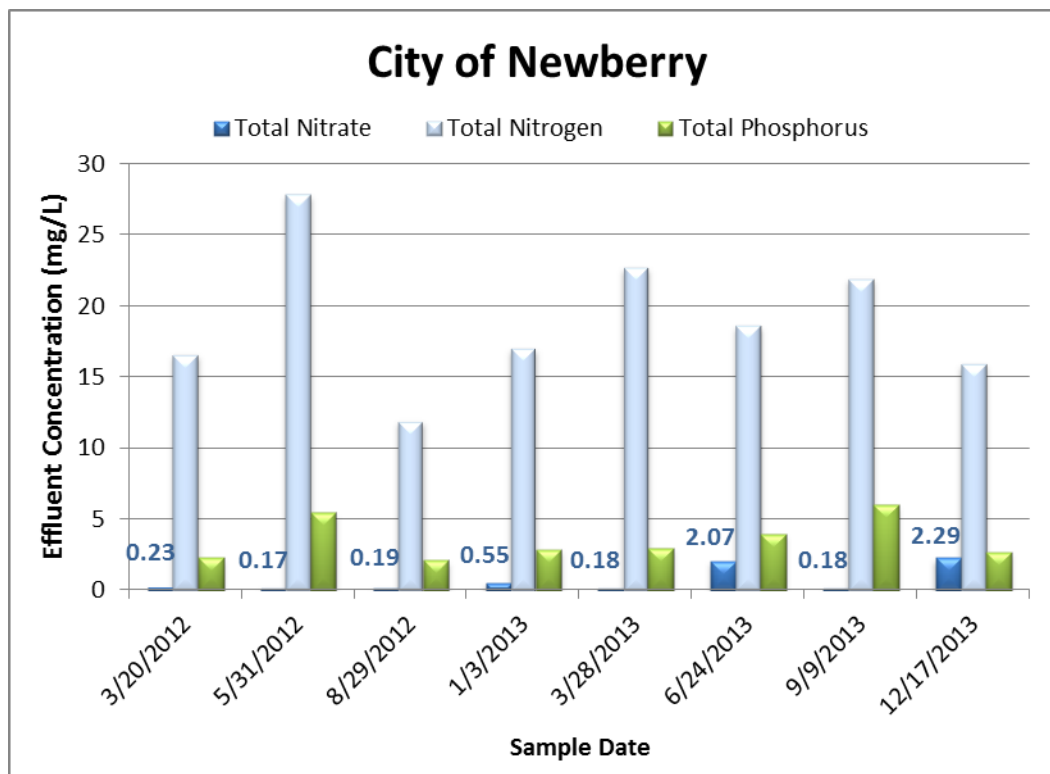


Figure 18. Effluent data from samples collected during ACEPD inspections at the City of Newberry WWTF

The monthly average flow of effluent from 2012 and 2013 were used to calculate an average flow of 0.36 MGD. Average nutrient concentrations were then multiplied by this flow rate to estimate nutrient loading rates from the facility. Monthly maximum nutrient concentrations as reported by the facility and data collected by ACEPD were combined to estimate the annual loading rates at 3,619 lb/year of nitrate, 19,191 lb/year of total nitrogen, and 3,904 lb/year of total phosphorus (Figure 19). The nitrate loading rate decreased, after observing a considerable spike during 2010 – 2011. The total nitrogen load has more than doubled since the previous report, as expected due to the elevated concentrations found in inspection sample results. Total phosphorus is slightly elevated due to increased flow rates in comparison to the previous periods. Table 2 compares these values to those of the other wastewater treatment facilities located in Alachua County.

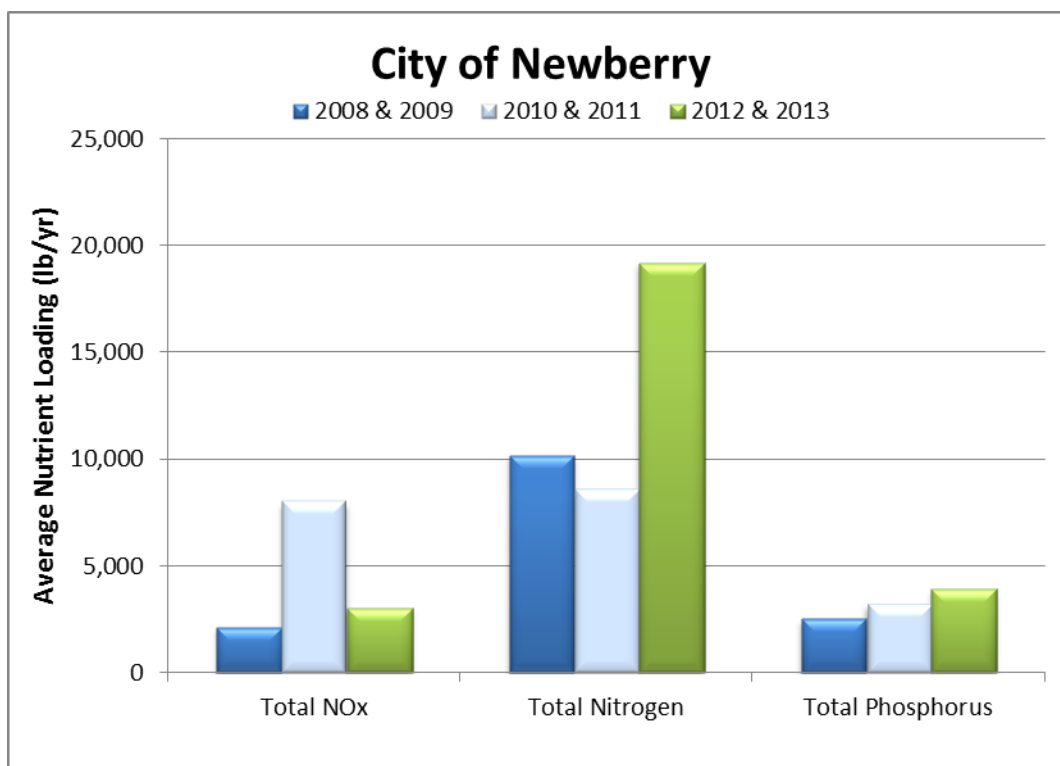


Figure 19. Estimated Nutrient Loading Values for the City of Newberry WWTF (2008 – 2013)

The City is required to sample their groundwater monitoring wells and submit the results to FDEP on a quarterly basis. The background wells are labeled with a “B”, compliance wells are labeled with a “C”, and intermediate wells are labeled with an “I”. These wells are open to the Floridan aquifer, which is unconfined in this portion of Alachua County. Nitrate levels are higher at all of the monitoring wells in comparison to the background well (Figure 20). Groundwater monitoring data was not available for most of 2013, as they were not provided by the facility to FDEP. Elevated nutrient concentrations in the effluent and the groundwater monitoring wells are of concern in the karst setting of the plant’s spray field, for the Santa Fe Spring system. None of the wells are in violation of drinking water standards of 10 mg/L.

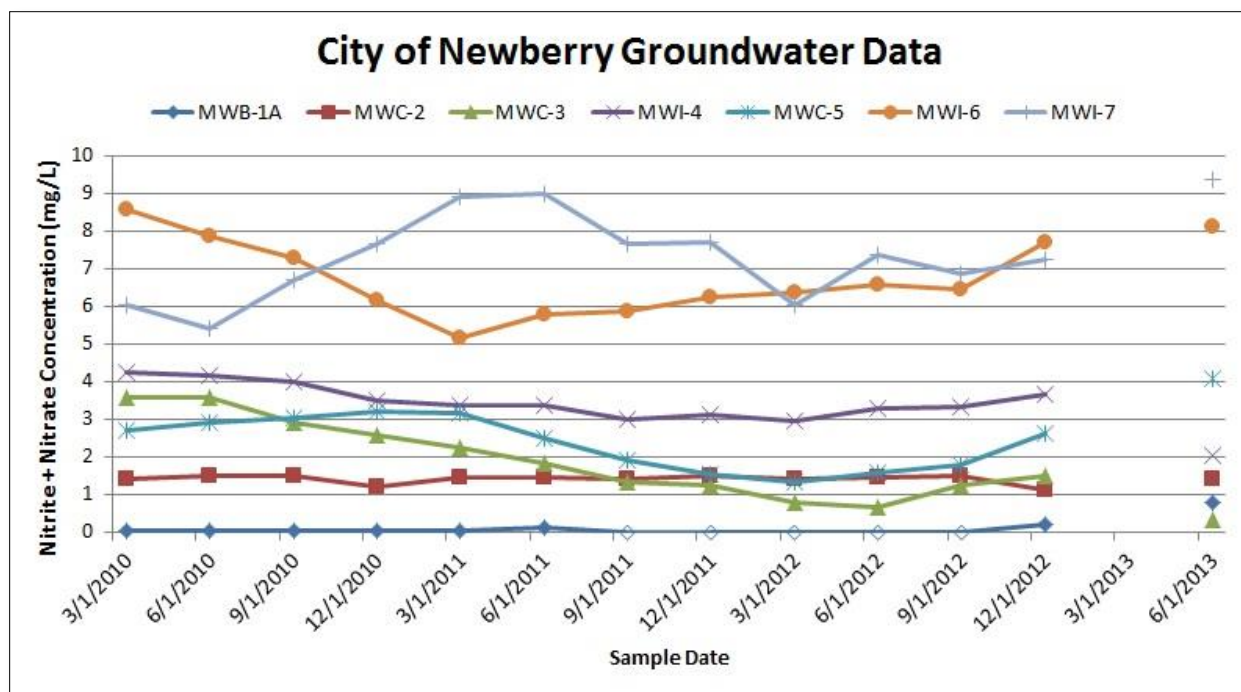


Figure 20. Groundwater Data from the City of Newberry WWTF for Nitrite + Nitrate¹

The Newberry treatment facility is permitted to land apply biosolids that have achieved class B pathogen reduction. According to FDEP's records, the facility produced 11.7 dry tons of biosolids in 2012 and 4.1 dry tons in 2013. These biosolids are land applied at the City of Newberry wastewater treatment facility spray field site.

¹ Unfilled data points represent sampling dates with dry wells

3-7 The University of Florida**Facility size:** 3.0 MGD**Permit expiration date:** 12/8/2020**Permitted effluent disposal:**

3.0 MGD underground injection and 0.96 MGD public access re-use.

Residuals disposal: Hauled to GRU.

University of Florida WWTF

The University of Florida wastewater treatment plant is an advanced treatment Kruger Process (phased isolation oxidation ditch) treatment plant. This facility was inspected for the final time by ACEPD in 2010 and was found to be in compliance during the inspection. The effluent samples showed relatively low nitrogen concentrations that fluctuate with the seasons. Loads of total nitrogen, nitrate and total phosphorus were greater in 2008 - 2009 due to larger concentrations and slightly greater flows than recent years (Figure 21).

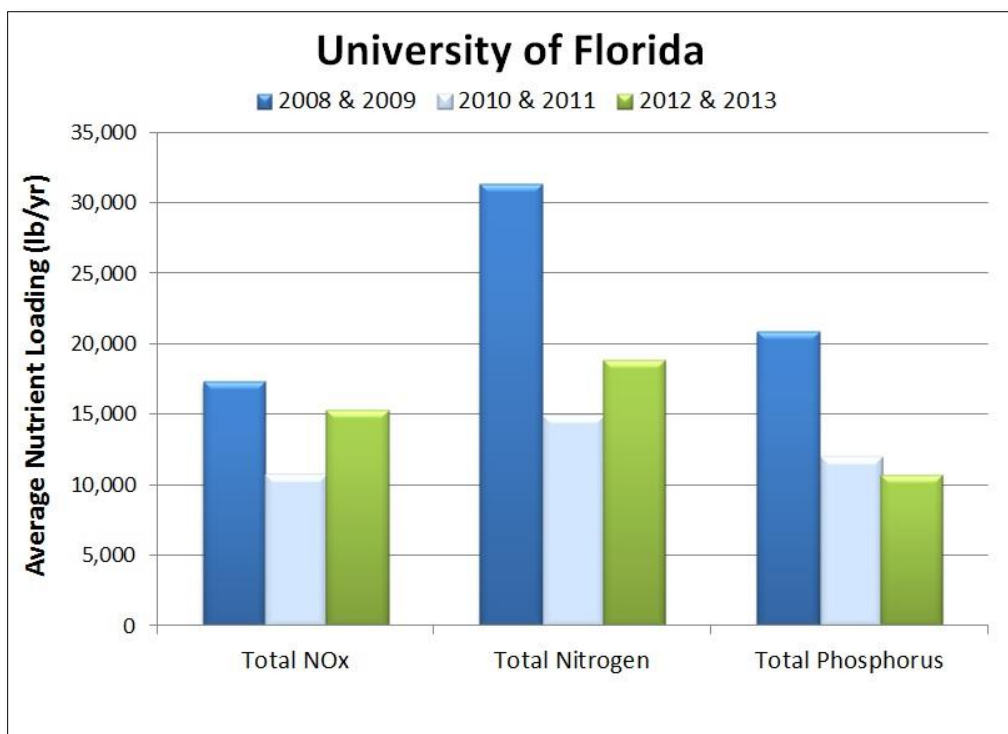


Figure 21. Estimated Nutrient Loading Values for the University of Florida WWTF (2008 – 2013)

The monthly average flow of influent from 2012 and 2013 was used to calculate an average flow of 1.55 MGD. Monthly average nutrient concentrations reported by the facility were averaged and then multiplied by this flow rate to estimate nutrient loading rates. The estimated nitrate loading was 15,317 lb/year, total nitrogen was 18,836 lb/year, and total phosphorus was 10,706 lb/year. Table 2 compares these values to those of the other wastewater treatment facilities located in Alachua County.

The University of Florida is required to sample groundwater monitoring wells and submit the results to FDEP. However, monitoring well data is only required when the treated water is discharged into the injection well system; groundwater data is not reported when the effluent is utilized for public access re-use. The background wells are labeled with a “B” and compliance wells are labeled with a “C”. The monitoring wells are open to the Floridan aquifer, which is semi-confined in this area and are located within two different zones of the aquifer. Wells designated with a “D” (for deep) are between 250 and 300 feet in total depth. Shallow monitoring wells, designated with an “S”, are 60 to 65 feet in total depth. Nitrate levels appear to be elevated in background well MWB-3S (Figure 22). However, a larger

period of record would be needed to verify any trends and none of the results exceeded drinking water standards for nitrate.

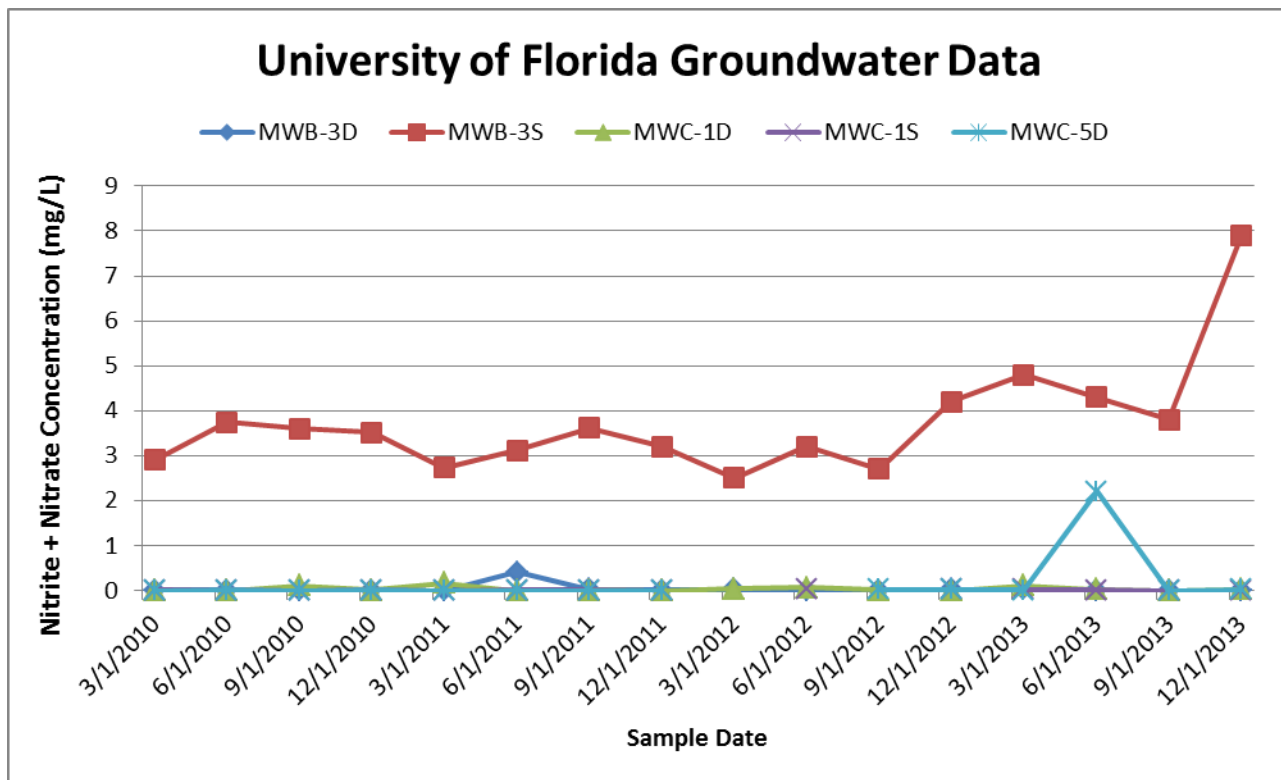


Figure 22. Groundwater Data from the University of Florida WWTF for Nitrite + Nitrate

The University of Florida hires Gainesville Regional Utilities to pump their sewage sludge and to haul it for further treatment at one of Gainesville Regional Utilities' treatment facilities. According to FDEP's records, 1,606 dry tons of sludge were produced in 2012.

3-8 The City of Waldo

Facility size: 0.099 MGD

Permit expiration date: 4/27/2013

Permitted effluent disposal: 3 constructed wetlands to a receiving wetland.

Residuals disposal: Hauled to GRU.



The aeration basins, digester, and clarifier at the Waldo WWTF

The City of Waldo's municipal wastewater treatment plant is an extended aeration plant. A joint project to decommission the wastewater treatment facility and connect to the Gainesville Regional Utilities collection system was completed in August 2013. This final inspection of this facility by ACEPD was conducted in January 2013. While in operation, the effluent was routed through treatment wetlands for additional treatment and nutrient removal prior to discharge to an adjacent natural wetland. Generally, the effluent leaving the treatment wetland was of high quality with low nutrient concentrations and likely had little if any impact on the receiving wetland (Figures 23 and 24). Since the effluent was discharged to surface water, the plant was not required by FDEP to monitor groundwater.

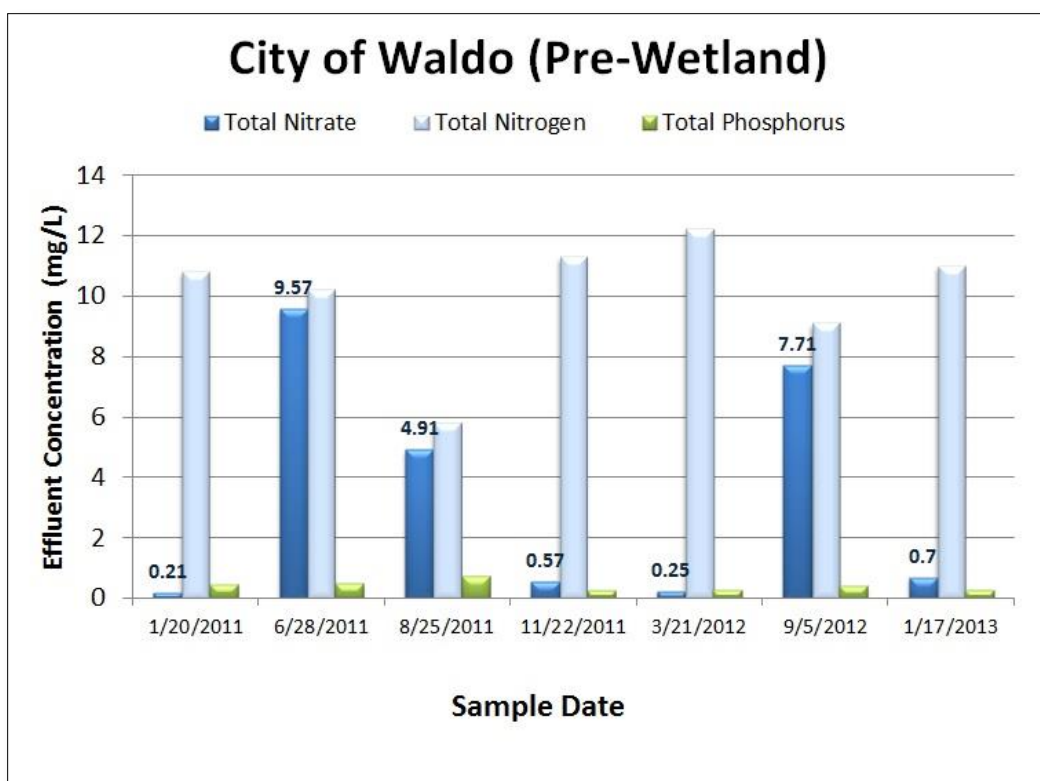


Figure 23. Effluent data from samples collected during ACEPD inspections at the City of Waldo WWTF, prior to the treatment wetland

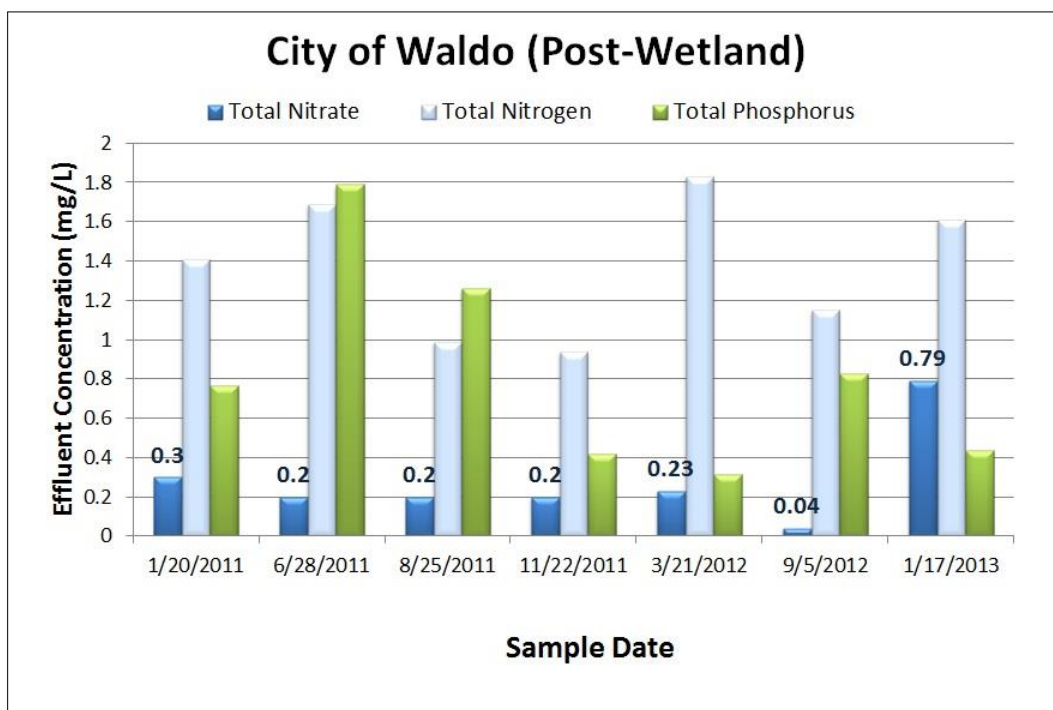


Figure 24. Effluent data from samples collected during ACEPD inspections at the City of Waldo WWTF, discharge from the treatment wetland

Monthly average flow data for effluent from 2012 and 2013 were used to calculate an average flow of 0.13 MGD. Average nutrient concentrations were then multiplied by this flow rate to calculate average loading rates from the facility, based on data collected by ACEPD and the facility for samples obtained after the treatment wetland. The estimated loading rate for nitrate was 280 lb/year, total nitrogen was 680 lb/year, and total phosphorus was 382 lb/year (Figure 25). The loading values have increased since the 2010 - 2011 report due to the increase in flow rates. Table 2 compares these values to those of the other wastewater treatment facilities located in Alachua County.

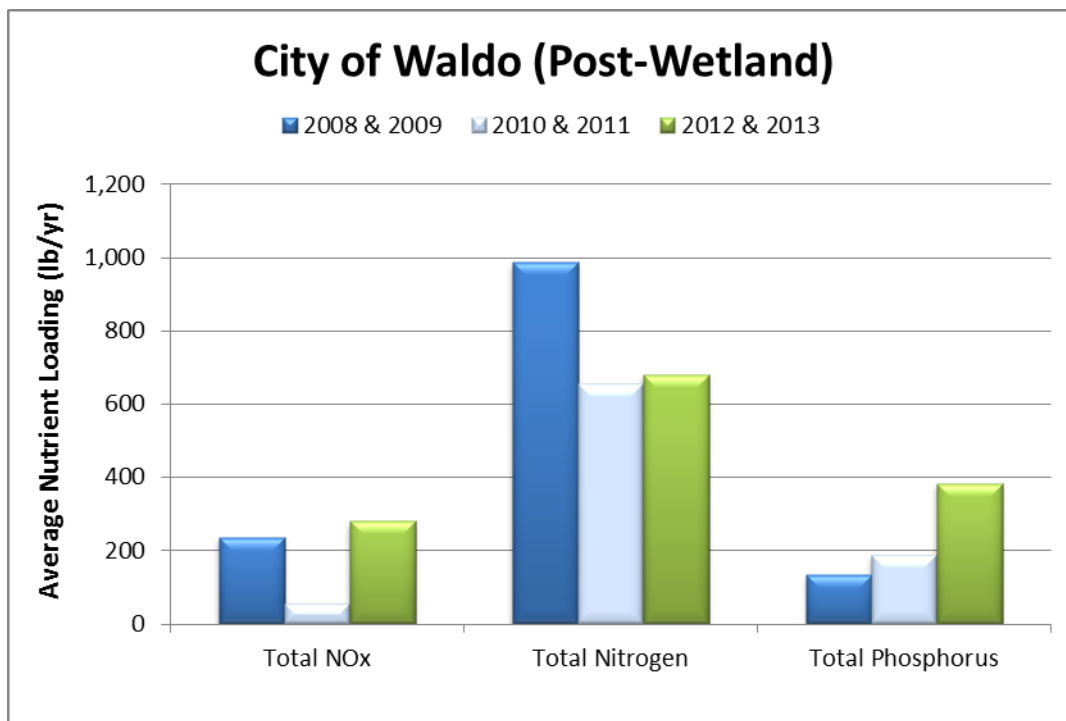


Figure 25. Estimated Nutrient Loading Values for the City of Waldo WWTF (2008 – 2013)

The City of Waldo was permitted to transport their sewage sludge to the Gainesville Regional Utilities Main Street Facility or to Florida Septic for further treatment and disposal. Data was not available for the total annual quantity of biosolids produced in 2012 and 2013.

4.0 PACKAGE PLANTS

Package plants are smaller pre-fabricated wastewater treatment facilities designed to treat domestic wastewater for a localized area, such as a mobile home park (MHP) or camp. There were 10 package plants located in Alachua County in 2012 and 2013. There were formerly many more package plants in Alachua County, but the trend has been to abandon package plants as they are able to connect to the centralized municipal wastewater collection systems.

The average total nitrogen and total phosphorus concentrations include reported nutrient data from each facility's Discharge Monitoring Report (DMR) and effluent sampling data from the ACEPD inspections. Effluent quality varied among the package plants (Figure 26). The level of treatment and nutrient removal tends to be less at package plants compared to municipal facilities; however, the volume of effluent is also considerably lower at package plants. The high total nitrogen concentrations observed at many of the package plants are concerning. Most of the nitrogen was not in the mobile nitrate form and was instead in the ammonia form, which is likely converted to nitrate once released to the environment. The nutrient loading rates to the environment were calculated for each plant by multiplying the average flow by the average nutrient concentrations (Figure 27). The individual package plants are discussed in the following sections of this report. These facilities contract to transport and process their sludge. Facilities which are operating below capacity do not generate enough sludge to haul annually.

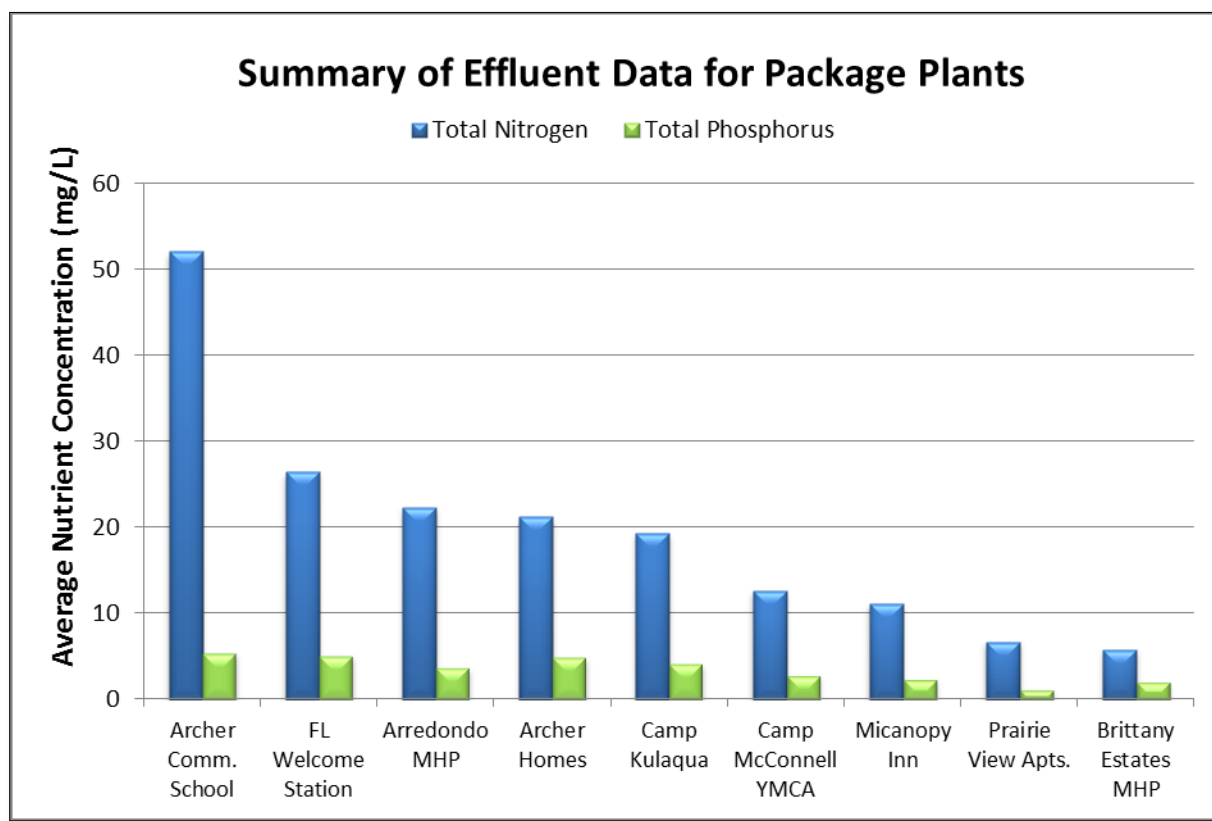


Figure 26. Average Effluent Nutrient Data for Package Plants (2012 – 2013)

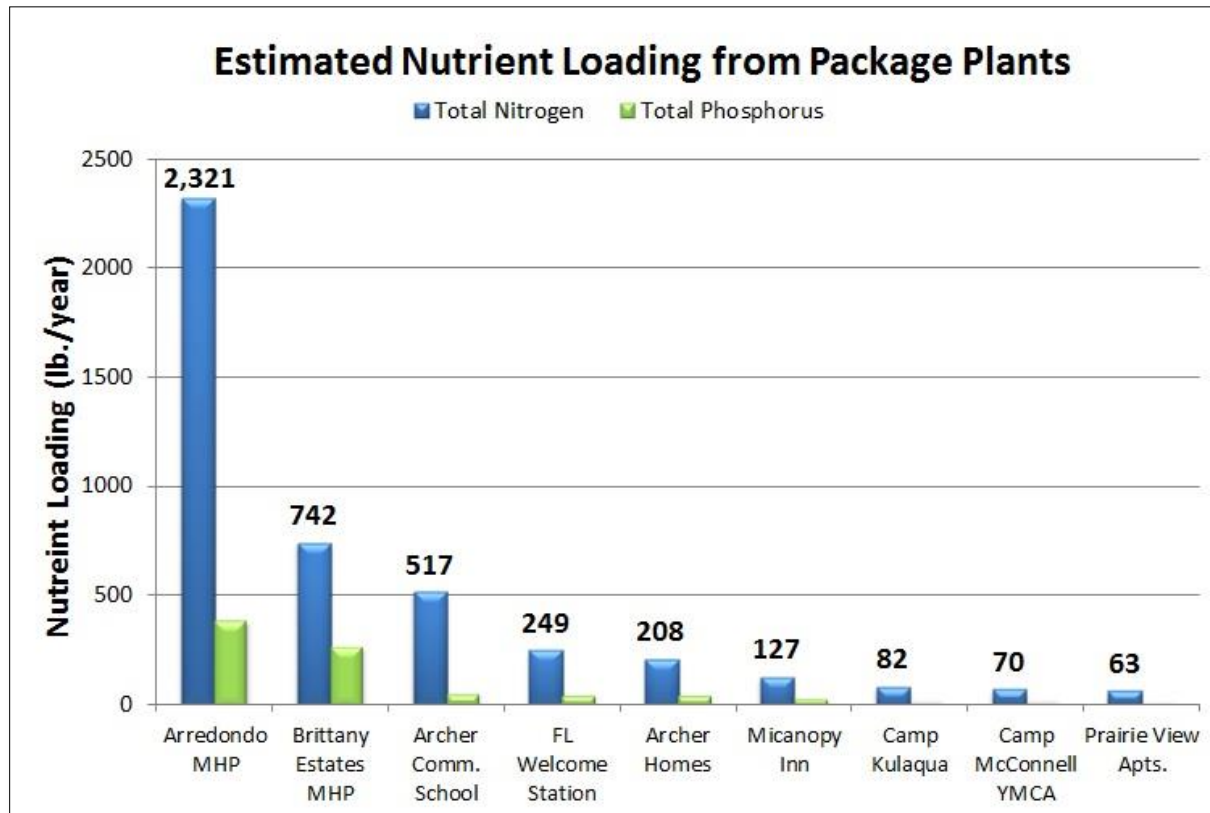


Figure 27. Estimated Nutrient Loading from Package Plants (2012 – 2013)

4-1 Archer Community School

Facility size: 0.005 MGD

8/18/2024

Permit expiration date:

Permitted effluent disposal: three rapid infiltration basins (0.124 acres).

Residuals disposal: Hauled off-site.



The Archer Community School WWTF

The package plant at the Archer Community School is an extended aeration activated sludge plant. This facility was inspected eight times in 2012 and 2013 and was found out of compliance during two inspections. The total residual chlorine was below the 0.5 mg/L FDEP permit minimum during the August 2012 inspection. Total nitrogen values at this plant were elevated during the sampling events, and the nitrate concentration exceeded the FDEP permit limitation of 12 mg/L during the January 2013 inspection (Figure 28). High concentrations of total nitrogen with low concentrations of nitrate indicate that ammonia is the dominant form of nitrogen present in the effluent, which can be converted back to nitrate in the environment. High nitrogen concentrations are of concern in this part of the county where the Floridan aquifer is unconfined and vulnerable to pollution.

The monthly average flow of influent from 2012 and 2013 was used to calculate an average flow of 0.003 MGD. Average nutrient concentrations from ACEPD inspection samples were then multiplied by this flow rate to estimate nutrient loading rates. The estimated nitrate loading was 44 lb/year, total nitrogen was 517 lb/year, and total phosphorus was 54 lb/year. The total nitrogen load from 2012 - 2013 is nearly double that of 2010 - 2011 due to the elevated concentrations reported in the effluent samples (Figure 29). Table 2 compares loading among wastewater treatment facilities located in Alachua County.

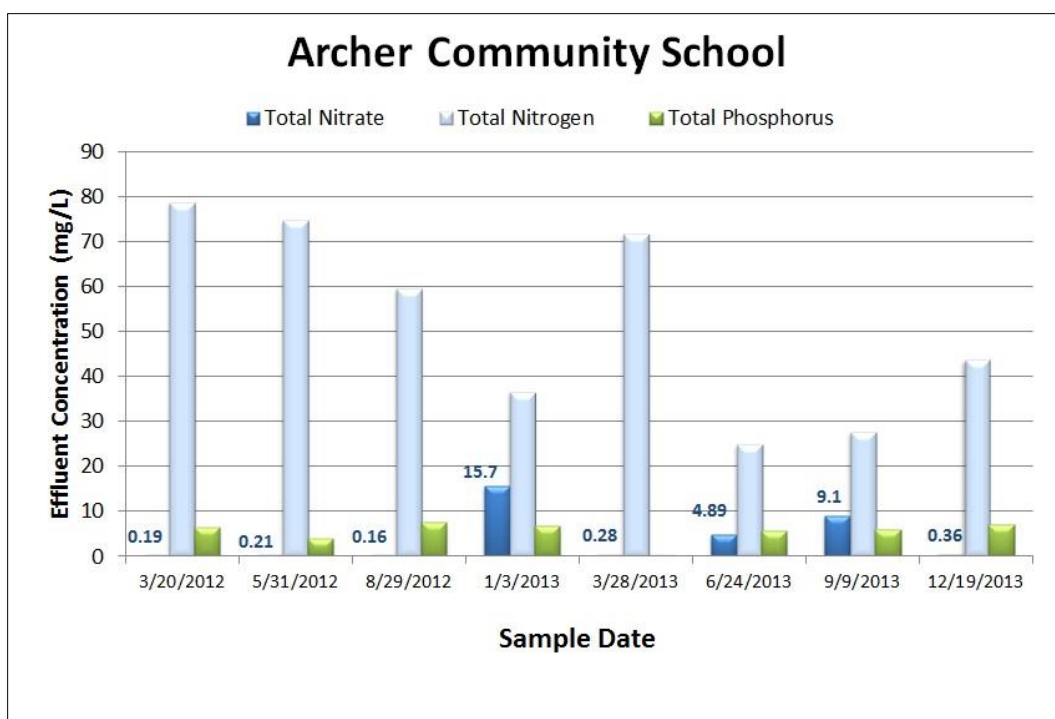


Figure 28. Effluent data from samples collected during ACEPD inspections at the Archer Community School Package Plant

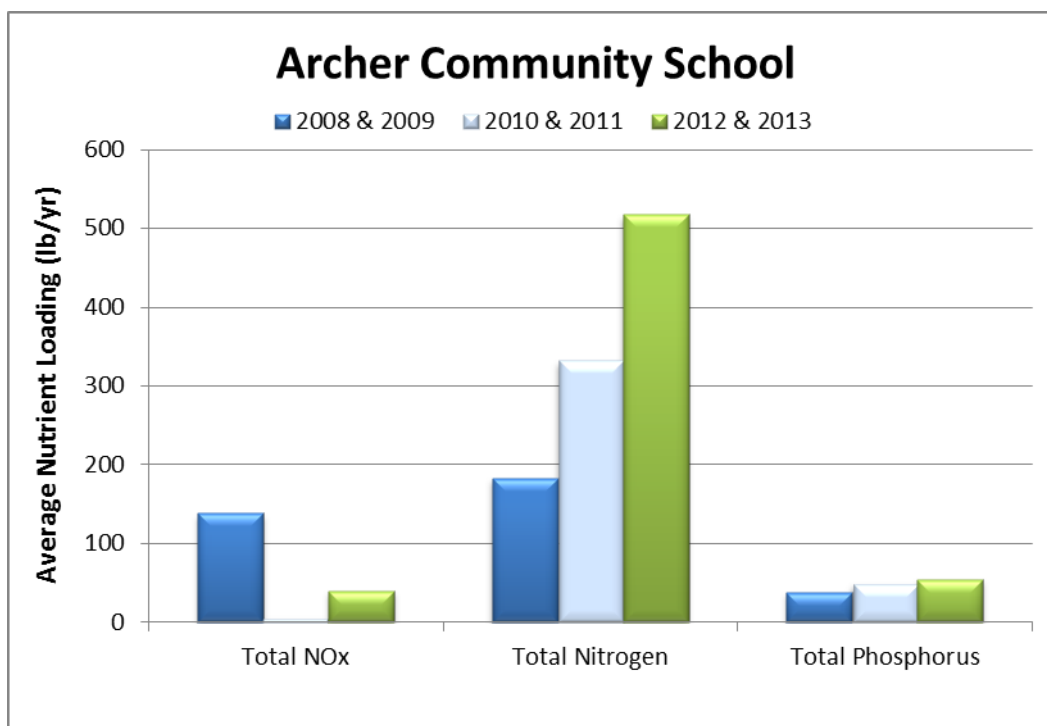


Figure 29. Estimated Nutrient Loading Values for the Archer Community School Package Plant (2008 - 2013)

4-2 Archer Homes

Facility size: 0.0083 MGD

Permit expiration date: 10/13/2020

Permitted effluent disposal: 0.22 acre absorption field.

Residuals disposal: Hauled off-site.



The Archer Homes WWTF

The package plant at Archer Homes is an extended aeration treatment plant. This facility was inspected seven times in 2012 and 2013. The facility was found to be out of compliance during the first four inspections. The Total Suspended Solids concentration exceeded the permit limitation of 10 mg/L during these four inspections; in addition, the total residual chlorine was below the FDEP permit minimum of 0.5 mg/L during two of the inspections (May 2012 and January 2013). Results for some of the effluent samples were high in ammonia, indicating the oxygen levels in the plant may not be sufficient to support nitrification. The total nitrogen concentrations have decreased considerably since the 2010 – 2011 report; however elevated levels were observed during several inspections (Figure 30). High nitrogen values in the effluent are a concern in this area because the Floridan aquifer is unconfined in this portion of the county. Although the nitrogen in the effluent is not in the mobile nitrate form, it is likely to be converted to nitrate under the aerobic conditions in the unsaturated zone of the unconfined Floridan aquifer.

The monthly average flow of influent from 2012 and 2013 was used to calculate an average flow of 0.0032 MGD. Average nutrient concentrations were then multiplied by this flow rate to estimate nutrient loading rates to the environment. Monthly nitrate data collected by the facility was combined with ACEPD inspection results to calculate a loading rate of 25 lb/year. Since the facility is not required to monitor for total nitrogen or total phosphorus, ACEPD data were used to calculate these loadings of 208 and 48 lb/year, respectively. Total nitrogen loading in 2012 - 2013 has decreased due to the lower concentrations observed when compared to 2010 - 2011 (Figure 31). Table 2 compares loading values among wastewater treatment facilities located in Alachua County.

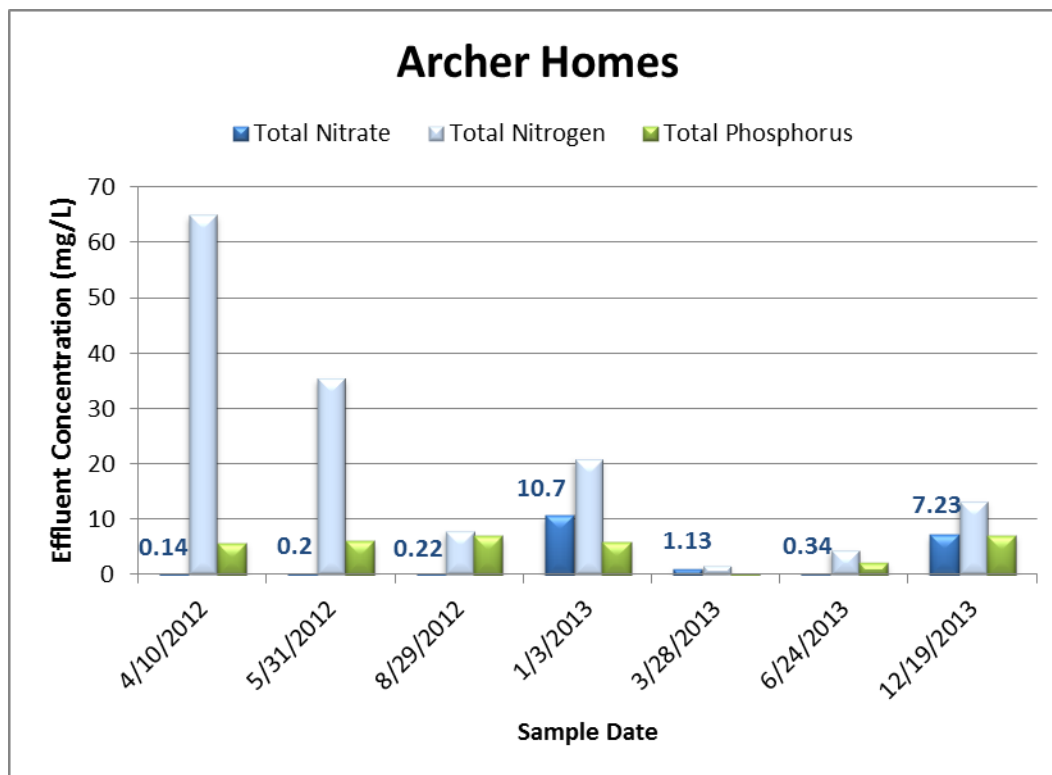


Figure 30. Effluent data from samples collected during ACEPD inspections at the Archer Homes Package Plant

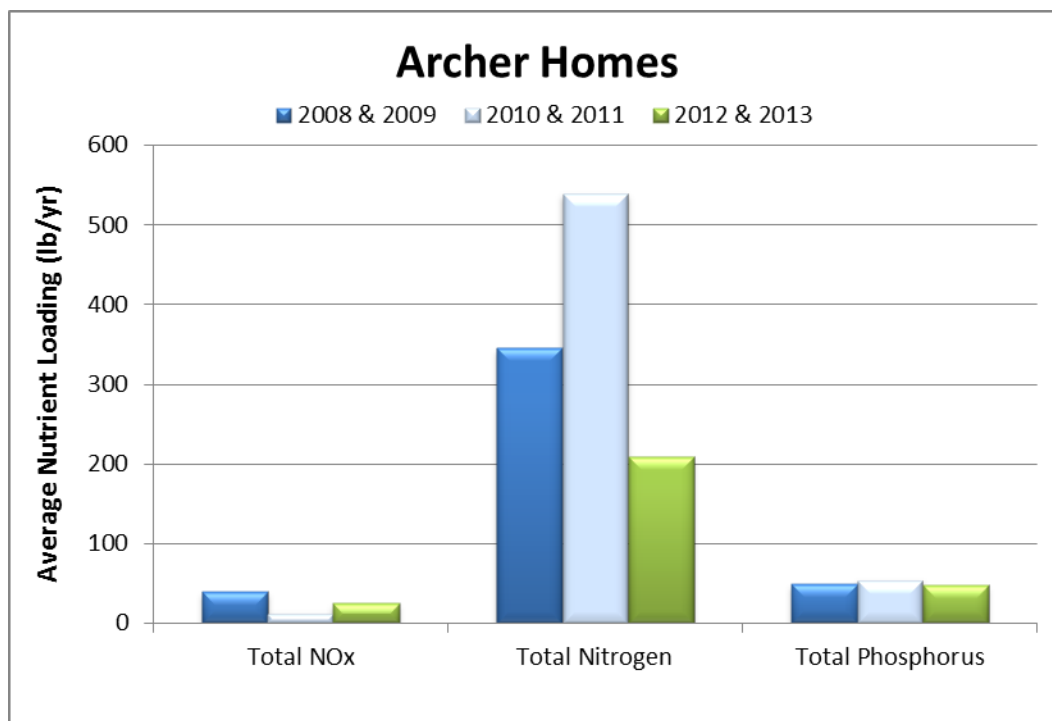


Figure 31. Estimated Nutrient Loading Values for the Archer Homes Package Plant (2008 - 2013)

4-3 The Palms Mobile Home Park (formerly Arredondo Farms)**Facility size:** 0.060 MGD**Permit expiration date:** 4/28/2019**Permitted effluent disposal:** Two rapid infiltration basins.**Residuals disposal:** Hauled off-site.

The Palms WWTf

The package plant at The Palms MHP (formerly Arredondo Farms) is an extended aeration treatment plant. This facility was inspected six times during 2012 and 2013 and was found out of compliance during one of the ACEPD inspections. The nitrate concentration exceeded the permit limitation of 12 mg/L during the March 2012 inspection (Figure 32). Total nitrogen levels were elevated during several inspections. Modifications were made to this facility in 2010, which improved the effluent quality initially, but in 2011 the effluent quality appeared to decline despite the modifications. Sample results from 2012 – 2013 show some improvement in nutrient concentrations.

The monthly average effluent flow from 2012 and 2013 were used to calculate an average flow of 0.034 MGD. Average nutrient concentrations were then multiplied by this flow rate to calculate average loading rates to the environment. Monthly maximum values for nitrate samples collected by the facility were combined with ACEPD inspection data to calculate a loading rate of 217 lb/year (Figure 33). Since the facility is not required to monitor for total nitrogen or total phosphorus, ACEPD data were used to calculate these loadings of 2,321 and 382 lb/year, respectively. The nitrate loading has decreased since the previous report due to the lower concentrations observed in the effluent samples. Table 2 compares loading among wastewater treatment facilities located in Alachua County.

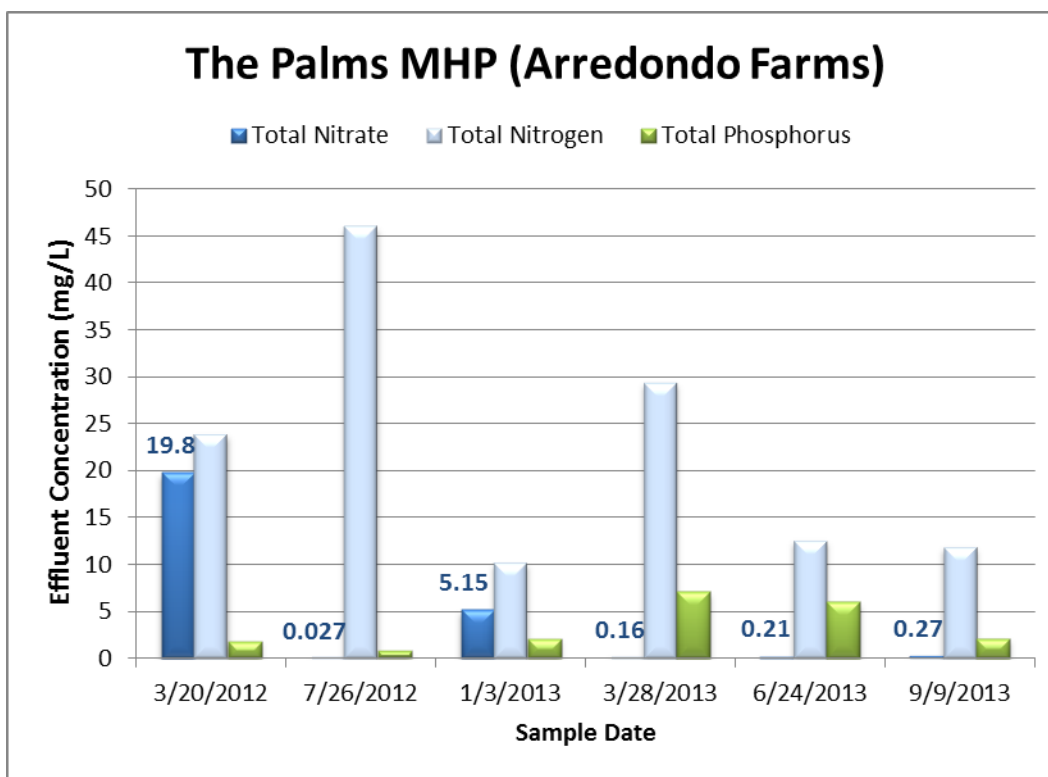


Figure 32. Effluent data from samples collected during ACEPD inspections at the Arredondo Farms Mobile Home Park Package Plant

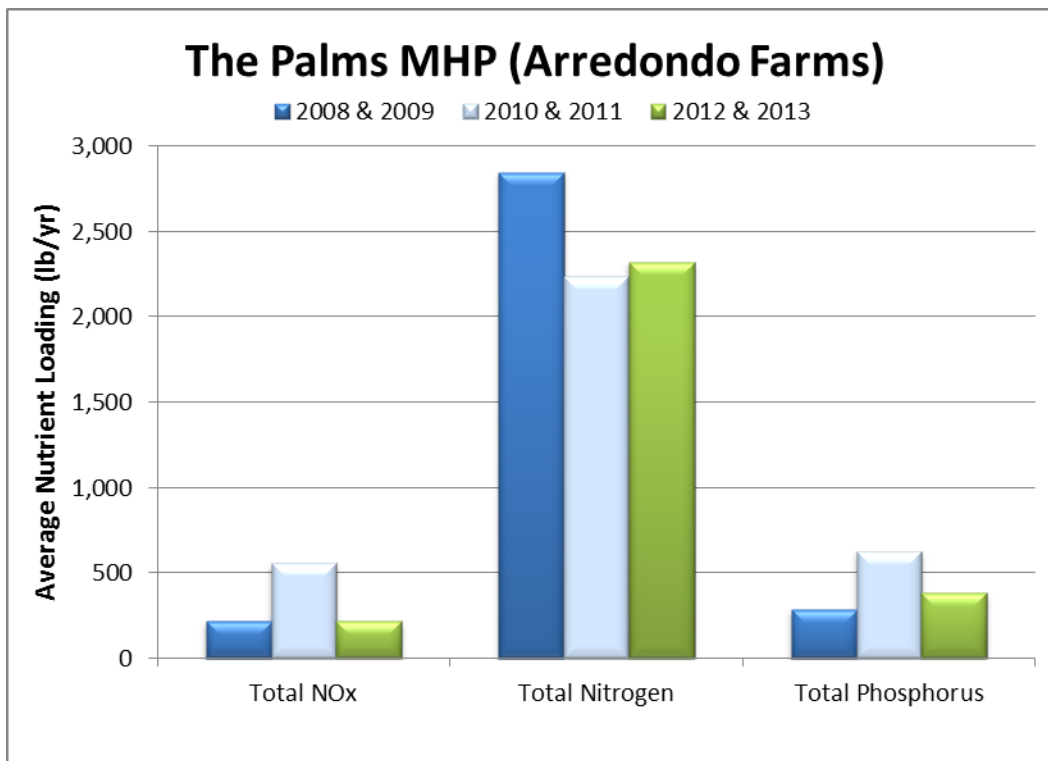


Figure 33. Estimated Nutrient Loading Values for the Arredondo Farms Mobile Home Park Package Plant (2008 – 2013)

4-4 Brittany Estates Mobile Home Park**Facility size:** 0.06 MGD**Permit expiration date:** 8/28/2016**Permitted effluent disposal:** Little Hatchet Creek.**Residuals disposal:** Hauled off-site.*Brittany Estates WWTF*

The package plant at Brittany Estates MHP can be operated as an activated sludge extended aeration or contact stabilization plant. This facility was inspected five times by ACEPD in 2012 and 2013. In general, nitrate and total nitrogen levels observed during ACEPD inspections have decreased since 2011 (Figure 34). Elevated nitrogen levels were observed in January 2013, however there were no violations reported during the 2012 - 2013 inspections.

The monthly average effluent flow from 2012 and 2013 was used to calculate an average flow of 0.0421 MGD. Average nutrient concentrations were then multiplied by this flow rate to estimate nutrient loading rates. Monthly average values reported by the facility were combined with ACEPD inspection data to calculate a loading of 673 lb/year of nitrate, 742 lb/year of total nitrogen, and 263 lb/year of total phosphorus. Estimated loading of nitrate and total nitrogen have increased since the previous report, but have not returned to the levels observed in 2008 -2009 (Figure 35). Nutrients in effluent from this plant are a concern because they are discharged to a tributary of Little Hatchet Creek. A Total Maximum Daily Load was recently developed for Newnans Lake, the downstream receiving water body, to address water quality issues in the watershed. Table 2 compares loading rates among wastewater treatment facilities in Alachua County.

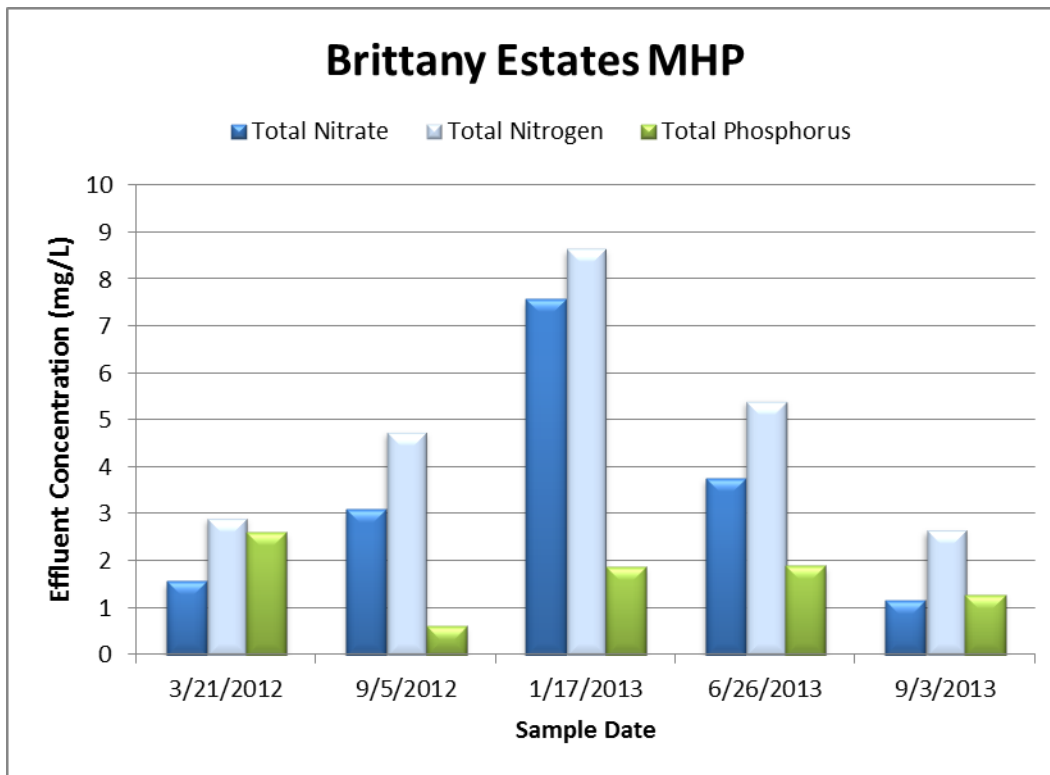


Figure 34. Effluent data from samples collected during ACEPD inspections at the Brittany Estates Mobile Home Park Package Plant

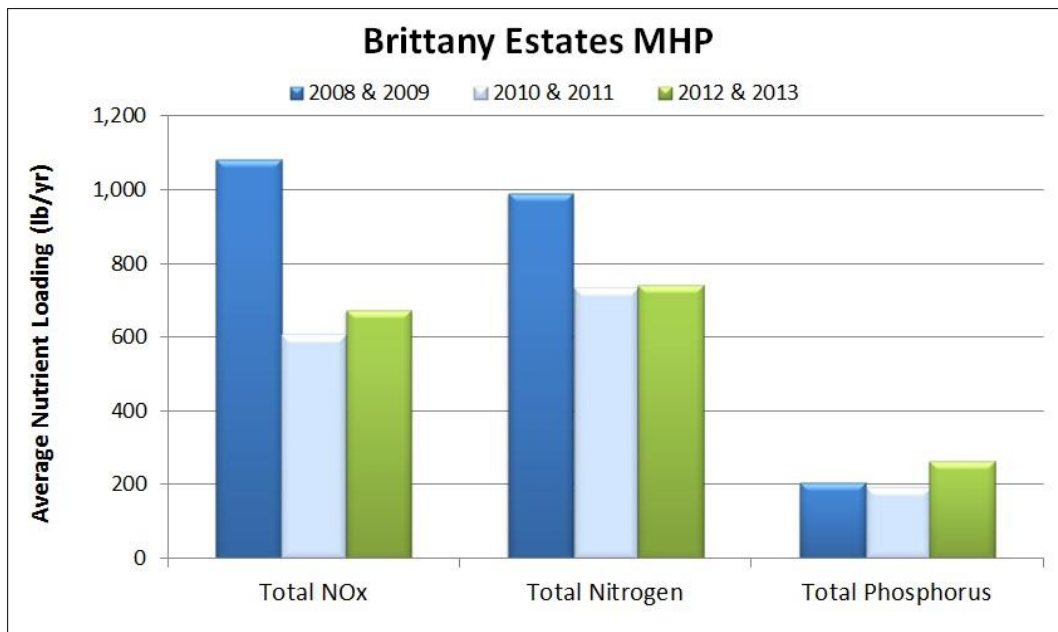


Figure 35. Estimated Nutrient Loading Values for the Brittany Estates Mobile Home Park Package Plant (2008 - 2013)

4-5 Camp Kulaqua

Facility size: 0.0201 MGD

Permit expiration date: 6/30/2019

Permitted effluent disposal: Two rapid infiltration basins (0.372 acres).

Residuals disposal: Hauled off-site.



Camp Kulaqua clarifier and chlorine contact chamber

The package plant at Camp Kulaqua in High Springs is an extended aeration activated sludge treatment plant. This facility was inspected seven times during 2012 and 2013 and was found out of compliance during five of the ACEPD inspections. The nitrate effluent concentration exceeded the 12.0 mg/L FDEP permit limitation during these inspections (Figure 36). The nitrate and total nitrogen results show a trend of increasing concentrations based on the effluent samples collected during the inspections. Nitrogen is a concern with the proximity of Hornsby Springs and the Santa Fe River, especially since the nitrogen in the effluent is often in the mobile nitrate form. During low flows to the plant, operators have to maintain the microbial communities by adding dog food.

The monthly average effluent flow from 2012 and 2013 was used to calculate an average flow of 0.0014 MGD. Average nutrient concentrations were multiplied by this flow rate to estimate nutrient loading rates. Monthly maximum nitrate data reported by the facility were combined with ACEPD inspection results to estimate a nitrate loading rate of 45 lb/year (Figure 37). Since the facility is not required to monitor total nitrogen or total phosphorus, ACEPD data were used to calculate these loadings of 82 lb/year and 17 lb/year, respectively. The nitrate loading has increased since the previous report; however, the total nitrogen load decreased. Table 2 compares loading among wastewater facilities in Alachua County.

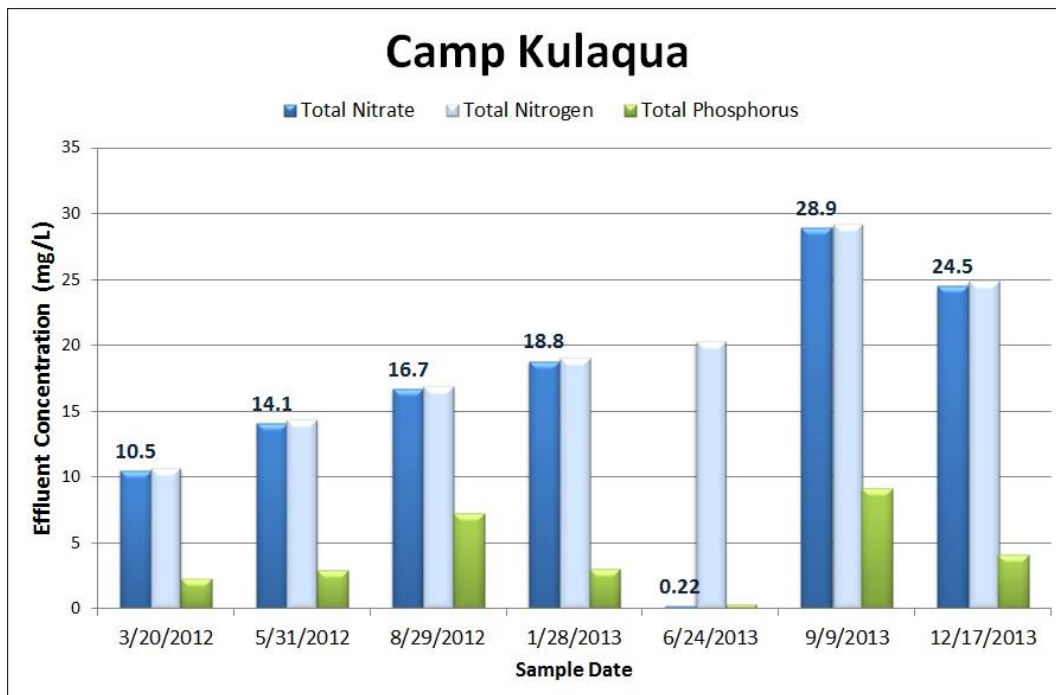


Figure 36. Effluent data from samples collected during ACEPD inspections at the Camp Kulaqua Package Plant

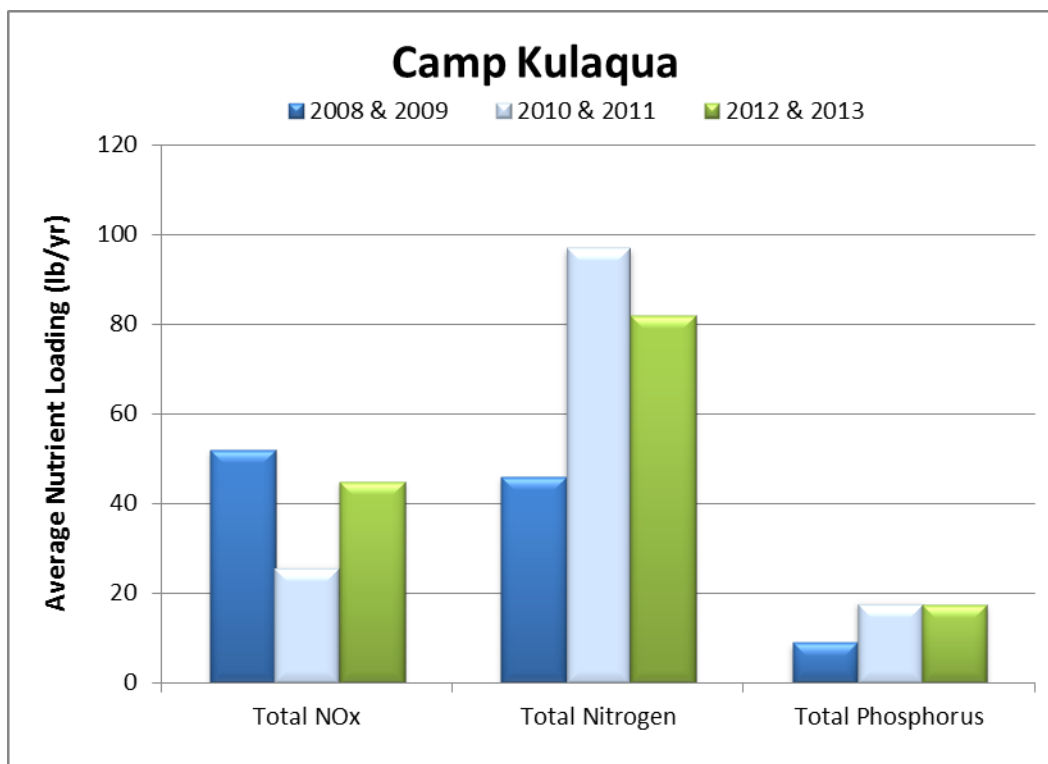


Figure 37. Estimated Nutrient Loading Values for the Camp Kulaqua Package Plant (2008 – 2013)

4-6 Camp McConnell YMCA**Facility Size:** 0.0075 MGD**Permit expiration date:**

3/11/2020

Permitted effluent disposal: Two absorption fields (0.0388 acres).**Residuals disposal:** Hauled off-site.

Camp McConnell YMCA aeration basin and clarifier

The package plant at Camp McConnell is an extended aeration plant. This facility was inspected five times by ACEPD in 2012 and 2013 and was found to be out of compliance during one inspection. The nitrate concentration exceeded the permit limitation of 12 mg/L during the September 2013 inspection (Figure 38). High nutrient concentrations in the effluent are a concern with the proximity to Georges Pond. The flow rate at this facility is intermittent and is dependent on the programming at the camp. During low flows to the plant, operators have to maintain the microbial communities by adding dog food.

The monthly average effluent flows from 2012 and 2013 were used to calculate an average flow of 0.0018 MGD. Average nutrient concentrations were then multiplied by this flow rate to estimate nutrient loading rates. Monthly maximum nitrate data reported by the facility were combined with ACEPD inspection data to calculate a nitrate loading rate of 29 lb/year (Figure 39). Since the facility is not required to monitor total nitrogen or total phosphorus, ACEPD data were used to calculate these loadings of 70 lb/year and 16 lb/year, respectively. The estimated nutrient load has increased since the last reporting period. Table 2 compares loading rates among wastewater treatment facilities in Alachua County.

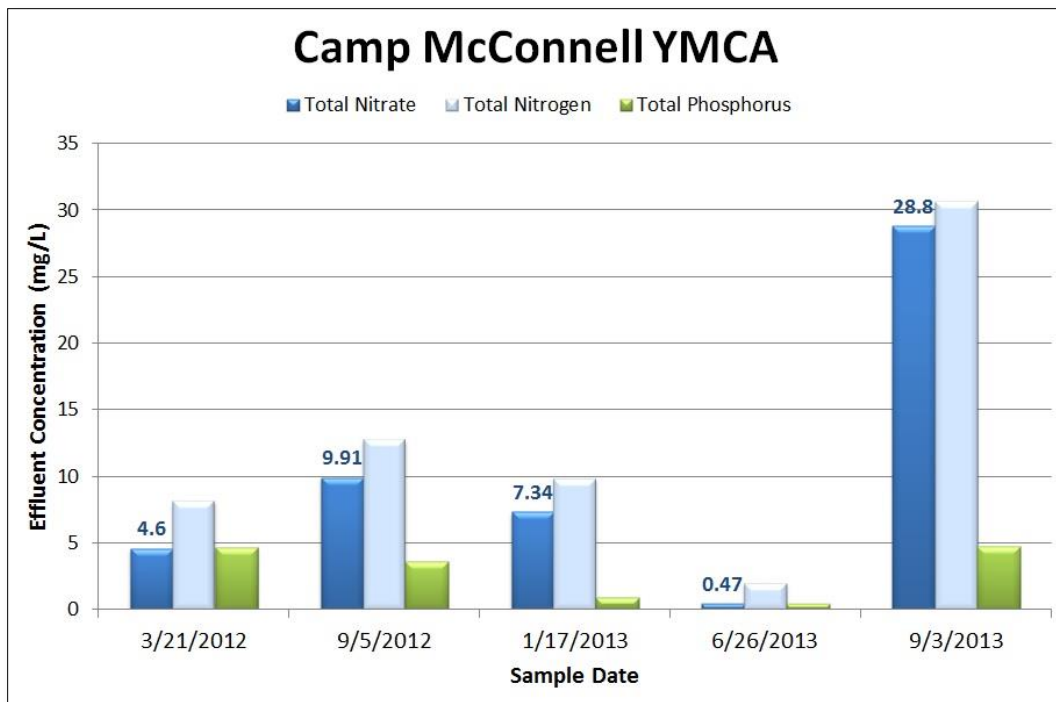


Figure 38. Effluent data from samples collected during ACEPD inspections at the Camp McConnell YMCA Package Plant

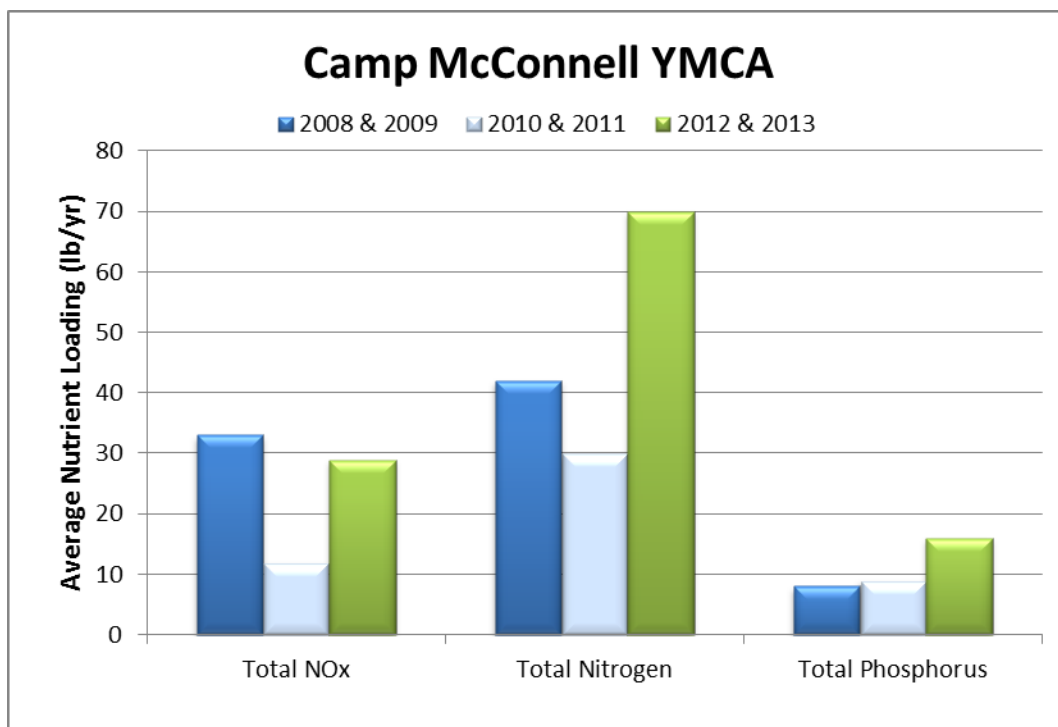


Figure 39. Estimated Nutrient Loading Values for the Camp McConnell YMCA Package Plant (2008 – 2013)

4-7 The Florida Welcome Station

Facility size: 0.009 MGD

Permit expiration date: 6/30/2019

Permitted effluent disposal: Rapid infiltration basin (0.25 acres).

Residuals disposal: Hauled off-site.



The Florida Welcome Station WWTf

The package plant at the Florida Welcome Station is an extended aeration plant. ACEPD conducted seven inspections at this facility during 2012 and 2013 and found the facility out of compliance during one inspection. The total residual chlorine was below the FDEP permit minimum of 0.5 mg/L during the January 2013 inspection. Elevated levels of total nitrogen were observed during two inspections, however nitrate remained low (Figure 40). The high nitrogen concentrations are of concern in proximity to the Santa Fe River and its springs. The Floridan aquifer is semi-confined in this area which is on the edge of the Cody Scarp. Although the nitrogen in the effluent is not always dominated by the mobile nitrate form, ammonia may be easily converted to nitrate once in the environment.

The monthly average influent flow from 2012 and 2013 was used to calculate an average flow of 0.0031 MGD. Average nutrient concentrations were then multiplied by this flow rate to estimate nutrient loading rates from this facility. Monthly maximum nitrate data reported by the facility were combined with ACEPD inspection results to calculate a nitrate loading rate of 8 lb/year. Since the facility is not required to monitor for total nitrogen or total phosphorus, ACEPD data were used to calculate these loadings of 249 lb/year and 48 lb/year, respectively. Estimated loads of total nitrogen and total phosphorus have decreased since 2010 – 2011, due to a reduction in flow rates and lower concentrations observed in effluent samples (Figure 41). Table 2 compares loading rates among wastewater treatment facilities located in Alachua County.

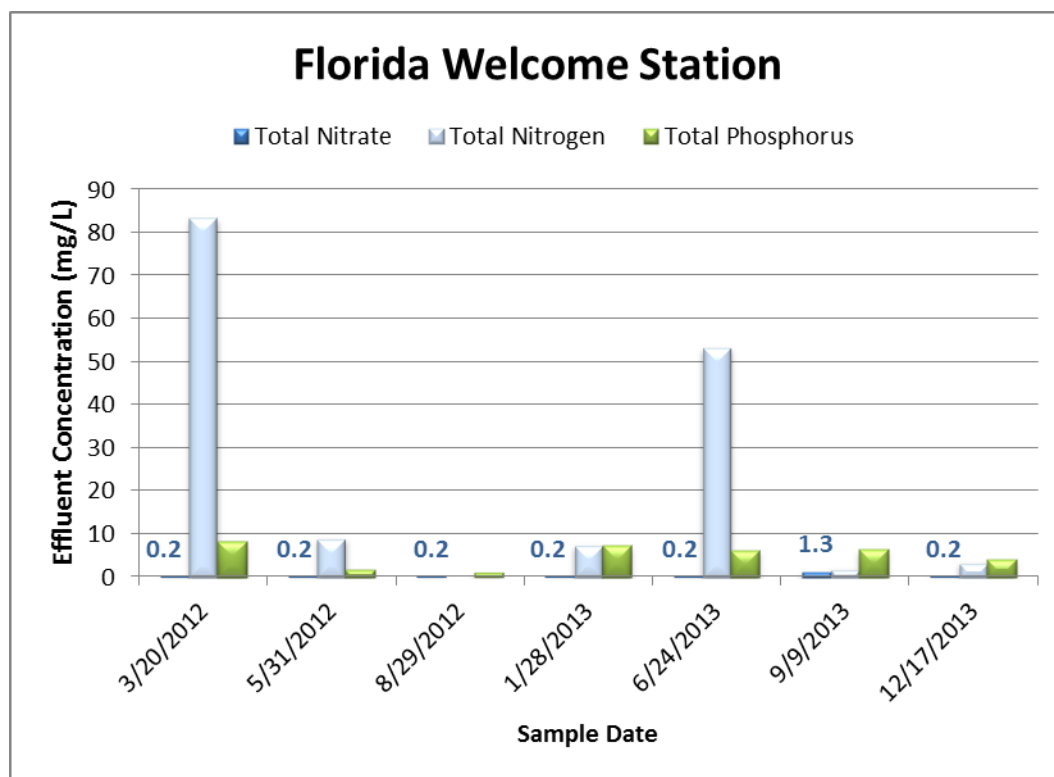


Figure 40. Effluent data from samples collected during ACEPD inspections at the Florida Welcome Station Package Plant

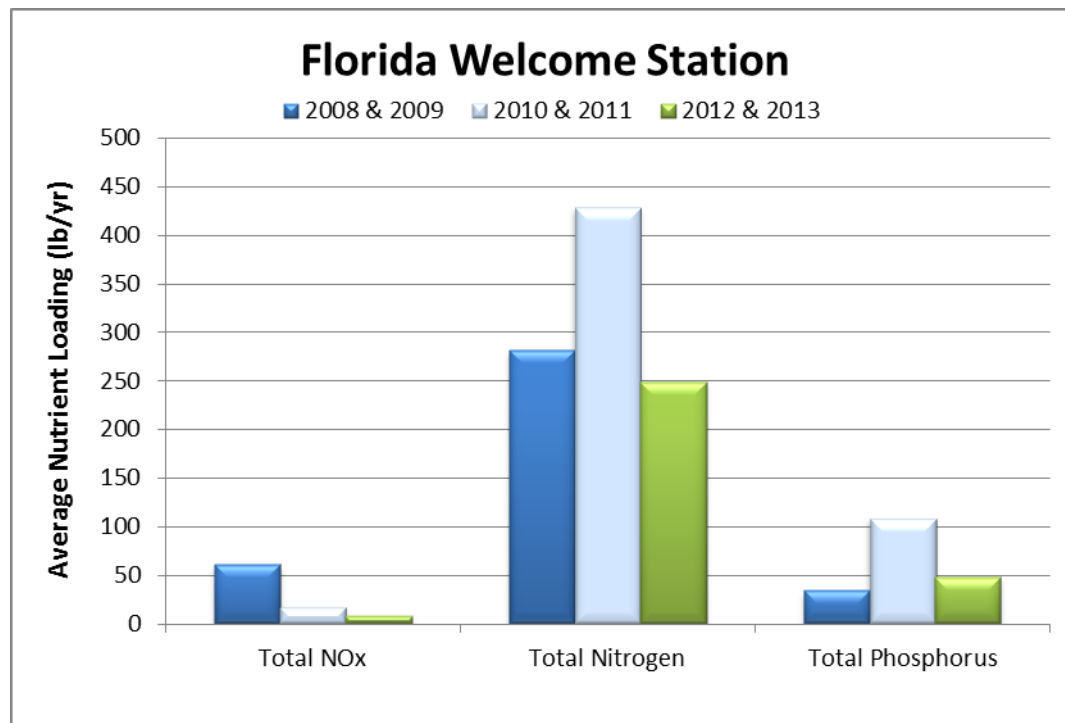


Figure 41. Estimated Nutrient Loading Values for the Florida Welcome Station Package Plant (2008 - 2013)

4-8 The Gainesville Raceway

Facility size: 0.00825 MGD

Permit expiration date: 5/9/2017

Permitted effluent disposal: Spray irrigation (3.25 acres).

Residuals disposal: None Produced.



The Gainesville Raceway aeration treatment system

The Gainesville Raceway plant is an extended aeration batch treatment system that was designed to treat the intermittent flows of the Gainesville Raceway including the extreme flows of Gator Nationals. This facility was last inspected in July 2010 and was found to be in compliance. No effluent was discharged through the sprayfields due to operator management of the aeration basins; therefore no samples were taken of effluent. This plant operates during special events at the Gainesville Raceway and receives and treats wastewater pumped from portable toilets. This plant is over-designed and historically has been found to be in compliance. The facility was an experimental project and the operator is not required to pay wastewater fees to the County.

4-9 Micanopy Inn (formerly Knight's Inn)**Facility size:** 0.015 MGD**Permit expiration date:** 4/25/2020**Permitted effluent disposal:** 1.26 acre spray field.**Residuals disposal:** Hauled off-site.

The Micanopy Inn aeration basin

The package plant at the Micanopy Inn (formerly Knight's Inn) is an extended aeration plant. This facility was inspected five times by ACEPD during 2012 and 2013. The facility was found to be out of compliance during the September 2013 inspection; the total residual chlorine was below the 0.5 mg/L FDEP permit minimum. There are no effluent nutrient limitations in the FDEP permit. Results for samples collected by ACEPD show an increase in nitrate and total nitrogen concentrations (Figure 42). Elevated nitrogen levels are of concern in this area of the County where the Floridan aquifer is semi-confined to unconfined.

The monthly average flow of influent from 2012 and 2013 were used to calculate an average flow of 0.0037 MGD. Monthly maximum nitrate data provided by the facility were combined with ACEPD inspection results to calculate a nitrate loading rate of 547lb/year (Figure 43). Since the facility is not required to monitor total nitrogen or total phosphorus, ACEPD data were used to calculate these loadings of 127 lb/year and 27 lb/year, respectively. Table 2 compares loading values among wastewater treatment facilities located in Alachua County.

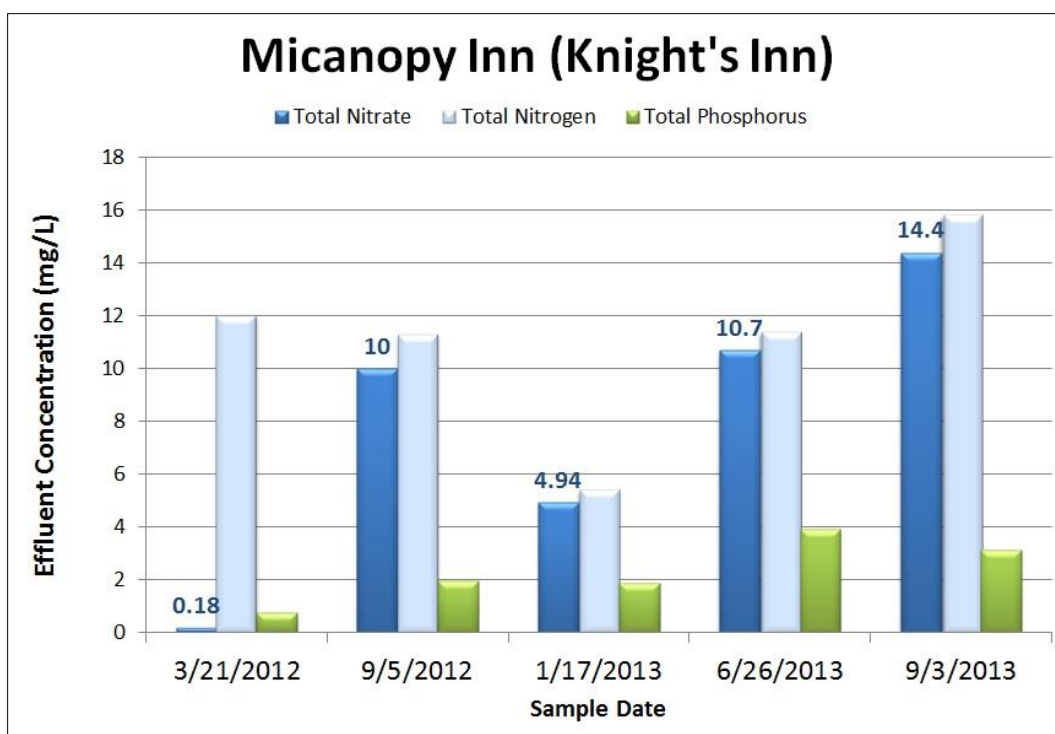


Figure 42. Effluent data from samples collected during ACEPD inspections at the Micanopy Inn Package Plant, formerly Knight's Inn

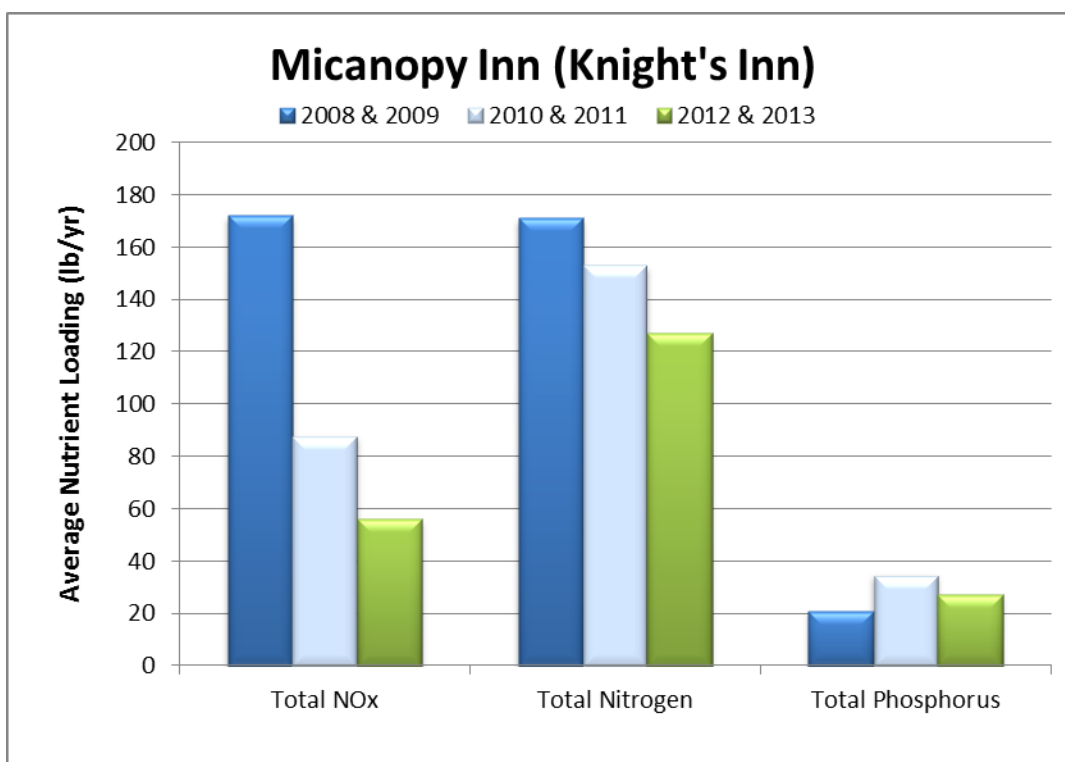


Figure 43. Estimated Nutrient Loading Values for the Micanopy Inn Package Plant, formerly Knight's Inn (2008 - 2013)

4-10 Prairie View Apartments

Facility size: 0.00424MGD

Permit expiration date: 9/9/2020

Permitted effluent disposal: percolation pond (6,608 square feet).

Residuals disposal: Hauled off-site.



The Prairie View Apartments WWTF

The package plant at Prairie View Apartments is an activated sludge secondary treatment plant. This facility was inspected six times during 2012 and 2013 and was found to be out of compliance for one of these inspections. The total residual chlorine was below the FDEP permit minimum of 0.5 mg/L during the September 2013 inspection. The sample results collected during 2012 - 2013 for nitrate did not exceed the limit of 12 mg/L; however, elevated levels of nitrate and total nitrogen were observed during several ACEPD inspections (Figure 44). The poor effluent quality is of concern with the proximity of Paynes Prairie Preserve State Park, an Outstanding Florida Water. Extensive maintenance was conducted on the plant in 2010 which has helped to reduce solids in the chlorine contact chamber and overall functioning of the facility.

The monthly average flow reported by the facility for 2012 - 2013 was used to calculate an average flow of 0.0031 MGD. Average nutrient concentrations were then multiplied by this flow rate to estimate the nutrient loading rates from this facility. Monthly maximum nitrate data reported by the facility were combined with ACEPD inspection results to estimate a nitrate loading rate of 56 lb/year (Figure 45). Since the facility is not required to monitor total nitrogen or total phosphorus, ACEPD data were used to calculate loadings of 63 lb/year and 11 lb/year, respectively. Table 2 compares loading rates among wastewater facilities in Alachua County.

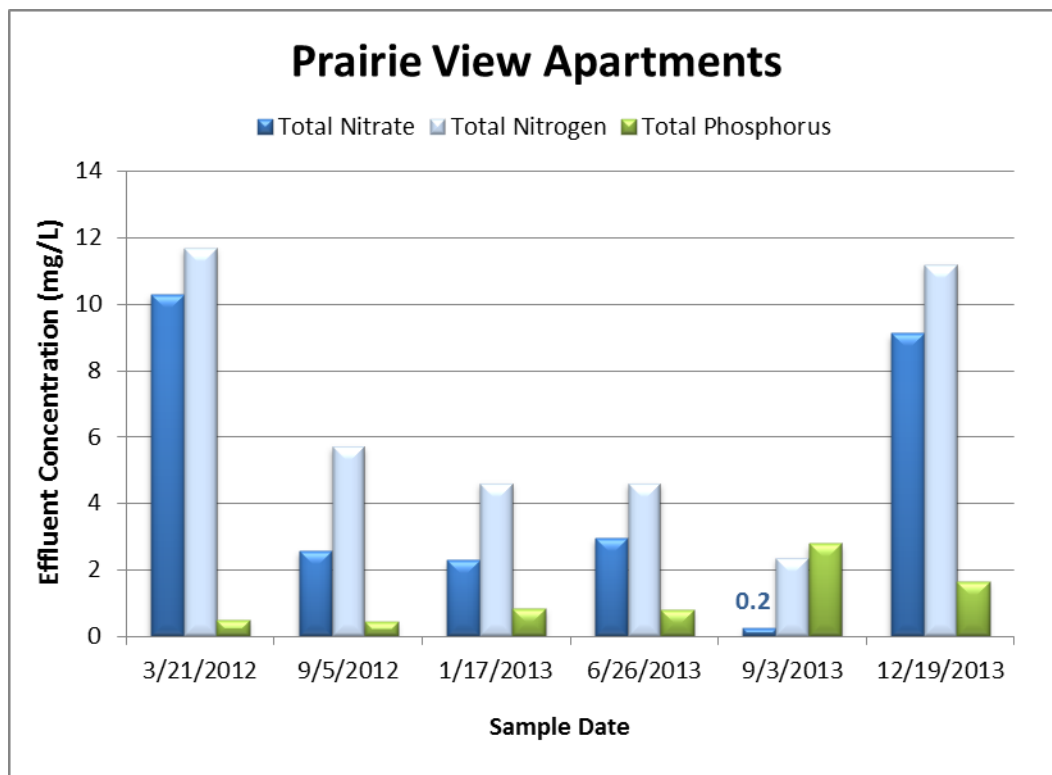


Figure 44. Effluent data from samples collected during ACEPD inspections at the Prairie View Apartments Package Plant

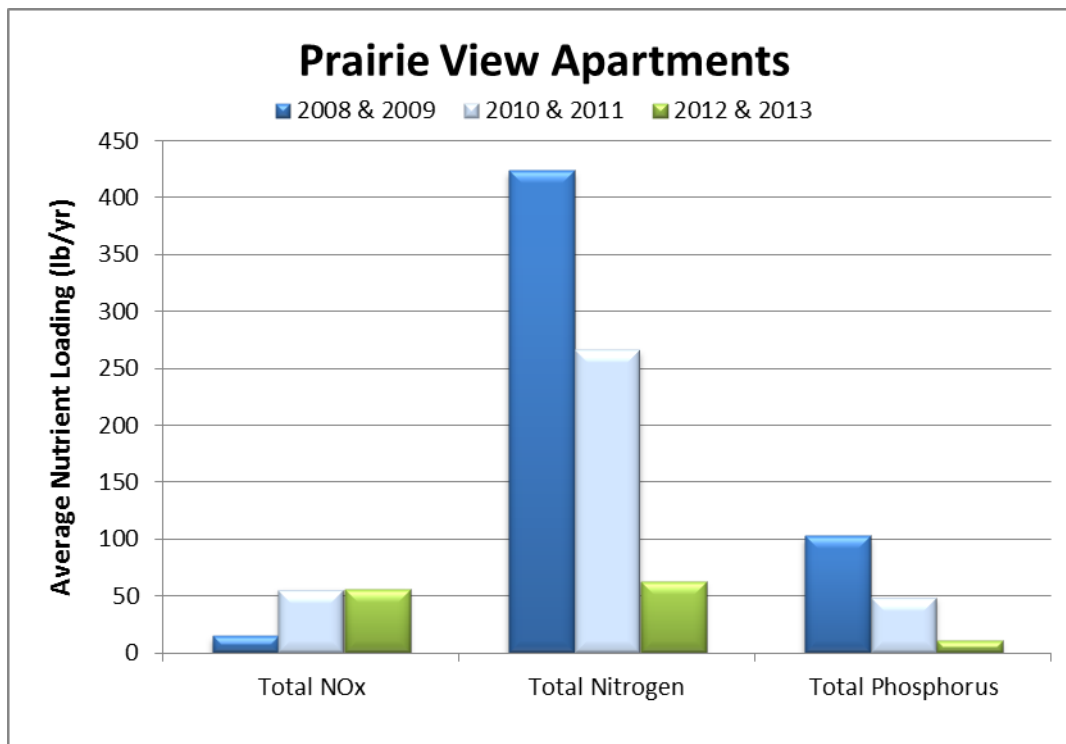


Figure 45. Estimated Nutrient Loading Values for the Prairie View Apartments Package Plant (2008 - 2013)

5.0 SUMMARY AND RECOMMENDATIONS

ACEPD will continue to monitor the WWTFs in Alachua County. Effluent will be analyzed for nutrient species (nitrate, nitrate + nitrite, ammonia, total nitrogen, and total phosphorus). If the effluent is discolored and appears to be out of compliance with its FDEP permit limitations, parameters such as Fecal Coliform, CBOD, and TSS may be monitored to assist FDEP in enforcing permit limitations. ACEPD intends to inspect all facilities at least three times a year, with the exception of the two GRU facilities, and the Gainesville Raceway which are monitored on an annual basis. UF is no longer inspected by the ACEPD.

ACEPD plans to increase communication concerning problematic facilities with the Florida Department of Environmental Protection Domestic Wastewater Compliance staff. It is ACEPD's hopes to assist in getting all of the WWTFs in compliance with their FDEP permits. In 2013 ACEPD added enforcement capabilities to its wastewater program, which will give ACEPD the authority to issue civil citations for effluent and reporting violations. County Ordinance 13-11 adopted August 27, 2013 amended Chapter 24 of the Alachua County Code to provide citation authority for failure to comply with disposal standards, inspection requirements, record keeping standards, discharge requirements, temporary non-compliance requirements, and FDEP wastewater regulations.

ACEPD will continue to encourage all of the wastewater treatment facilities to upgrade to more advanced treatment with the goal of reducing nutrient concentrations in treated effluent. An emphasis will be placed on treatment facilities within the area where the Floridan aquifer is unconfined, within delineated springsheds of the springs of the lower Santa Fe River, and to those in the watersheds of Outstanding Florida Waters or Impaired Waters. Options to provide funding to the City of High Springs for wastewater collection systems enhancements that would allow wastewater from Camp Kulaqua to be collected and treated at the High Springs municipal plant are under development. This is an important step in protecting and improving the water quality of Hornsby Spring, a first magnitude spring on the Santa Fe River.

The Brittany Estates Mobile Home Park wastewater treatment plant discharge to Little Hatchet Creek is one source of external loading to Little Hatchet Creek and its downstream receiving waterbody, Newnans Lake, which is being further evaluated.

ACEPD will promote additional nutrient monitoring (nitrogen species and total phosphorus) requirements for inclusion in FDEP permits. Some of the Alachua County waterbodies, including Lake Santa Fe (an Outstanding Florida Water), are phosphorus limited. Newnans Lake and Lake Wauberg have TMDLs set for TN and TP, a TMDL for Lochloosa Lake (TN and TP) was released in March 2015, Orange Lake has a TMDL for TP, Alachua Sink has a TMDL for TN, and the Santa Fe River has a TMDL for nitrate and dissolved oxygen (DO). Basin management action plans (BMAPs) covering the lakes in the Orange Creek Basin and the Santa Fe River have been adopted by FDEP and are being implemented.

6.0 REFERENCES

Butt, P.L., Boyes, S. and Morris, T.L. 2006. *Mill Creek and Lee Sinks Dye Trace Alachua County, FL July – December 2005*. Karst Environmental Services, Inc.

Hutton, Rick. 2008. Supervising Utility Engineer Strategic Planning. Gainesville Regional Utilities. Electronic communication with Robin Hallbourg on 10/2/2008.

Jones, Edmonds, and Associates (JEA). 1998. Final Report, Copeland Site, Alachua, Florida for the University of Florida Foundation.

Universal Engineering Sciences, Inc. 2011. Copeland Park: Groundwater Laboratory Analytical Results.

Water Environment Federation. 1985. Operation of Extended Aeration Package Plants, Manual of Practice OM-7. Alexandria, VA.

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Alachua, City of	12/1/2005	25.97	26.62	6.29
Alachua, City of	2/8/2006	9.33	10.23	4.53
Alachua, City of	6/8/2006	3.47	4.38	2.71
Alachua, City of	9/14/2006	4.07	5.04	2.44
Alachua, City of	12/28/2006	10.42	11.42	1.62
Alachua, City of	4/11/2007	21.5	22.9	2.88
Alachua, City of	1/8/2008	19	21.00	4.20
Alachua, City of	4/24/2008	20.5	20.75	3.73
Alachua, City of	7/10/2008	NA	NA	2.59
Alachua, City of	11/13/2008	1.33	2.61	3.09
Alachua, City of	2/5/2009	3.88	5.44	0.81
Alachua, City of	7/9/2009	0.1	0.88	1.11
Alachua, City of	11/4/2009	1.29	2.16	2.34
Alachua, City of	3/10/2010	1.5	5.14	2.8
Alachua, City of	7/22/2010	5.44	6.35	2.31
Alachua, City of	12/6/2010	14.1	14.1	4.86
Alachua, City of	5/31/2011	3.61	4.3	5.68
Alachua, City of	8/3/2011	2.41	3.15	5.5
Alachua, City of	12/12/2011	2.47	3.07	3.17
Alachua, City of	5/31/2012	1.78	2.46	3.16
Alachua, City of	1/28/2013	2.65	3.27	3.26
Alachua, City of	6/24/2013	3.25	3.7	2.91
Alachua, City of	12/17/2013	2.42	3.07	2.9
Archer Community School	10/10/2005	0.223	NA	NA
Archer Community School	1/24/2006	0.797	NA	NA
Archer Community School	4/11/2006	39.411	NA	NA
Archer Community School	7/26/2006	25.77	34.57	11.1
Archer Community School	10/19/2006	1.16	18.16	18.62
Archer Community School	1/31/2007	0.061	19	14.77
Archer Community School	5/10/2007	26.61	31.21	21.93
Archer Community School	8/28/2008	19.90	29.20	3.35
Archer Community School	8/28/2008	55.1	58.56	5.63
Archer Community School	12/15/2008	8	16.3	6
Archer Community School	8/4/2009	8.9	14.5	2.07
Archer Community School	12/30/2009	11	17.4	11.3

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Archer Community School	5/12/2010	1.6	22	6.4
Archer Community School	11/11/2010	0.21	96.4	6
Archer Community School	3/29/2011	0.29	97.9	19.9
Archer Community School	6/29/2011	0.4	37.6	3.13
Archer Community School	8/3/2011	1.35	10.6	4.93
Archer Community School	11/15/2011	1.41	62.2	8.25
Archer Community School	3/20/2012	0.19	78.5	6.4
Archer Community School	5/31/2012	0.21	74.7	3.94
Archer Community School	8/29/2012	0.16	59.5	7.58
Archer Community School	1/3/2013	15.7	36.6	6.75
Archer Community School	3/28/2013	0.28	71.6	0.158
Archer Community School	6/24/2013	4.89	24.9	5.65
Archer Community School	9/9/2013	9.1	27.6	6.05
Archer Community School	12/19/2013	0.36	43.7	7.1
Archer Homes	10/10/2005	0.05	NA	5.03
Archer Homes	1/24/2006	0.39	NA	NA
Archer Homes	4/11/2006	0.30	NA	NA
Archer Homes	7/26/2006	0.22	52.22	5.65
Archer Homes	10/19/2006	0.06	35	9.92
Archer Homes	1/31/2007	0.06	25	2.09
Archer Homes	5/10/2007	0.16	28	3.61
Archer Homes	8/28/2008	0.17	10.60	2.05
Archer Homes	8/28/2008	2.20	6.59	1.52
Archer Homes	12/15/2008	1.4	14.4	1.36
Archer Homes	8/4/2009	0.2	58.9	5.97
Archer Homes	12/30/2009	0.6	8.45	3.1
Archer Homes	5/12/2010	0.21	44	1.7
Archer Homes	11/11/2010	0.19	50	4.26
Archer Homes	3/29/2011	0.2	48	5.94
Archer Homes	6/29/2011	0.061	49	5.6
Archer Homes	8/3/2011	0.21	52	5.86
Archer Homes	11/15/2011	0.21	22.5	3.32
Archer Homes	4/10/2012	0.14	65	5.7
Archer Homes	5/31/2012	0.2	35.5	6.15
Archer Homes	8/29/2012	0.22	7.85	7

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Archer Homes	1/3/2013	10.7	20.9	5.9
Archer Homes	3/28/2013	1.13	1.54	0.024
Archer Homes	6/24/2013	0.34	4.54	2.2
Archer Homes	12/19/2013	7.23	13.3	7.1
Arredondo Village MHP	10/10/2005	0.24	NA	0.58
Arredondo Village MHP	1/24/2006	0.11	NA	NA
Arredondo Village MHP	4/11/2006	5.55	NA	NA
Arredondo Village MHP	7/26/2006	0.95	4.06	0.45
Arredondo Village MHP	10/19/2006	1.55	5.55	0.57
Arredondo Village MHP	1/31/2007	10.99	17.59	4.9
Arredondo Village MHP	5/10/2007	0.27	29.27	2.6
Arredondo Village MHP	8/28/2008	0.206	3.24	2.13
Arredondo Village MHP	12/14/2008	0.11	21	2.38
Arredondo Village MHP	8/4/2009	0.1	49.5	2
Arredondo Village MHP	12/30/2009	0.1	30	2.26
Arredondo Village MHP	5/12/2010	0.21	16	3
Arredondo Village MHP	11/11/2010	17	19.8	9.35
Arredondo Village MHP	3/29/2011	0.46	10.2	3.23
Arredondo Village MHP	6/29/2011	6.02	22	6.8
Arredondo Village MHP	8/3/2011	11.6	12.7	2.75
Arredondo Village MHP	11/15/2011	26.4	31	11.6
Arredondo Village MHP	3/20/2012	19.8	23.9	1.79
Arredondo Village MHP	7/26/2012	0.027	46	0.77
Arredondo Village MHP	1/3/2013	5.15	10.2	2.07
Arredondo Village MHP	3/28/2013	0.16	29.4	7.05
Arredondo Village MHP	6/24/2013	0.21	12.6	6
Arredondo Village MHP	9/9/2013	0.27	11.9	2.12
Brittany Estates MHP	1/25/2006	2.37	3.57	1.66
Brittany Estates MHP	5/25/2006	10.19	11.65	0.901
Brittany Estates MHP	8/15/2006	0.26	2.86	3.13
Brittany Estates MHP	11/28/2006	0.72	1.34	2.35
Brittany Estates MHP	3/28/2007	0.95	2.15	2.161
Brittany Estates MHP	7/11/2007	6.94	8.54	3.49
Brittany Estates MHP	9/5/2008	9.44	11.4	1.72
Brittany Estates MHP	8/26/2009	9	8.21	1.76

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Brittany Estates MHP	1/20/2010	5.7	5.98	1.51
Brittany Estates MHP	7/14/2010	1.7	2.48	0.656
Brittany Estates MHP	1/20/2011	4.01	6.42	1.61
Brittany Estates MHP	6/28/2011	1.42	2.47	2.68
Brittany Estates MHP	8/26/2011	4.11	5.62	1.44
Brittany Estates MHP	11/22/2011	5.72	7.03	2.69
Brittany Estates MHP	3/21/2012	1.57	2.92	2.6
Brittany Estates MHP	9/5/2012	3.09	4.75	0.608
Brittany Estates MHP	1/17/2013	7.58	8.65	1.87
Brittany Estates MHP	6/26/2013	3.77	5.42	1.9
Brittany Estates MHP	9/3/2013	1.15	2.66	1.28
Camp Kulaqua	12/1/2005	3.42	4.52	2.06
Camp Kulaqua	2/8/2006	1.97	7.07	0.23
Camp Kulaqua	6/8/2006	0.10	46.28	10.52
Camp Kulaqua	9/14/2006	0.28	18.28	4
Camp Kulaqua	12/28/2006	3.14	3.81	4.69
Camp Kulaqua	4/11/2007	4.58	17.58	5.08
Camp Kulaqua	1/8/2008	7.5	9.3	2.83
Camp Kulaqua	4/24/2008	0.05	NA	0.57
Camp Kulaqua	7/10/2008	0.17	NA	3.18
Camp Kulaqua	11/13/2008	6.71	7.13	3.93
Camp Kulaqua	2/5/2009	27.6	21.4	4.57
Camp Kulaqua	7/9/2009	0.1	24.3	5.1
Camp Kulaqua	11/4/2009	23	22.8	2.51
Camp Kulaqua	3/10/2010	16	16.6	1.28
Camp Kulaqua	7/22/2010	0.45	12.1	0.392
Camp Kulaqua	12/6/2010	1.51	13.7	7.32
Camp Kulaqua	5/31/2011	9.59	9.93	2.12
Camp Kulaqua	8/3/2011	0.37	14.5	2.81
Camp Kulaqua	11/15/2011	22.6	23.1	3.29
Camp Kulaqua	3/20/2012	10.5	10.7	2.25
Camp Kulaqua	5/31/2012	14.1	14.4	2.94
Camp Kulaqua	8/29/2012	16.7	16.9	7.24
Camp Kulaqua	1/28/2013	18.8	19.1	2.97
Camp Kulaqua	6/24/2013	0.22	20.3	0.347

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Camp Kulaqua	9/9/2013	28.9	29.2	9.1
Camp Kulaqua	12/17/2013	24.5	24.9	4.11
Camp McConnell YMCA	10/11/2005	23.81	26.91	4.04
Camp McConnell YMCA	1/24/2006	5.17	6.97	2.32
Camp McConnell YMCA	4/12/2006	9.92	12.718	2.405
Camp McConnell YMCA	8/15/2006	26.58	29.99	5.59
Camp McConnell YMCA	11/28/2006	1.27	4.17	1.74
Camp McConnell YMCA	3/28/2007	1.07	5.27	0.494
Camp McConnell YMCA	7/11/2007	0.36	5.66	2.38
Camp McConnell YMCA	8/28/2008	5.81	7.43	1.19
Camp McConnell YMCA	12/15/2008	0.903	3.35	1.39
Camp McConnell YMCA	8/4/2009	9.1	10.2	1.45
Camp McConnell YMCA	12/30/2009	12.6	14.1	2.51
Camp McConnell YMCA	5/12/2010	6.7	8.9	1.2
Camp McConnell YMCA	1/20/2011	0.5	8.64	1.79
Camp McConnell YMCA	6/29/2011	1.36	3.62	0.146
Camp McConnell YMCA	8/25/2011	1.55	3.46	2.37
Camp McConnell YMCA	11/22/2011	5.53	8.7	4.38
Camp McConnell YMCA	3/21/2012	4.6	8.18	4.65
Camp McConnell YMCA	9/5/2012	9.91	12.8	3.57
Camp McConnell YMCA	1/17/2013	7.34	9.84	0.924
Camp McConnell YMCA	6/26/2013	0.47	2	0.428
Camp McConnell YMCA	9/3/2013	28.8	30.6	4.73
Florida Welcome Center	12/1/2005	2.12	41.22	8.31
Florida Welcome Center	2/8/2006	0.03	NA	NA
Florida Welcome Center	6/8/2006	0.31	87.86	15.23
Florida Welcome Center	9/14/2006	2.96	3.59	5.21
Florida Welcome Center	12/28/2006	0.06	62.33	10.21
Florida Welcome Center	4/11/2007	2.30	8.4	2.1
Florida Welcome Center	1/8/2008	0.017	44	4.02
Florida Welcome Center	4/24/2008	16.6	16.97	2.67
Florida Welcome Center	7/10/2008	0.2	NA	2.09
Florida Welcome Center	11/13/2008	13	13.5	6.81
Florida Welcome Center	2/5/2009	6.2	4.84	1.22
Florida Welcome Center	7/9/2009	0.199	47.9	1.02

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Florida Welcome Center	11/4/2009	18	17.6	2.56
Florida Welcome Center	3/10/2010	0.1	36.7	5.6
Florida Welcome Center	7/22/2010	2.09	2.65	1.74
Florida Welcome Center	12/6/2010	0.34	10.2	0.161
Florida Welcome Center	5/31/2011	0.26	28.8	12.2
Florida Welcome Center	8/3/2011	0.41	65.1	11.5
Florida Welcome Center	11/15/2011	0.19	25.4	11.6
Florida Welcome Center	3/20/2012	0.23	83.5	8.4
Florida Welcome Center	5/31/2012	0.18	9.1	1.86
Florida Welcome Center	8/29/2012	0.22	NA	1.03
Florida Welcome Center	1/28/2013	0.17	7.56	7.36
Florida Welcome Center	6/24/2013	0.17	53.3	6.3
Florida Welcome Center	9/9/2013	1.29	1.95	6.4
Florida Welcome Center	12/17/2013	0.16	3.41	4.26
Gainesville Raceway	9/8/2008	0.012	4.68	15
Gainesville Raceway	7/14/2010	10.3	17.5	4.37
Gainesville Regional Utilities (Kanapaha)	8/24/2006	4.17	5.04	3.72
Gainesville Regional Utilities (Kanapaha)	9/25/2007	4.60	5.3	4.82
Gainesville Regional Utilities (Kanapaha)	10/15/2008	1.47	1.99	2.18
Gainesville Regional Utilities (Kanapaha)	9/8/2009	2.74	3.33	2.81
Gainesville Regional Utilities (Kanapaha)	7/8/2010	1.83	2.6	2.89
Gainesville Regional Utilities (Kanapaha)	9/8/2011	1.45	1.98	2.65
Gainesville Regional Utilities (Kanapaha)	8/1/2012	2	0.72	2.8
Gainesville Regional Utilities (Kanapaha)	6/26/2013	1.18	1.75	1.09
Gainesville Regional Utilities (Main St.)	8/24/2006	2.81	3.55	1.703
Gainesville Regional Utilities (Main St.)	9/25/2007	0.04	0.71	2.085
Gainesville Regional Utilities (Main St.)	9/25/2007	4.07	4.84	1.83
Gainesville Regional Utilities (Main St.)	10/15/2008	4.9	5.42	1.39
Gainesville Regional Utilities (Main St.)	9/9/2009	3.42	4.1	0.285
Gainesville Regional Utilities (Main St.)	7/8/2010	2.43	3.17	0.878
Gainesville Regional Utilities (Main St.)	9/8/2011	3.96	4.91	2.01
Gainesville Regional Utilities (Main St.)	8/1/2012	4.3	4.6	1.4
Gainesville Regional Utilities (Main St.)	6/26/2013	3.65	4.46	2.09
Hawthorne, City of	10/11/2005	0.34	1.02	3.26
Hawthorne, City of	1/25/2006	4.88	5.6	3.99

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Hawthorne, City of	4/12/2006	0.19	1.792	3.886
Hawthorne, City of	8/15/2006	11.04	12.24	5.21
Hawthorne, City of	11/28/2006	9.35	10.95	5.16
Hawthorne, City of	2/26/2007	15.42	16.62	5.523
Hawthorne, City of	7/11/2007	7.39	8.49	4.39
Hawthorne, City of	8/28/2008	0.083	2.88	2.71
Hawthorne, City of	12/15/2008	0.045	0.985	3.39
Hawthorne, City of	1/8/2009	0.053	3.91	1.05
Hawthorne, City of	8/26/2009	0.066	16.7	17.6
Hawthorne, City of	1/20/2010	0.1	28.4	8.35
Hawthorne, City of	7/14/2010	0.18	1.33	2.5
Hawthorne, City of	1/20/2011	0.56	1.94	5.3
Hawthorne, City of	6/28/2011	0.17	3.71	1.28
Hawthorne, City of	8/25/2011	0.17	0.97	4.71
Hawthorne, City of	11/22/2011	0.2	0.8	1.78
Hawthorne, City of	3/21/2012	0.2	6.14	2.51
Hawthorne, City of	9/5/2012	2.33	2.98	3.4
Hawthorne, City of	1/17/2013	0.4	3.17	3.59
Hawthorne, City of	6/26/2013	0.4	1.12	1.14
Hawthorne, City of	9/3/2013	10.4	12.1	7.67
High Springs, City of	12/20/2005	25.90	27.3	8.08
High Springs, City of	3/14/2006	6.10	7.2	2.57
High Springs, City of	6/15/2006	2.49	3.42	1.24
High Springs, City of	9/14/2006	6.33	7.63	15.99
High Springs, City of	12/28/2006	2.99	3.88	3.75
High Springs, City of	4/11/2007	5.51	6.31	3.23
High Springs, City of	1/8/2008	2.7	3.6	5.29
High Springs, City of	4/24/2008	16.4	16.58	7.55
High Springs, City of	7/10/2008	NA	NA	6.28
High Springs, City of	11/13/2008	0.893	1.59	1.74
High Springs, City of	2/5/2009	2.81	3.49	2.48
High Springs, City of	7/9/2009	9	7.7	7.57
High Springs, City of	9/8/2009	12.2	13.2	6.03
High Springs, City of	11/4/2009	7.72	8.53	4.46
High Springs, City of	3/10/2010	4.9	5.95	0.598

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
High Springs, City of	7/22/2010	5.81	6.67	2.74
High Springs, City of	12/6/2010	13	13	4.24
High Springs, City of	5/31/2011	6.5	7.45	3.45
High Springs, City of	8/3/2011	8.82	9.85	4.83
High Springs, City of	11/15/2011	13	14.5	4.7
High Springs, City of	3/20/2012	9.47	10.5	1.23
High Springs, City of	5/31/2012	12.8	13.9	6.9
High Springs, City of	8/29/2012	12.8	14.2	1.41
High Springs, City of	1/3/2013	6.5	7.9	1.01
High Springs, City of	6/24/2013	6.4	7.43	1.48
High Springs, City of	9/9/2013	16.8	19.6	4.81
High Springs, City of	12/17/2013	3.53	5.37	4.97
Knights Inn	10/11/2005	4.61	NA	1.32
Knights Inn	1/24/2006	0.13	NA	0.816
Knights Inn	4/12/2006	9.35	NA	1.129
Knights Inn	8/15/2006	2.79	3.99	1.8
Knights Inn	11/28/2006	3.51	4.2	1.26
Knights Inn	3/28/2007	0.33	8.42	1.787
Knights Inn	7/11/2007	19.81	20.62	3.57
Knights Inn	8/28/2008	6.9	7.83	0.43
Knights Inn	12/15/2008	4.23	5.04	1.03
Knights Inn	7/9/2009	13.4	11.2	1.17
Knights Inn	12/30/2009	13.5	14.1	1.99
Knights Inn	5/12/2010	0.07	26	2.4
Knights Inn	11/11/2010	16.4	16.4	2.68
Knights Inn	3/29/2011	2.51	3.3	2.81
Knights Inn	6/29/2011	9.42	10.5	5.55
Knights Inn	8/25/2011	8.01	8.83	2.54
Knights Inn	11/22/2011	9.16	10.4	1.49
Knights Inn	3/21/2012	0.18	12	0.778
Knights Inn	9/5/2012	10	11.3	1.96
Knights Inn	1/17/2013	4.94	5.43	1.89
Knights Inn	6/26/2013	10.7	11.4	3.91
Knights Inn	9/3/2013	14.4	15.8	3.15
Newberry, City of	9/15/2005	0.04	18	6.75

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Newberry, City of	12/20/2005	11.83	12.75	2.07
Newberry, City of	3/14/2006	0.11	17.21	2.02
Newberry, City of	6/15/2006	36.35	38.15	13.22
Newberry, City of	10/19/2006	0.06	10	7.77
Newberry, City of	1/31/2007	17.20	19.9	4.54
Newberry, City of	5/10/2007	8.57	10.57	7.67
Newberry, City of	1/8/2008	0.17	7.3	2.77
Newberry, City of	4/24/2008	9.33	9.59	5.68
Newberry, City of	7/10/2008	NA	NA	5.22
Newberry, City of	2/5/2009	4.93	8.69	0.807
Newberry, City of	8/4/2009	0.3	2	6.05
Newberry, City of	9/4/2009	1.22	5.21	2.11
Newberry, City of	3/10/2010	0.6	3.22	3.68
Newberry, City of	7/22/2010	0.24	9.1	6.4
Newberry, City of	11/11/2010	11.4	11.4	4.65
Newberry, City of	6/29/2011	5.9	24.1	4.72
Newberry, City of	8/3/2011	0.19	3.43	2.06
Newberry, City of	11/15/2011	6.86	18.6	4.71
Newberry, City of	3/20/2012	0.23	16.6	2.27
Newberry, City of	5/31/2012	0.17	27.8	5.45
Newberry, City of	8/29/2012	0.19	11.9	2.12
Newberry, City of	1/3/2013	0.55	17	2.87
Newberry, City of	3/28/2013	0.18	22.7	2.96
Newberry, City of	6/24/2013	2.07	18.6	3.94
Newberry, City of	9/9/2013	0.18	21.9	6
Newberry, City of	12/17/2013	2.29	15.9	2.68
Prairie View Apartments	10/11/2005	0.32	7.92	4.45
Prairie View Apartments	1/24/2006	0.64	7.78	1.62
Prairie View Apartments	4/11/2006	2.47	6.568	1.643
Prairie View Apartments	7/26/2006	15.63	20.43	3.77
Prairie View Apartments	12/28/2006	9.88	12.88	5.13
Prairie View Apartments	3/28/2007	1.89	5.09	0.913
Prairie View Apartments	7/11/2007	0.39	1.69	1.67
Prairie View Apartments	8/28/2008	4.87	5.71	1.97
Prairie View Apartments	12/15/2008	0.2	40.2	0.275

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Prairie View Apartments	7/9/2009	2.4	147	48.8
Prairie View Apartments	8/4/2009	1.3	9.65	0.589
Prairie View Apartments	12/30/2009	2.3	14.3	1.17
Prairie View Apartments	5/12/2010	0.21	38	7
Prairie View Apartments	11/11/2010	0.19	26.7	3.38
Prairie View Apartments	3/29/2011	0.2	58.7	10.1
Prairie View Apartments	6/29/2011	1.72	8.74	3.79
Prairie View Apartments	8/25/2011	14.5	17.1	3.47
Prairie View Apartments	11/22/2011	7.83	9.55	1.41
Prairie View Apartments	3/21/2012	10.3	11.7	0.496
Prairie View Apartments	9/5/2012	2.57	5.72	0.436
Prairie View Apartments	1/17/2013	2.28	4.63	0.832
Prairie View Apartments	6/26/2013	2.96	4.62	0.804
Prairie View Apartments	9/3/2013	0.24	2.38	2.79
Prairie View Apartments	12/19/2013	9.11	11.2	1.64
Sunshine Mobile Home Park	10/10/2005	0.05	NA	NA
Sunshine Mobile Home Park	1/25/2006	1.33	NA	NA
Sunshine Mobile Home Park	4/11/2006	1.62	NA	NA
Sunshine Mobile Home Park	7/26/2006	1.04	6.08	1.86
University of Florida WWTP	6/15/2006	2.23	2.23	2.6
University of Florida WWTP	9/25/2007	3.37	4.3	5.501
University of Florida WWTP	10/15/2008	0.625	1.16	1.35
University of Florida WWTP	9/8/2009	0.631	0.981	2.54
University of Florida WWTP	9/8/2009	0.668	1.25	2.33
University of Florida WWTP	7/8/2010	0.65	1.56	0.936
Waldo Post	9/15/2005	0.042	4.20	0.39
Waldo Post	1/25/2006	0.19	0.88	0.008
Waldo Post	5/25/2006	0.10	6.704	1.252
Waldo Post	8/15/2006	0.64	1.64	0.15
Waldo Post	11/28/2006	1.09	1.86	0.51
Waldo Post	2/26/2007	1.06	2.364	0.014
Waldo Post	7/11/2007	0.16	1.36	1.03
Waldo Post	9/5/2008	0.024	0.864	0.657
Waldo Post	1/8/2009	1.17	2.91	0.195
Waldo Post	8/26/2009	0.034	6.15	1.22

APPENDIX A: ACEPD INSPECTIONS, EFFLUENT SAMPLE RESULTS 2005 - 2013

Facility	Date	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Waldo Post	1/20/2010	0.6	1.33	0.541
Waldo Post	7/14/2010	0.2	1.4	1.34
Waldo Post	1/20/2011	0.3	1.41	0.764
Waldo Post	6/28/2011	0.2	1.69	1.79
Waldo Post	8/25/2011	0.2	0.99	1.26
Waldo Post	11/22/2011	0.2	0.94	0.417
Waldo Post	3/21/2012	0.23	1.83	0.311
Waldo Post	9/5/2012	0.04	1.15	0.824
Waldo Post	1/17/2013	0.79	1.61	0.435
Waldo Prior	9/15/2005	0.88	10.63	0.21
Waldo Prior	1/25/2006	5.17	7.47	0.008
Waldo Prior	5/25/2006	3.35	4.259	0.28
Waldo Prior	8/15/2006	0.79	14.79	0.12
Waldo Prior	11/28/2006	6.24	7.54	0.92
Waldo Prior	2/26/2007	2.77	11.97	0.181
Waldo Prior	7/11/2007	1.42	2.92	9.72
Waldo Prior	1/8/2009	1.14	14.7	0.438
Waldo Prior	8/26/2009	0.241	19.9	0.143
Waldo Prior	1/20/2010	0.4	1.37	0.147
Waldo Prior	7/14/2010	0.29	0.93	0.396
Waldo Prior	1/20/2011	0.21	10.8	0.479
Waldo Prior	6/28/2011	9.57	10.2	0.487
Waldo Prior	8/25/2011	4.91	5.83	0.75
Waldo Prior	11/22/2011	0.57	11.3	0.262
Waldo Prior	3/21/2012	0.25	12.2	0.289
Waldo Prior	9/5/2012	7.71	9.11	0.429
Waldo Prior	1/17/2013	0.7	11	0.283

APPENDIX B: EFFLUENT DATA SUMMARY 2012 - 2013

Facility Name	Parameter	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
City of Alachua	Count	24	28	4	5
	Minimum	0.510	1.1	2.46	2.81
	Maximum	0.749	8.4	3.70	3.26
	Median	0.576	2.7	3.17	2.90
	Average	0.606	3.3	3.13	3.00
GRU-Kanapaha	Count	19	22	22	23
	Minimum	6.8	1.18	0.72	0.4
	Maximum	9.9	3.8	4.38	6.1
	Median	8.2	2.805	3.215	1.4
	Average	8.21	2.80	3.21	1.68
GRU-Main Street	Count	20	9	22	22
	Minimum	5.7	2.1	4.46	0.3
	Maximum	9.4	7.6	7.54	2.14
	Median	6.45	3.65	5.56	1
	Average	6.81	3.94	5.72	1.12
City of Hawthorne	Count	24	28	28	28
	Minimum	0.056	0.05	0.74	1.14
	Maximum	0.246	10.9	15.1	11.3
	Median	0.1025	0.2	3.085	4.6
	Average	0.11	1.32	4.97	4.72
City of High Springs	Count	22	21	15	15
	Minimum	0.013	0.32	5.37	1.01
	Maximum	0.18	16.8	19.6	7.88
	Median	0.1345	12	10.5	4.97
	Average	0.12	10.57	11.17	4.40
City of Newberry	Count	24	11	30	28
	Minimum	0.25	0.17	1.9	1.98
	Maximum	2.68	21.6	31	6
	Median	0.26	0.55	16.8	3.265
	Average	0.36	3.28	17.37	3.53
University of Florida	Count	21	21	21	20
	Minimum	1.1	1.6	1.9	1.1
	Maximum	1.9	5.7	6.5	3.6
	Median	1.5	2.9	4.1	2.15
	Average	1.55	3.23	3.98	2.26
Waldo (Pre-Wetland)	Count	16	NA	19	19
	Minimum	0.047	NA	1	0.261
	Maximum	0.65	NA	108	7.55
	Median	0.0875	NA	11	0.429
	Average	0.13	NA	15.94	0.92
Waldo (Post-Wetland)	Count	NA	18	18	18
	Minimum	NA	0.004	0.1	0.112
	Maximum	NA	3.3	4	3.15
	Median	NA	0.325	1.605	0.822
	Average	NA	0.70	1.71	0.96

APPENDIX B: EFFLUENT DATA SUMMARY 2012 - 2013

Facility Name	Parameter	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)
Archer Comm. School	Count	17	9	8	8
	Minimum	0.00071	0.16	24.9	0.158
	Maximum	0.006	15.7	78.5	7.58
	Median	0.004	0.36	51.6	6.23
	Average	0.003	4.44	52.1	5.45
Archer Homes	Count	19	27	7	7
	Minimum	0.002	0.011	1.54	0.024
	Maximum	0.005	23	65	7.10
	Median	0.003	0.60	13.3	5.90
	Average	0.0032	2.51	21.2	4.87
The Palms MHP (formerly Arredondo MHP)	Count	24	32	6	7
	Minimum	0.026	0	10.2	0.77
	Maximum	0.046	19.8	46.0	7.05
	Median	0.032	0.555	18.3	2.12
	Average	0.034	2.09	22.3	3.67
Brittany Estates MHP	Count	20	28	28	27
	Minimum	0.014	0.82	1.9	0.608
	Maximum	0.26	16.6	19.5	6.54
	Median	0.0275	3.765	4.9	1.87
	Average	0.0421	5.24	5.78	2.05
Camp Kulaqua	Count	21	31	7	7
	Minimum	0.0003	0.034	10.7	0.347
	Maximum	0.007	33	29.2	9.1
	Median	0.0009	3.1	19.1	2.97
	Average	0.0014	10.62	19.36	4.14
Camp McConnell YMCA	Count	24	29	5	5
	Minimum	0.0006	0.024	2	0.428
	Maximum	0.0054	28.8	30.6	4.73
	Median	0.0012	4.60	9.84	3.57
	Average	0.0018	5.27	12.68	2.86
FL Welcome Station	Count	24	31	6	7
	Minimum	0.001	0.011	1.95	1.03
	Maximum	0.012	9.4	83.5	8.4
	Median	0.003	0.23	8.33	6.3
	Average	0.0031	0.82	26.47	5.09
Micanopy Inn	Count	21	21	5	5
	Minimum	0.002	0	5.43	0.778
	Maximum	0.009	11.8	15.8	3.91
	Median	0.0031	4.5	11.4	1.96
	Average	0.0037	4.16	11.186	2.34
Prairie View Apts.	Count	12	19	6	6
	Minimum	0.0023	0.24	2.38	0.436
	Maximum	0.00383	12	11.7	2.79
	Median	0.003145	6.9	5.175	0.818
	Average	0.0031	6.02	6.71	1.17

APPENDIX C: ESTIMATED NUTRIENT LOADING RATES 2008 - 2013

Facility Name	2008 & 2009			2010 & 2011			2012 & 2013		
	NO3 (lb/yr)	TN (lb/yr)	TP (lb/yr)	NO3 (lb/yr)	TN (lb/yr)	TP (lb/yr)	NO3 (lb/yr)	TN (lb/yr)	TP (lb/yr)
City of Alachua	9,601	13,637	3,952	4,071	5,886	8,029	6,045	5,776	5,549
GRU - Kanapaha	170,205	162,258	70,208	116,890	115,193	48,814	70,158	80,390	42,013
GRU - Main Street	66,379	81,254	13,363	34,804	105,443	19,040	81,862	118,758	23,159
City of Hawthorne	1,161	2,310	2,336	447	2,957	1,729	453	1,701	1,618
City of High Springs	1,258	1,764	1,168	3,544	4,081	1,463	3,932	4,154	1,638
City of Newberry	2,135	10,162	2,525	7,969	8,511	3,195	3,619	19,191	3,904
University of Florida	17,308	31,359	20,864	10,824	15,003	12,045	15,317	18,836	10,706
City of Waldo (Post-Wetland)	236	988	135	58	656	189	280	680	382
Archer Community School	138	183	38	5	332	49	44	517	54
Archer Homes	39	345	49	13	539	54	25	208	48
The Palms MHP (Arredondo Village)	219	2,849	286	564	2,242	637	217	2,321	382
Brittany Estates MHP	1,080	991	204	610	736	196	673	742	263
Camp Kulaqua	52	46	9	26	97	18	45	82	17
Camp McConnell YMCA	33	42	8	12	30	9	29	70	16
Florida Welcome Station	61	281	34	18	429	109	8	249	48
Micanopy Inn (Knight's Inn)	172	171	21	88	153	35	47	127	27
Prairie View Apartments	15	424	103	56	266	49	56	63	11

APPENDIX D-1: THE CITY OF ALACHUA, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.510	3.9	NA	NA	FDEP Discharge Monitoring Report
2/28/2012	0.552	4.4	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.543	3.9	NA	NA	FDEP Discharge Monitoring Report
4/30/2012	0.586	3.6	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.594	2.5	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.745	3.6	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.637	1.1	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.739	2.3	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	0.714	2.4	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	0.671	2.9	NA	NA	FDEP Discharge Monitoring Report
11/30/2012	0.565	8.4	NA	NA	FDEP Discharge Monitoring Report
12/31/2012	0.549	2.7	NA	NA	FDEP Discharge Monitoring Report
1/31/2013	0.553	2.3	NA	NA	FDEP Discharge Monitoring Report
2/28/2013	0.559	2.7	NA	NA	FDEP Discharge Monitoring Report
3/31/2013	0.565	3.3	NA	NA	FDEP Discharge Monitoring Report
4/30/2013	0.559	2.5	NA	NA	FDEP Discharge Monitoring Report
5/31/2013	0.594	2.6	NA	NA	FDEP Discharge Monitoring Report
6/30/2013	0.611	2.6	NA	NA	FDEP Discharge Monitoring Report
7/31/2013	0.749	4.0	NA	NA	FDEP Discharge Monitoring Report
8/31/2013	0.668	3.9	NA	NA	FDEP Discharge Monitoring Report
9/30/2013	0.610	2.3	NA	NA	FDEP Discharge Monitoring Report
10/31/2013	0.562	1.9	NA	NA	FDEP Discharge Monitoring Report
11/30/2013	0.560	3.8	NA	NA	FDEP Discharge Monitoring Report
12/31/2013	0.550	7.9	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	NA	1.8	2.46	3.16	ACEPD Inspection
1/28/2013	NA	2.7	3.27	3.26	ACEPD Inspection
6/24/2013	NA	3.3	3.70	2.81	ACEPD Inspection
12/17/2013	NA	2.4	3.07	2.90	ACEPD Inspection
12/17/2013	NA	NA	NA	2.88	ACEPD Inspection
COUNT	24	28	4	5	
MINIMUM	0.510	1.1	2.46	2.81	
MAXIMUM	0.749	8.4	3.70	3.26	
MEDIAN	0.576	2.7	3.17	2.90	
AVERAGE	0.606	3.3	3.13	3.00	
ESTIMATED LOADING (lb/year)		6,045	5,776	5,549	

NA = Not Available

FLOW = Monthly average value for monitoring location "EFB-1" from DMR.

NO3 = "Nitrite plus Nitrate, Total (as N)" for monitoring location "EFF-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX D-2: THE CITY OF GAINESVILLE, KANAPAH FACILITY DATA SUMMARY 2012 - 2013

DATE	INFLOW (MGD)	INJECTION (MGD)	RE-USE (MGD)	NOx (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	NA	6.702	2	NA	NA	1.9	FDEP Discharge Monitoring Report
2/29/2012	NA	6.85	2.25	NA	NA	1.4	FDEP Discharge Monitoring Report
3/31/2012	NA	NA	NA	3.4	4.25	NA	FDEP Discharge Monitoring Report
4/30/2012	6.8	5.638	NA	NA	NA	6.1	FDEP Discharge Monitoring Report
5/31/2012	NA	5.68	NA	3.1	3.27	NA	FDEP Discharge Monitoring Report
6/30/2012	NA	NA	NA	3.1	3.97	NA	FDEP Discharge Monitoring Report
7/31/2012	8.22	NA	NA	2.5	2.98	2.4	FDEP Discharge Monitoring Report
8/31/2012	7.1	5.177	2.61	2.7	3.16	1.5	FDEP Discharge Monitoring Report
9/30/2012	9.8	NA	NA	2.3	2.91	1.4	FDEP Discharge Monitoring Report
10/31/2012	9.15	NA	2.2	3.3	3.91	1.7	FDEP Discharge Monitoring Report
11/30/2012	8.3	NA	2.4	3.8	4.38	3.3	FDEP Discharge Monitoring Report
12/31/2012	7.93	NA	2.34	3.6	4.38	1.9	FDEP Discharge Monitoring Report
1/31/2013	8.3	NA	2	3.1	3.49	2.6	FDEP Discharge Monitoring Report
2/28/2013	8.1	NA	1.91	3.15	3.59	0.4	FDEP Discharge Monitoring Report
3/31/2013	8.2	NA	1.61	2.7	2.92	0.5	FDEP Discharge Monitoring Report
4/30/2013	8.2	NA	1.69	2.2	2.38	0.6	FDEP Discharge Monitoring Report
5/31/2013	7.5	NA	1.59	2.6	3.02	0.7	FDEP Discharge Monitoring Report
6/30/2013	7.7	NA	1.83	2.2	2.59	0.9	FDEP Discharge Monitoring Report
7/31/2013	8.5	NA	1.77	2.91	3.7	1.3	FDEP Discharge Monitoring Report
8/31/2013	9.9	NA	1.52	3.2	3.52	1.7	FDEP Discharge Monitoring Report
9/30/2013	8.7	NA	1.47	2.4	2.71	1.2	FDEP Discharge Monitoring Report
10/31/2013	8.1	7.785	1.44	NA	NA	1.4	FDEP Discharge Monitoring Report
11/30/2013	7.8	NA	1.76	3.5	3.94	0.9	FDEP Discharge Monitoring Report
12/31/2013	7.7	NA	1.46	2.7	3.09	0.9	FDEP Discharge Monitoring Report
6/26/2013	NA	NA	NA	1.18	1.75	1.09	ACEPD Inspection
8/1/2012	NA	NA	NA	2	0.72	2.8	ACEPD Inspection
COUNT	19	6	18	22	22	23	ACEPD Inspection
MINIMUM	6.8	5.177	1.44	1.18	0.72	0.4	
MAXIMUM	9.9	7.785	2.61	3.8	4.38	6.1	
MEDIAN	8.2	6.191	1.8	2.805	3.215	1.4	
AVERAGE	8.21	6.31	1.88	2.80	3.21	1.68	
ESTIMATED LOADING (lb/year)				70,158	80,390	42,013	

NA = Not Available

FLOW = Monthly average values from DMR; monitoring location "INF-1" = inflow (used for estimated nutrient loading), monitoring group U-001 "EFA-1" = injection, and R-001 "EFA-1" = re-use.

NOx = Monthly average "Nitrite plus Nitrate, Total (as N)" for monitoring group U-001 location "EFA-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

TN = Monthly average values for "Nitrogen, Total" for monitoring group U-001 location "EFA-1" from DMR.

TP = Maximum value for monitoring group R-001 location "EFA-1" from DMR.

APPENDIX D-3: THE CITY OF GAINESVILLE, MAIN STREET FACILITY DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
3/31/2012	6.4	7.6	5.87	1.16	FDEP Discharge Monitoring Report
4/30/2012	6.7	NA	5.94	0.84	FDEP Discharge Monitoring Report
5/31/2012	6.5	NA	7.12	2.14	FDEP Discharge Monitoring Report
6/30/2012	7.4	2.66	5.64	0.72	FDEP Discharge Monitoring Report
7/31/2012	7.7	NA	4.64	0.3	FDEP Discharge Monitoring Report
8/31/2012	8.3	NA	5.48	0.83	FDEP Discharge Monitoring Report
9/30/2012	7.8	3.41	5.75	0.75	FDEP Discharge Monitoring Report
10/31/2012	6.7	NA	6.91	1.04	FDEP Discharge Monitoring Report
12/31/2012	5.7	2.73	6.44	1.28	FDEP Discharge Monitoring Report
1/6/2013	5.7	NA	5.21	2.02	FDEP Discharge Monitoring Report
1/31/2013	6.3	NA	5.35	1.15	FDEP Discharge Monitoring Report
2/28/2013	6	NA	6.39	2	FDEP Discharge Monitoring Report
3/31/2013	5.7	4.29	4.87	1.86	FDEP Discharge Monitoring Report
4/30/2013	5.7	NA	5.34	0.48	FDEP Discharge Monitoring Report
6/30/2013	NA	4.76	NA	NA	FDEP Discharge Monitoring Report
7/31/2013	8.7	NA	4.91	0.86	FDEP Discharge Monitoring Report
8/31/2013	9.4	NA	5.36	1.16	FDEP Discharge Monitoring Report
9/30/2013	7.3	2.1	6.61	0.96	FDEP Discharge Monitoring Report
10/31/2013	6.4	NA	7.54	0.57	FDEP Discharge Monitoring Report
11/30/2013	5.8	NA	6.63	0.5	FDEP Discharge Monitoring Report
12/31/2013	5.9	NA	4.83	0.44	FDEP Discharge Monitoring Report
8/1/2012	NA	4.3	4.6	1.4	ACEPD Inspection
6/26/2013	NA	3.65	4.46	2.09	ACEPD Inspection
COUNT	20	9	22	22	
MINIMUM	5.7	2.1	4.46	0.3	
MAXIMUM	9.4	7.6	7.54	2.14	
MEDIAN	6.45	3.65	5.56	1	
AVERAGE	6.81	3.94	5.72	1.12	
ESTIMATED LOADING (lb/year)		81,862	118,758	23,159	

NA = Not Available

FLOW = Monthly average value for monitoring location "EFD-1" from DMR.

NOx = "Nitrite plus Nitrate, Total (as N)" for monitoring location "SWD-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

TN, TP = Monthly average values for monitoring location "EFD-1" from DMR.

APPENDIX D-4: THE CITY OF HAWTHORNE, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.204	0.19	15.1	11.3	FDEP Discharge Monitoring Report
2/28/2012	0.246	0.13	4.3	2.6	FDEP Discharge Monitoring Report
3/31/2012	0.095	0.19	9.2	4.5	FDEP Discharge Monitoring Report
4/30/2012	0.109	0.12	5.3	4.8	FDEP Discharge Monitoring Report
5/31/2012	0.113	0.51	1.2	5.8	FDEP Discharge Monitoring Report
6/30/2012	0.124	1.82	2.7	5.1	FDEP Discharge Monitoring Report
7/31/2012	0.125	0.05	0.8	5	FDEP Discharge Monitoring Report
8/31/2012	0.18	0.07	0.74	5.7	FDEP Discharge Monitoring Report
9/30/2012	0.132	2.56	3.4	4.7	FDEP Discharge Monitoring Report
10/31/2012	0.124	0.17	1.8	5.8	FDEP Discharge Monitoring Report
11/30/2012	0.12	0.58	1.2	4.9	FDEP Discharge Monitoring Report
12/31/2012	0.133	0.15	12	10.3	FDEP Discharge Monitoring Report
1/31/2013	0.107	0.46	4.6	3.6	FDEP Discharge Monitoring Report
2/28/2013	0.07	0.15	3	2.8	FDEP Discharge Monitoring Report
3/31/2013	0.079	0.3	15	2.2	FDEP Discharge Monitoring Report
4/30/2013	0.079	NA	NA	NA	FDEP Discharge Monitoring Report
5/31/2013	0.091	2.03	13	3	FDEP Discharge Monitoring Report
6/30/2013	0.089	0.2	3	4.4	FDEP Discharge Monitoring Report
7/31/2013	0.094	0.19	1.3	8.6	FDEP Discharge Monitoring Report
8/31/2013	0.098	2.08	2.7	1.6	FDEP Discharge Monitoring Report
9/30/2013	0.097	10.9	1.6	7.2	FDEP Discharge Monitoring Report
10/31/2013	0.074	0.09	1.3	2.4	FDEP Discharge Monitoring Report
11/30/2013	0.057	0.18	5	5	FDEP Discharge Monitoring Report
12/31/2013	0.056	0.14	5.3	2.6	FDEP Discharge Monitoring Report
3/21/2012	NA	0.2	6.14	2.51	ACEPD Inspection
9/5/2012	NA	2.33	2.98	3.4	ACEPD Inspection
1/17/2013	NA	0.4	3.17	3.59	ACEPD Inspection
6/26/2013	NA	0.4	1.12	1.14	ACEPD Inspection
9/3/2013	NA	10.4	12.1	7.67	ACEPD Inspection
COUNT	24	28	28	28	
MINIMUM	0.056	0.05	0.74	1.14	
MAXIMUM	0.246	10.9	15.1	11.3	
MEDIAN	0.1025	0.2	3.085	4.6	
AVERAGE	0.11	1.32	4.97	4.72	
ESTIMATED LOADING (lb/year)		453	1,701	1,618	

NA = Not Available

FLOW = Monthly average value for monitoring location "FLW-1" from DMR.

NOx = "Nitrite plus Nitrate, Total (as N) for monitoring location "EFA-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX D-5: THE CITY OF HIGH SPRINGS, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.124	16	NA	NA	FDEP Discharge Monitoring Report
2/28/2012	0.147	13	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.125	11	NA	NA	FDEP Discharge Monitoring Report
4/30/2012	0.101	0.32	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.139	13	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.013	16	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.13	12	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.066	0.44	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	0.068	14	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	0.038	12	NA	NA	FDEP Discharge Monitoring Report
11/30/2012	0.0952	10	NA	NA	FDEP Discharge Monitoring Report
12/31/2012	0.125	13	NA	NA	FDEP Discharge Monitoring Report
1/31/2013	0.157	12	NA	NA	FDEP Discharge Monitoring Report
2/28/2013	0.161	11	NA	NA	FDEP Discharge Monitoring Report
3/31/2013	0.161	NA	13	5	FDEP Discharge Monitoring Report
4/30/2013	0.18	NA	9	2.43	FDEP Discharge Monitoring Report
5/31/2013	0.15	NA	7.8	3.78	FDEP Discharge Monitoring Report
6/30/2013	0.145	NA	6.9	5.73	FDEP Discharge Monitoring Report
9/30/2013	0.137	NA	15	7.88	FDEP Discharge Monitoring Report
10/31/2013	0.132	NA	12	6.68	FDEP Discharge Monitoring Report
11/30/2013	0.138	NA	15	6.96	FDEP Discharge Monitoring Report
12/31/2013	0.15	NA	10	5.79	FDEP Discharge Monitoring Report
3/20/2012	NA	9.47	10.5	1.23	ACEPD Inspection
5/31/2012	NA	12.8	13.9	6.9	ACEPD Inspection
8/29/2012	NA	12.8	14.2	1.41	ACEPD Inspection
1/3/2013	NA	6.5	7.9	1.01	ACEPD Inspection
6/24/2013	NA	6.4	7.43	1.48	ACEPD Inspection
9/9/2013	NA	16.8	19.6	4.81	ACEPD Inspection
12/17/2013	NA	3.53	5.37	4.97	ACEPD Inspection
COUNT	22	21	15	15	
MINIMUM	0.013	0.32	5.37	1.01	
MAXIMUM	0.18	16.8	19.6	7.88	
MEDIAN	0.1345	12	10.5	4.97	
AVERAGE	0.12	10.57	11.17	4.40	
ESTIMATED LOADING (lb/year)		3,932	4,154	1,638	

NA = Not Available

 = Exceedance noted in FDEP DMR

FLOW = Monthly average value from DMR for monitoring location "EFA-1" for 2012 to February 2013 and "FLW-1" beginning in March 2013.

NO3 = "Nitrogen, Nitrate, Total (as N)" from DMR and "Nitrate as Nitrogen" from ACEPD Inspections

APPENDIX D-6: THE CITY OF NEWBERRY, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.26	21.6	NA	NA	FDEP Discharge Monitoring Report
2/28/2012	0.262	6.3	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.264	NA	11	NA	FDEP Discharge Monitoring Report
4/30/2012	0.251	NA	1.9	3.3	FDEP Discharge Monitoring Report
4/30/2012	0.251	NA	19	3.3	FDEP Discharge Monitoring Report
5/31/2012	0.255	NA	23	3.8	FDEP Discharge Monitoring Report
6/30/2012	2.68	NA	31	5.2	FDEP Discharge Monitoring Report
7/31/2012	0.25	NA	13	3.6	FDEP Discharge Monitoring Report
8/31/2012	0.262	NA	16	3	FDEP Discharge Monitoring Report
9/30/2012	0.256	NA	15	2.9	FDEP Discharge Monitoring Report
10/31/2012	0.269	NA	13	2.65	FDEP Discharge Monitoring Report
11/30/2012	0.251	NA	20	3.25	FDEP Discharge Monitoring Report
12/31/2012	0.271	NA	25	4.9	FDEP Discharge Monitoring Report
1/31/2013	0.277	NA	22	3.18	FDEP Discharge Monitoring Report
2/28/2013	0.269	NA	25	3.28	FDEP Discharge Monitoring Report
3/31/2013	0.256	NA	20	2.55	FDEP Discharge Monitoring Report
4/30/2013	0.258	NA	25	3.32	FDEP Discharge Monitoring Report
5/31/2013	0.26	NA	15	4.52	FDEP Discharge Monitoring Report
6/30/2013	0.261	NA	9.4	4.7	FDEP Discharge Monitoring Report
7/31/2013	0.276	NA	12	3.17	FDEP Discharge Monitoring Report
9/30/2013	0.259	NA	8.1	1.98	FDEP Discharge Monitoring Report
10/31/2013	0.287	NA	20	NA	FDEP Discharge Monitoring Report
11/30/2013	0.257	NA	9.2	2.52	FDEP Discharge Monitoring Report
12/31/2013	0.254	NA	15	5.51	FDEP Discharge Monitoring Report
3/20/2012	NA	0.23	16.6	2.27	ACEPD Inspection
5/31/2012	NA	0.17	27.8	5.45	ACEPD Inspection
8/29/2012	NA	0.19	11.9	2.12	ACEPD Inspection
1/3/2013	NA	0.55	17	2.87	ACEPD Inspection
3/28/2013	NA	0.18	22.7	2.96	ACEPD Inspection
6/24/2013	NA	2.07	18.6	3.94	ACEPD Inspection
9/9/2013	NA	0.18	21.9	6	ACEPD Inspection
12/17/2013	NA	2.29	15.9	2.68	ACEPD Inspection
12/17/2013	NA	2.27	NA	NA	ACEPD Inspection
COUNT	24	11	30	28	
MINIMUM	0.25	0.17	1.9	1.98	
MAXIMUM	2.68	21.6	31	6	
MEDIAN	0.26	0.55	16.8	3.265	
AVERAGE	0.36	3.28	17.37	3.53	
ESTIMATED LOADING (lb/year)		3,619	19,191	3,904	

NA = Not Available

FLOW = Monthly average value for monitoring locaiton "EFA-1" from DMR.

NOx = "Nitrite plus Nitrate, Total (as N)" for monitoring location "EFA-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX D-7: THE UNIVERSITY OF FLORIDA, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	1.32	3	3.7	2.9	FDEP Discharge Monitoring Report
2/28/2012	1.6	2.9	4.8	1.9	FDEP Discharge Monitoring Report
3/31/2012	1.48	3.6	4.5	3.4	FDEP Discharge Monitoring Report
4/30/2012	1.71	2.7	3.9	2.1	FDEP Discharge Monitoring Report
5/31/2012	1.72	2.3	2.9	NA	FDEP Discharge Monitoring Report
6/30/2012	1.9	2.9	1.9	2.1	FDEP Discharge Monitoring Report
7/31/2012	1.8	1.6	2.3	1.1	FDEP Discharge Monitoring Report
8/31/2012	1.9	2.5	3.6	1.9	FDEP Discharge Monitoring Report
9/30/2012	1.8	NA	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	NA	2.1	2.8	1.7	FDEP Discharge Monitoring Report
11/30/2012	1.3	5.4	6.3	2.7	FDEP Discharge Monitoring Report
12/31/2012	1.1	1.7	2.1	2.6	FDEP Discharge Monitoring Report
1/31/2013	1.3	2.9	4.2	3.1	FDEP Discharge Monitoring Report
2/28/2013	1.3	4.2	5.2	1.3	FDEP Discharge Monitoring Report
3/31/2013	1.5	5.7	6.5	3.6	FDEP Discharge Monitoring Report
4/30/2013	1.5	4.6	4.3	1.9	FDEP Discharge Monitoring Report
5/31/2013	1.31	4.3	4.9	3	FDEP Discharge Monitoring Report
6/30/2013	1.4	4.6	4.2	2.4	FDEP Discharge Monitoring Report
9/30/2013	1.9	1.8	4.2	1.1	FDEP Discharge Monitoring Report
10/31/2013	1.9	3.1	4	2.2	FDEP Discharge Monitoring Report
11/30/2013	1.62	3.5	4.1	1.4	FDEP Discharge Monitoring Report
12/31/2013	1.26	2.5	3.1	2.8	FDEP Discharge Monitoring Report
COUNT	21	21	21	20	
MINIMUM	1.1	1.6	1.9	1.1	
MAXIMUM	1.9	5.7	6.5	3.6	
MEDIAN	1.5	2.9	4.1	2.15	
AVERAGE	1.55	3.23	3.98	2.26	
ESTIMATED LOADING (lb/year)		15,317	18,836	10,706	

NA = Not Available

FLOW = Monthly average value for monitoring location "INF-1" from DMR.

NOx = Monthly average "Nitrite plus Nitrate, Total (as N)" for monitoring location "EFA-1" from DMR.

TN, TP = Monthly average value for monitoring location "EFA-1" from DMR.

APPENDIX D-8: THE CITY OF WALDO, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	Pre-wetland			Post-wetland			Source
	FLOW (MGD)	TN (mg/L)	TP (mg/L)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	
2/29/2012	0.05	21	0.325	NA	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.047	10.5	0.285	0.88	2.5	0.53	FDEP Discharge Monitoring Report
4/30/2012	0.065	13.5	1	0.04	1.9	0.92	FDEP Discharge Monitoring Report
5/31/2012	0.65	12.35	0.38	0.057	1.2	0.65	FDEP Discharge Monitoring Report
6/30/2012	0.096	3.3	0.315	0.004	0.1	0.91	FDEP Discharge Monitoring Report
7/31/2012	0.069	11	0.4	0.11	2.38	0.82	FDEP Discharge Monitoring Report
9/30/2012	0.130625	6.2	0.51	0.008	0.55	1.9	FDEP Discharge Monitoring Report
10/31/2012	0.096	7.4	0.52	0.76	1.5	0.9	FDEP Discharge Monitoring Report
11/30/2012	0.14	11.6	1.16	1.5	2.6	0.44	FDEP Discharge Monitoring Report
12/31/2012	0.073	7.55	7.55	0.78	1.48	1.48	FDEP Discharge Monitoring Report
1/31/2013	0.079	8.6	0.261	1.8	2.9	0.48	FDEP Discharge Monitoring Report
2/28/2013	0.069	16	0.61	1.7	1.7	0.112	FDEP Discharge Monitoring Report
4/30/2013	0.102	15	0.41	0.25	0.72	0.92	FDEP Discharge Monitoring Report
5/31/2013	0.128	1	0.92	0.012	1	3.15	FDEP Discharge Monitoring Report
6/30/2013	0.223	108	1.04	0.012	1.6	2.32	FDEP Discharge Monitoring Report
3/31/2013	0.074	17.5	0.762	3.3	4	0.13	FDEP Discharge Monitoring Report
3/21/2012	NA	12.2	0.289	0.23	1.83	0.311	ACEPD Inspection
9/5/2012	NA	9.11	0.429	0.4	1.15	0.824	ACEPD Inspection
1/17/2013	NA	11	0.283	0.79	1.61	0.435	ACEPD Inspection
COUNT	16	19	19	18	18	18	
MINIMUM	0.047	1	0.261	0.004	0.1	0.112	
MAXIMUM	0.65	108	7.55	3.3	4	3.15	
MEDIAN	0.0875	11	0.429	0.325	1.605	0.822	
AVERAGE	0.13	15.94	0.92	0.70	1.71	0.96	
ESTIMATED LOADING (lb/year)		6,354	366	280	680	382	

NA = Not Available

 = Exceedance noted in FDEP DMR

FLOW = Monthly average value for monitoring group R-001 (pre-wetland) location "EFA-1" from DMR.

NOx = "Nitrite plus Nitrate, Total (as N)" for monitoring group D-001 (post-wetland) location "WIM-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

TN, TP = Monthly average values for monitoring group R-001 (pre-wetland) location "EFA-1" and D-001 (post-wetland) location "WIM-1".

APPENDIX D-9: ARCHER COMMUNITY SCHOOL, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
4/30/2012	0.00271	NA	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.00189	NA	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.00071	NA	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.001	NA	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.003	NA	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	0.004	NA	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	0.004	NA	NA	NA	FDEP Discharge Monitoring Report
2/28/2013	0.004	NA	NA	NA	FDEP Discharge Monitoring Report
3/31/2013	0.004	NA	NA	NA	FDEP Discharge Monitoring Report
4/30/2013	0.005	NA	NA	NA	FDEP Discharge Monitoring Report
5/31/2013	0.006	NA	NA	NA	FDEP Discharge Monitoring Report
6/30/2013	0.002	NA	NA	NA	FDEP Discharge Monitoring Report
7/31/2013	0.001	NA	NA	NA	FDEP Discharge Monitoring Report
8/31/2013	0.004	NA	NA	NA	FDEP Discharge Monitoring Report
9/30/2013	0.005	NA	NA	NA	FDEP Discharge Monitoring Report
10/31/2013	0.004	NA	NA	NA	FDEP Discharge Monitoring Report
11/30/2013	0.003	NA	NA	NA	FDEP Discharge Monitoring Report
3/20/2012	NA	0.19	78.5	6.4	ACEPD Inspection
5/31/2012	NA	0.21	74.7	3.94	ACEPD Inspection
8/29/2012	NA	0.16	59.5	7.58	ACEPD Inspection
1/3/2013	NA	15.7	36.6	6.75	ACEPD Inspection
3/28/2013	NA	0.28	71.6	0.158	ACEPD Inspection
6/24/2013	NA	4.89	24.9	5.65	ACEPD Inspection
9/9/2013	NA	9.1	27.6	6.05	ACEPD Inspection
9/9/2013	NA	9.1	NA	NA	ACEPD Inspection
12/19/2013	NA	0.36	43.7	7.1	ACEPD Inspection
COUNT	17	9	8	8	
MINIMUM	0.00071	0.16	24.9	0.158	
MAXIMUM	0.006	15.7	78.5	7.58	
MEDIAN	0.004	0.36	51.6	6.23	
AVERAGE	0.003	4.44	52.1	5.45	
ESTIMATED LOADING (lb/year)		44	517	54	

NA = Not Available

FLOW = Monthly average value for monitoring location "FLW-1" from DMR.

NO3 = "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX D-10: ARCHER HOMES, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.004	1	NA	NA	FDEP Discharge Monitoring Report
2/28/2012	0.004	0.011	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	NA	0.021	NA	NA	FDEP Discharge Monitoring Report
4/30/2012	0.004	0.35	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.003	0.13	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.003	0.25	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.003	8.7	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.003	0.41	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	0.003	0.17	NA	NA	FDEP Discharge Monitoring Report
2/28/2013	0.003	1.1	NA	NA	FDEP Discharge Monitoring Report
3/31/2013	0.003	0.55	NA	NA	FDEP Discharge Monitoring Report
4/30/2013	0.002	1.6	NA	NA	FDEP Discharge Monitoring Report
5/31/2013	0.002	1.3	NA	NA	FDEP Discharge Monitoring Report
6/30/2013	0.003	0.94	NA	NA	FDEP Discharge Monitoring Report
7/31/2013	0.003	23	NA	NA	FDEP Discharge Monitoring Report
8/31/2013	0.005	4.4	NA	NA	FDEP Discharge Monitoring Report
9/30/2013	0.004	0.43	NA	NA	FDEP Discharge Monitoring Report
10/31/2013	0.003	2.1	NA	NA	FDEP Discharge Monitoring Report
11/30/2013	0.003	0.71	NA	NA	FDEP Discharge Monitoring Report
12/31/2013	0.003	0.6	NA	NA	FDEP Discharge Monitoring Report
4/10/2012	NA	0.14	65	5.7	ACEPD Inspection
5/31/2012	NA	0.2	35.5	6.15	ACEPD Inspection
8/29/2012	NA	0.22	7.85	7	ACEPD Inspection
1/3/2013	NA	10.7	20.9	5.9	ACEPD Inspection
3/28/2013	NA	1.13	1.54	0.024	ACEPD Inspection
6/24/2013	NA	0.34	4.54	2.2	ACEPD Inspection
12/19/2013	NA	7.23	13.3	7.1	ACEPD Inspection
COUNT	19	27	7	7	
MINIMUM	0.002	0.011	1.54	0.024	
MAXIMUM	0.005	23	65	7.10	
MEDIAN	0.003	0.60	13.3	5.90	
AVERAGE	0.0032	2.51	21.2	4.87	
ESTIMATED LOADING (lb/year)		25	208	48	

NA = Not Available

 = Exceedance noted in FDEP DMR.

FLOW = Monthly average value for monitoring location "INF-1" from DMR.

NO3 = "Nitrogen, Nitrate, Total (as N)" for monitoring locaiton "EFA-1" from DMR and "Nitrate as Nitrogen" from ACEPD Inspections (except on 4/10/12 "Nitrate + Nitrite" is reported).

APPENDIX D-11: THE PALMS MOBILE HOME PARK, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.035	0.1	NA	NA	FDEP Discharge Monitoring Report
2/28/2012	0.029	0.011	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.026	2.34	NA	NA	FDEP Discharge Monitoring Report
4/30/2012	0.031	0.33	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.028	0.076	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.045	1.3	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.042	1.07	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.027	1.66	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	0.028	2.07	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	0.027	0.06	NA	NA	FDEP Discharge Monitoring Report
11/30/2012	0.031	0.41	NA	NA	FDEP Discharge Monitoring Report
12/31/2012	0.033	1.62	NA	NA	FDEP Discharge Monitoring Report
1/31/2013	0.032	4.8	NA	NA	FDEP Discharge Monitoring Report
2/28/2013	0.032	4.15	NA	NA	FDEP Discharge Monitoring Report
3/31/2013	0.033	6.8	NA	NA	FDEP Discharge Monitoring Report
4/30/2013	0.032	0.7	NA	NA	FDEP Discharge Monitoring Report
5/31/2013	0.032	5.4	NA	NA	FDEP Discharge Monitoring Report
6/30/2013	0.03	0.4	NA	NA	FDEP Discharge Monitoring Report
7/31/2013	0.043	1	NA	NA	FDEP Discharge Monitoring Report
8/31/2013	0.036	0.3	NA	NA	FDEP Discharge Monitoring Report
9/30/2013	0.039	0.3	NA	NA	FDEP Discharge Monitoring Report
10/31/2013	0.045	0	NA	NA	FDEP Discharge Monitoring Report
11/30/2013	0.036	0.4	NA	NA	FDEP Discharge Monitoring Report
12/31/2013	0.046	0.7	NA	NA	FDEP Discharge Monitoring Report
3/20/2012	NA	19.8	23.9	1.79	ACEPD Inspection
7/26/2012	NA	0.027	46	0.77	ACEPD Inspection
1/3/2013	NA	5.11	10.2	2.07	ACEPD Inspection
1/3/2013	NA	5.15	NA	NA	ACEPD Inspection
3/28/2013	NA	0.16	29.4	7.05	ACEPD Inspection
6/24/2013	NA	0.21	12.6	5.9	ACEPD Inspection
6/24/2013	NA	0.21	NA	6	ACEPD Inspection
9/9/2013	NA	0.27	11.9	2.12	ACEPD Inspection
COUNT	24	32	6	7	
MINIMUM	0.026	0	10.2	0.77	
MAXIMUM	0.046	19.8	46.0	7.05	
MEDIAN	0.032	0.555	18.3	2.12	
AVERAGE	0.034	2.09	22.3	3.67	
ESTIMATED LOADING (lb/year)		217	2,321	382	

NA = Not Available

FLOW = Monthly average value for monitoring location "INF-1" from DMR.

NO3 = "Nitrogen, Nitrate, Total (as N)" for monitoring location "EFA-1" from DMR and "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX D-12: BRITTANY ESTATES, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
2/29/2012	0.021	2.5	3.4	2.5	FDEP Discharge Monitoring Report
3/31/2012	NA	6.4	5.1	2.2	FDEP Discharge Monitoring Report
5/31/2012	0.014	3.9	4.3	3.2	FDEP Discharge Monitoring Report
6/30/2012	0.26	3.7	4.8	1.09	FDEP Discharge Monitoring Report
7/31/2012	0.03	4.4	5.8	1.3	FDEP Discharge Monitoring Report
8/31/2012	0.016	1	5	1.7	FDEP Discharge Monitoring Report
9/30/2012	0.017	3.9	3	0.8	FDEP Discharge Monitoring Report
10/31/2012	0.017	9.1	3	2.1	FDEP Discharge Monitoring Report
11/30/2012	0.017	2.8	13	2.6	FDEP Discharge Monitoring Report
1/31/2013	0.031	7.84	7.8	1.68	FDEP Discharge Monitoring Report
2/28/2013	0.029	7.6	7.35	6.54	FDEP Discharge Monitoring Report
3/31/2013	0.026	12.3	7.1	1.8	FDEP Discharge Monitoring Report
4/30/2013	0.025	16.6	19.5	2.9	FDEP Discharge Monitoring Report
5/31/2013	0.03	16	16	2.42	FDEP Discharge Monitoring Report
6/30/2013	0.031	7.5	5.8	2.4	FDEP Discharge Monitoring Report
7/31/2013	0.045	3.65	5.2	1.7	FDEP Discharge Monitoring Report
8/31/2013	0.04	3.76	5	1	FDEP Discharge Monitoring Report
9/30/2013	0.12	7.3	1.9	2.8	FDEP Discharge Monitoring Report
10/31/2013	0.019	0.82	1.9	1.3	FDEP Discharge Monitoring Report
11/30/2013	0.023	2.24	2.8	1.31	FDEP Discharge Monitoring Report
12/31/2013	0.03	3.74	4.3	NA	FDEP Discharge Monitoring Report
3/21/2012	NA	1.49	2.83	2.57	ACEPD Inspection
3/21/2012	NA	1.57	2.92	2.6	ACEPD Inspection
9/5/2012	NA	3.09	4.75	0.608	ACEPD Inspection
1/17/2013	NA	7.58	8.65	1.87	ACEPD Inspection
6/26/2013	NA	3.77	5.42	1.9	ACEPD Inspection
9/3/2013	NA	1.15	2.66	1.28	ACEPD Inspection
9/3/2013	NA	1.15	2.66	1.28	ACEPD Inspection
COUNT	20	28	28	27	
MINIMUM	0.014	0.82	1.9	0.608	
MAXIMUM	0.26	16.6	19.5	6.54	
MEDIAN	0.0275	3.765	4.9	1.87	
AVERAGE	0.0421	5.24	5.78	2.05	
ESTIMATED LOADING (lb/year)		673	742	263	

NA = Not Available

 = Exceedance noted in FDEP DMR

FLOW = Monthly average value from DMR for monitoring location "INF-1" for 2012 to April 2013 and "EFD-1" beginning in May 2013.

NO3 = "Nitrogen, Nitrate, Total (as N)" for monitoring location "EFD-1" from DMR and "Nitrate as Nitrogen" from ACEPD Inspections.

TN, TP = Monthly average value for monitoring location "EFD-1" from DMR.

APPENDIX D-13: CAMP KULAQUA, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.0008	16.4	NA	NA	FDEP Discharge Monitoring Report
2/28/2012	0.001	0.071	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.0009	0.09	NA	NA	FDEP Discharge Monitoring Report
4/30/2012	0.0012	0.076	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.001	0.069	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.002	1.1	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.0003	0.068	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.001	0.077	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	NA	0.079	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	NA	0.072	NA	NA	FDEP Discharge Monitoring Report
11/30/2012	NA	0.079	NA	NA	FDEP Discharge Monitoring Report
12/31/2012	0.0006	0.034	NA	NA	FDEP Discharge Monitoring Report
1/31/2013	0.0006	0.072	NA	NA	FDEP Discharge Monitoring Report
2/28/2013	0.0009	33	NA	NA	FDEP Discharge Monitoring Report
3/31/2013	0.0007	21	NA	NA	FDEP Discharge Monitoring Report
4/30/2013	0.0009	0.083	NA	NA	FDEP Discharge Monitoring Report
5/31/2013	0.0005	28	NA	NA	FDEP Discharge Monitoring Report
6/30/2013	0.002	0.14	NA	NA	FDEP Discharge Monitoring Report
7/31/2013	0.0012	3.1	NA	NA	FDEP Discharge Monitoring Report
8/31/2013	0.0009	25	NA	NA	FDEP Discharge Monitoring Report
9/30/2013	0.004	25	NA	NA	FDEP Discharge Monitoring Report
10/31/2013	0.007	28	NA	NA	FDEP Discharge Monitoring Report
11/30/2013	0.0008	11	NA	NA	FDEP Discharge Monitoring Report
12/31/2013	0.0008	23	NA	NA	FDEP Discharge Monitoring Report
3/20/2012	NA	10.5	10.7	2.25	ACEPD Inspection
5/31/2012	NA	14.1	14.4	2.94	ACEPD Inspection
8/29/2012	NA	16.7	16.9	7.24	ACEPD Inspection
1/28/2013	NA	18.8	19.1	2.97	ACEPD Inspection
6/24/2013	NA	0.22	20.3	0.347	ACEPD Inspection
9/9/2013	NA	28.9	29.2	9.1	ACEPD Inspection
12/17/2013	NA	24.5	24.9	4.11	ACEPD Inspection
COUNT	21	31	7	7	
MINIMUM	0.0003	0.034	10.7	0.347	
MAXIMUM	0.007	33	29.2	9.1	
MEDIAN	0.0009	3.1	19.1	2.97	
AVERAGE	0.0014	10.62	19.36	4.14	
ESTIMATED LOADING (lb/year)		45	82	17	

NA = Not Available

 = Exceedance noted in FDEP DMR

FLOW = Monthly average value from DMR for monitoring locaiton "EFA-1" for January to April 2012 and "FLW-1" beginning in May 2012.

NO3 = "Nitrogen, Nitrate, Total (as N)" for monitoring location "EFA-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX D-14: CAMP MCCONNELL, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.0013	8.2	NA	NA	FDEP Discharge Monitoring Report
2/28/2012	0.0008	5.3	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.0008	0.082	NA	NA	FDEP Discharge Monitoring Report
4/30/2012	0.0008	5.1	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.0008	2.8	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.0024	0.041	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.0045	3.5	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.0035	2.5	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	0.0017	2.8	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	0.0011	4.3	NA	NA	FDEP Discharge Monitoring Report
11/30/2012	0.0007	4.8	NA	NA	FDEP Discharge Monitoring Report
12/31/2012	0.0006	4.7	NA	NA	FDEP Discharge Monitoring Report
1/31/2013	0.0014	6.5	NA	NA	FDEP Discharge Monitoring Report
2/28/2013	0.0006	10	NA	NA	FDEP Discharge Monitoring Report
3/31/2013	0.0011	8.9	NA	NA	FDEP Discharge Monitoring Report
4/30/2013	0.0013	6.4	NA	NA	FDEP Discharge Monitoring Report
5/31/2013	0.0022	2.3	NA	NA	FDEP Discharge Monitoring Report
6/30/2013	0.0033	1.2	NA	NA	FDEP Discharge Monitoring Report
7/31/2013	0.0046	7.3	NA	NA	FDEP Discharge Monitoring Report
8/31/2013	0.0054	2.4	NA	NA	FDEP Discharge Monitoring Report
9/30/2013	0.0023	4.1	NA	NA	FDEP Discharge Monitoring Report
10/31/2013	0.001	0.024	NA	NA	FDEP Discharge Monitoring Report
11/30/2013	0.0007	5.5	NA	NA	FDEP Discharge Monitoring Report
12/31/2013	0.0008	3.1	NA	NA	FDEP Discharge Monitoring Report
3/21/2012	NA	4.6	8.18	4.65	ACEPD Inspection
9/5/2012	NA	9.91	12.8	3.57	ACEPD Inspection
1/17/2013	NA	7.34	9.84	0.924	ACEPD Inspection
6/26/2013	NA	0.47	2	0.428	ACEPD Inspection
9/3/2013	NA	28.8	30.6	4.73	ACEPD Inspection
COUNT	24	29	5	5	
MINIMUM	0.0006	0.024	2	0.428	
MAXIMUM	0.0054	28.8	30.6	4.73	
MEDIAN	0.0012	4.60	9.84	3.57	
AVERAGE	0.0018	5.27	12.68	2.86	
ESTIMATED LOADING (lb/year)		29	70	16	

NA = Not Available

FLOW = Monthly average value for monitoring location "EFA-1" from DMR.

NO3 = "Nitrogen, Nitrate, Total (as N)" for monitoring locaiton "EFA-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX D-15: FLORIDA WELCOME STATION, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.012	2	NA	NA	FDEP Discharge Monitoring Report
2/28/2012	0.004	0.23	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.003	1.6	NA	NA	FDEP Discharge Monitoring Report
4/30/2012	0.003	0.94	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.005	0.37	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.003	0.011	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.003	0.12	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.003	0.29	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	0.003	0.18	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	0.003	0.16	NA	NA	FDEP Discharge Monitoring Report
11/30/2012	0.002	0.18	NA	NA	FDEP Discharge Monitoring Report
12/31/2012	0.002	9.4	NA	NA	FDEP Discharge Monitoring Report
1/31/2013	0.002	1.1	NA	NA	FDEP Discharge Monitoring Report
2/28/2013	0.001	0.24	NA	NA	FDEP Discharge Monitoring Report
3/31/2013	0.004	1.1	NA	NA	FDEP Discharge Monitoring Report
4/30/2013	0.002	0.42	NA	NA	FDEP Discharge Monitoring Report
5/31/2013	0.002	0.2	NA	NA	FDEP Discharge Monitoring Report
6/30/2013	0.002	0.53	NA	NA	FDEP Discharge Monitoring Report
7/31/2013	0.003	0.12	NA	NA	FDEP Discharge Monitoring Report
8/31/2013	0.002	2.3	NA	NA	FDEP Discharge Monitoring Report
9/30/2013	0.002	0.78	NA	NA	FDEP Discharge Monitoring Report
10/31/2013	0.003	0.2	NA	NA	FDEP Discharge Monitoring Report
11/30/2013	0.002	0.22	NA	NA	FDEP Discharge Monitoring Report
12/31/2013	0.003	0.39	NA	NA	FDEP Discharge Monitoring Report
3/20/2012	NA	0.23	83.5	8.4	ACEPD Inspection
5/31/2012	NA	0.18	9.1	1.86	ACEPD Inspection
8/29/2012	NA	0.22	ND	1.03	ACEPD Inspection
1/28/2013	NA	0.17	7.56	7.36	ACEPD Inspection
6/24/2013	NA	0.17	53.3	6.3	ACEPD Inspection
9/9/2013	NA	1.29	1.95	6.4	ACEPD Inspection
12/17/2013	NA	0.16	3.41	4.26	ACEPD Inspection
COUNT	24	31	6	7	
MINIMUM	0.001	0.011	1.95	1.03	
MAXIMUM	0.012	9.4	83.5	8.4	
MEDIAN	0.003	0.23	8.33	6.3	
AVERAGE	0.0031	0.82	26.47	5.09	
ESTIMATED LOADING (lb/year)		8	249	48	

NA = Not Available

FLOW = Monthly average value for monitoring location "INF-1" and "DWP-1" from DMR.

NO3 = "Nitrogen, Nitrate, Total (as N)" for monitoring location "EFA-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX D-16: MICANOPY INN, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.0042	11.8	NA	NA	FDEP Discharge Monitoring Report
2/28/2012	0.0031	0.2	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.0041	0	NA	NA	FDEP Discharge Monitoring Report
4/30/2012	0.006	0.2	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.002	0.2	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.003	5.1	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.003	5.6	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.003	4.4	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	0.005	2.9	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	0.004	8.5	NA	NA	FDEP Discharge Monitoring Report
11/30/2012	0.003	7.9	NA	NA	FDEP Discharge Monitoring Report
12/31/2012	0.003	4.8	NA	NA	FDEP Discharge Monitoring Report
1/31/2013	0.003	7	NA	NA	FDEP Discharge Monitoring Report
2/28/2013	0.002	2.3	NA	NA	FDEP Discharge Monitoring Report
3/31/2013	0.004	0.1	NA	NA	FDEP Discharge Monitoring Report
4/30/2013	0.009	0.2	NA	NA	FDEP Discharge Monitoring Report
5/31/2013	0.005	4.5	NA	NA	FDEP Discharge Monitoring Report
6/30/2013	0.004	7.3	NA	NA	FDEP Discharge Monitoring Report
7/31/2013	0.004	6.2	NA	NA	FDEP Discharge Monitoring Report
8/31/2013	0.002	6.8	NA	NA	FDEP Discharge Monitoring Report
9/30/2013	0.002	1.4	NA	NA	FDEP Discharge Monitoring Report
3/21/2012	NA	NA	12	0.778	ACEPD Inspection
9/5/2012	NA	NA	11.3	1.96	ACEPD Inspection
1/17/2013	NA	NA	5.43	1.89	ACEPD Inspection
6/26/2013	NA	NA	11.4	3.91	ACEPD Inspection
9/3/2013	NA	NA	15.8	3.15	ACEPD Inspection
COUNT	21	21	5	5	
MINIMUM	0.002	0	5.43	0.778	
MAXIMUM	0.009	11.8	15.8	3.91	
MEDIAN	0.0031	4.5	11.4	1.96	
AVERAGE	0.0037	4.16	11.186	2.34	
ESTIMATED LOADING (lb/year)		47	127	27	

NA = Not Available

FLOW = Monthly average value for monitoring location "INF-1" from DMR.

NO3 = "Nitrogen, Nitrate, Total (as N)" for monitoring location "EFA-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX D-17: PRAIRIE VIEW APARTMENTS, EFFLUENT DATA SUMMARY 2012 - 2013

DATE	FLOW (MGD)	NO3 (mg/L)	TN (mg/L)	TP (mg/L)	Source
1/31/2012	0.00294	1.8	NA	NA	FDEP Discharge Monitoring Report
2/29/2012	0.00326	1.4	NA	NA	FDEP Discharge Monitoring Report
3/31/2012	0.00329	12	NA	NA	FDEP Discharge Monitoring Report
4/30/2012	0.00383	9.6	NA	NA	FDEP Discharge Monitoring Report
5/31/2012	0.00335	7.7	NA	NA	FDEP Discharge Monitoring Report
6/30/2012	0.00314	8.2	NA	NA	FDEP Discharge Monitoring Report
7/31/2012	0.00315	10	NA	NA	FDEP Discharge Monitoring Report
8/31/2012	0.00341	6.9	NA	NA	FDEP Discharge Monitoring Report
9/30/2012	0.00296	1.5	NA	NA	FDEP Discharge Monitoring Report
10/31/2012	0.0023	12	NA	NA	FDEP Discharge Monitoring Report
11/30/2012	0.00259	5.8	NA	NA	FDEP Discharge Monitoring Report
1/31/2013	0.00245	0.95	NA	NA	FDEP Discharge Monitoring Report
3/21/2012	NA	10.3	11.7	0.496	ACEPD Inspection
9/5/2012	NA	2.57	5.72	0.436	ACEPD Inspection
1/17/2013	NA	2.28	4.63	0.832	ACEPD Inspection
6/26/2013	NA	2.96	4.62	0.804	ACEPD Inspection
9/3/2013	NA	0.24	2.38	2.79	ACEPD Inspection
12/19/2013	NA	9.11	NA	NA	ACEPD Inspection
12/19/2013	NA	9.07	11.2	1.64	ACEPD Inspection
COUNT	12	19	6	6	
MINIMUM	0.0023	0.24	2.38	0.436	
MAXIMUM	0.00383	12	11.7	2.79	
MEDIAN	0.003145	6.9	5.175	0.818	
AVERAGE	0.0031	6.02	6.71	1.17	
ESTIMATED LOADING (lb/year)		56	63	11	

NA = Not Available

FLOW = Monthly average value for monitoring location "OTH-1" from DMR.

NO3 = "Nitrogen, Nitrate, Total (as N)" for monitoring location "EFA-1" from DMR, and "Nitrate as Nitrogen" from ACEPD Inspections.

APPENDIX E-1: THE CITY OF ALACHUA, GROUNDWATER DATA

Sample Date	Nitrate + Nitrite Concentration (mg/L)				
	MWB-1	MWC-4	MWC-6	MWC-7	MWC-8
3/31/2010	11.3	10.8	11.9	NA	NA
6/30/2010	13.2	10.1	12.9	NA	NA
9/30/2010	15.8	10	13.4	NA	NA
12/30/2010	15.9	10.1	14.3	NA	NA
3/31/2011	12	9.88	13	NA	NA
6/30/2011	2.47	18.8	10.8	8.59	1.07
9/30/2011	9.25	8.62	11.2	7.28	0.676
12/31/2011	8.25	8.48	10.2	1.38	4.78
3/31/2012	NA	9.6	12	7.8	2
6/30/2012	10	NA	12	7.4	2
9/30/2012	13	9.2	9.5	5.9	1.9
12/31/2012	15	8.4	8.8	5.7	2.8
3/31/2013	25	11	17	6.6	2.9
6/30/2013	19	8.9	17	5	2.2
9/30/2013	18	9.1	28	4.5	2.1
12/31/2013	19	9	16	5.2	1

NA = Not Available

APPENDIX E-2: THE CITY OF GAINESVILLE, KANAPAHA FACILITY GROUNDWATER DATA

Sample Date	Nitrate + Nitrite Concentration (mg/L)					
	MWB-1D	MWB-1S	MWC-2D	MWC-2S	MWC-3D	MWC-3S
3/31/2010	0.01	0.01	2.27	0.01	0.01	0.01
6/30/2010	0.01	0.01	1.37	0.01	0.01	0.01
9/30/2010	0.01	0.01	0.01	0.01	0.1	0.01
12/30/2010	47.73	42.35	3.19	44.72	46.91	44.29
3/31/2011	0.2	0.03	3.23	0.02	0.03	0.02
6/30/2011	0.01	0.01	2.47	0.01	0.01	0.01
9/30/2011	0.01	0.01	1.2	0.01	0.01	0.01
12/31/2011	0.02	0.01	2.58	0.01	0.01	0.01
3/31/2012	0.01	0.01	1.87	0.01	0.05	0.01
6/30/2012	0.01	0.01	2.12	0.01	0.01	0.01
9/30/2012	0.02	0.02	1.56	0.01	0.01	0.01
12/31/2012	0.02	0.01	2.41	0.01	0.01	0.01
3/31/2013	0.05	0.01	2.67	0.01	0.01	0.01
6/30/2013	0.02	0.01	2.06	0.01	0.01	0.01
9/30/2013	0.06	0.02	2.51	0.01	0.02	0.02

APPENDIX E-3: THE CITY OF HAWTHORNE, GROUNDWATER DATA

Sample Date	Nitrate + Nitrite Concentration (mg/L)					
	MWB-1	MWC-2	MWC-3	MWC-4	MWC-5	MWC-6
3/31/2010	4.31	1.78	0.7	2.12	NA	NA
6/30/2010	3.67	2.8	0.74	2.58	NA	NA
9/30/2010	3.92	5.88	0.81	3.46	NA	NA
12/30/2010	5.41	1.45	1.33	3.62	NA	NA
3/31/2011	3.02	2.18	1.95	3.38	NA	NA
6/30/2011	1.99	2.01	1.92	3.26	NA	NA
9/30/2011	1.32	2.12	1.97	3.3	NA	NA
12/31/2011	0.87	1.81	1.77	2.99	NA	NA
3/31/2012	0.88	2.25	1.92	2.82	NA	NA
6/30/2012	0.7	2.19	2.12	3.07	NA	NA
9/30/2012	1.89	1.25	0.35	2.93	NA	NA
12/31/2012	1.93	NA	NA	NA	1.99	1.99
3/31/2013	2.27	NA	NA	2.59	2.09	1.7
6/30/2013	2.31	NA	NA	NA	2.32	1.41
9/30/2013	2.46	NA	NA	NA	2.15	3.55
12/31/2013	2.4	NA	NA	NA	1.5	2.16

NA = Not Available

APPENDIX E-4: THE CITY OF HIGH SPRINGS, GROUNDWATER DATA

Sample Date	Nitrate + Nitrite Concentration (mg/L)			
	MWB-1	MWC-3	MWC-4	MWI-2
3/31/2010	2.98	3.83	0.044	0.627
6/30/2010	1.98	3.6	0.044	0.638
9/30/2010	1.55	3.82	0.033	0.824
12/30/2010	1.68	3.89	0.063	0.737
3/31/2011	1.44	3.66	0.053	0.502
6/30/2011	1.38	3.87	0.208	0.632
9/30/2011	1.7	3.64	0.025	1.13
12/31/2011	1.41	4.07	0.215	1.25
3/31/2012	1.4	3.7	0.054	1.1
6/30/2012	1.6	4.1	0.093	1.5
9/30/2012	1	4.9	0.37	5
12/31/2012	1.4	4.8	0.36	2.9
3/31/2013	1.4	4.9	0.12	6.3
6/30/2013	1.6	3.3	0.077	6.1
9/30/2013	1.2	6.1	0.39	6.4
12/31/2013	0.98	4.2	1.8	3.7

APPENDIX E-5: THE CITY OF NEWBERRY, GROUNDWATER DATA

Sample Date	Nitrate + Nitrite Concentration (mg/L)						
	MWB-1A	MWC-2	MWC-3	MWI-4	MWC-5	MWI-6	MWI-7
3/31/2010	0.05	1.43	3.6	4.24	2.71	8.57	6.06
6/30/2010	0.05	1.51	3.57	4.18	2.93	7.89	5.43
9/30/2010	0.05	1.49	2.94	4.01	3.06	7.31	6.69
12/30/2010	0.05	1.21	2.58	3.5	3.21	6.15	7.68
3/31/2011	0.05	1.47	2.26	3.36	3.17	5.16	8.9
6/30/2011	0.141	1.48	1.83	3.36	2.49	5.8	9.02
9/30/2011	DRY	1.41	1.32	3.02	1.94	5.87	7.68
12/31/2011	DRY	1.5	1.27	3.13	1.55	6.27	7.7
3/31/2012	DRY	1.41	0.78	2.96	1.35	6.37	6.03
6/30/2012	DRY	1.45	0.68	3.31	1.6	6.59	7.39
9/30/2012	DRY	1.5	1.26	3.34	1.8	6.48	6.87
12/31/2012	0.22	1.12	1.5	3.66	2.61	7.72	7.26
6/30/2013	0.78	1.43	0.35	2.03	4.1	8.11	9.37

APPENDIX E-6: THE UNIVERSITY OF FLORIDA, GROUNDWATER DATA

Sample Date	Nitrate + Nitrite Concentration (mg/L)				
	MWB-3D	MWB-3S	MWC-1D	MWC-1S	MWC-5D
3/31/2010	0.003	2.91	0.015	0.017	0.0006
6/30/2010	0.005	3.74	0.003	0.009	0.005
9/30/2010	0.003	3.6	0.107	0.003	0.003
12/30/2010	0.008	3.52	0.012	0.01	0.005
3/31/2011	0.003	2.73	0.175	0.003	0.003
6/30/2011	0.414	3.12	0.004	0.006	0.003
9/30/2011	0.03	3.62	0.014	0.008	0.003
12/31/2011	0.008	3.21	0.003	0.003	0.003
3/31/2012	0.031	2.5	0.038	NA	NA
6/30/2012	0.004	3.2	0.065	0.024	NA
9/30/2012	0.004	2.7	0.005	NA	0.021
12/31/2012	0.032	4.2	0.003	0.025	0.022
3/31/2013	0.029	4.8	0.11	0.021	0.006
6/30/2013	0.004	4.3	0.026	0.016	2.2
9/30/2013	0.004	3.8	0.004	0.004	0.004
12/31/2013	0.004	7.9	0.02	0.004	0.02

NA = Not Available