

SERVICE OVERVIEW

DEPARTMENT OF ENVIRONMENTAL UTILITIES

The Department of Environmental Utilities (DEU) plays a pivotal role in protecting and preserving the environment and in protecting the health and welfare of the citizens of Lake County.

The DEU is composed of four divisions.

- Solid Waste Management Operations
- Solid Waste Management Special Programs
- Water Quality Services
- Mosquito and Aquatic Plant Management

The DEU operates with a staffing level of 76 employees and has an annual operating budget of approximately \$32,700,000.

SOLID WASTE MANAGEMENT OPERATIONS DIVISION

The Solid Waste Management Operations Division (SWMOD) operates with a staffing level of 29 employees, has an annual operating budget of approximately \$8,700,000, and is comprised of three primary sections:

solid waste disposition services;
residential drop-off operations; and
scale operations.

The primary responsibilities of the SWMOD is the operation of the Lake County Class I Landfill and the receipt, processing, transportation, and proper disposition of solid waste received at the Central Facility and the residential drop-off facilities. Another critical responsibility is the operation of the scales at the Solid Waste Management Central Facility and the waste-to-energy facility. Additionally, the Division is responsible for the maintenance and general grounds keeping for four (4) closed landfills, the residential drop-offs and the Central Facility.

Disposition and Residential Drop-Off Services

The Central Facility located in South Tavares and comprising a total of 540 acres is the primary solid waste management facility in Lake County.



The following services are provided at the Central Facility by the SWMOD:

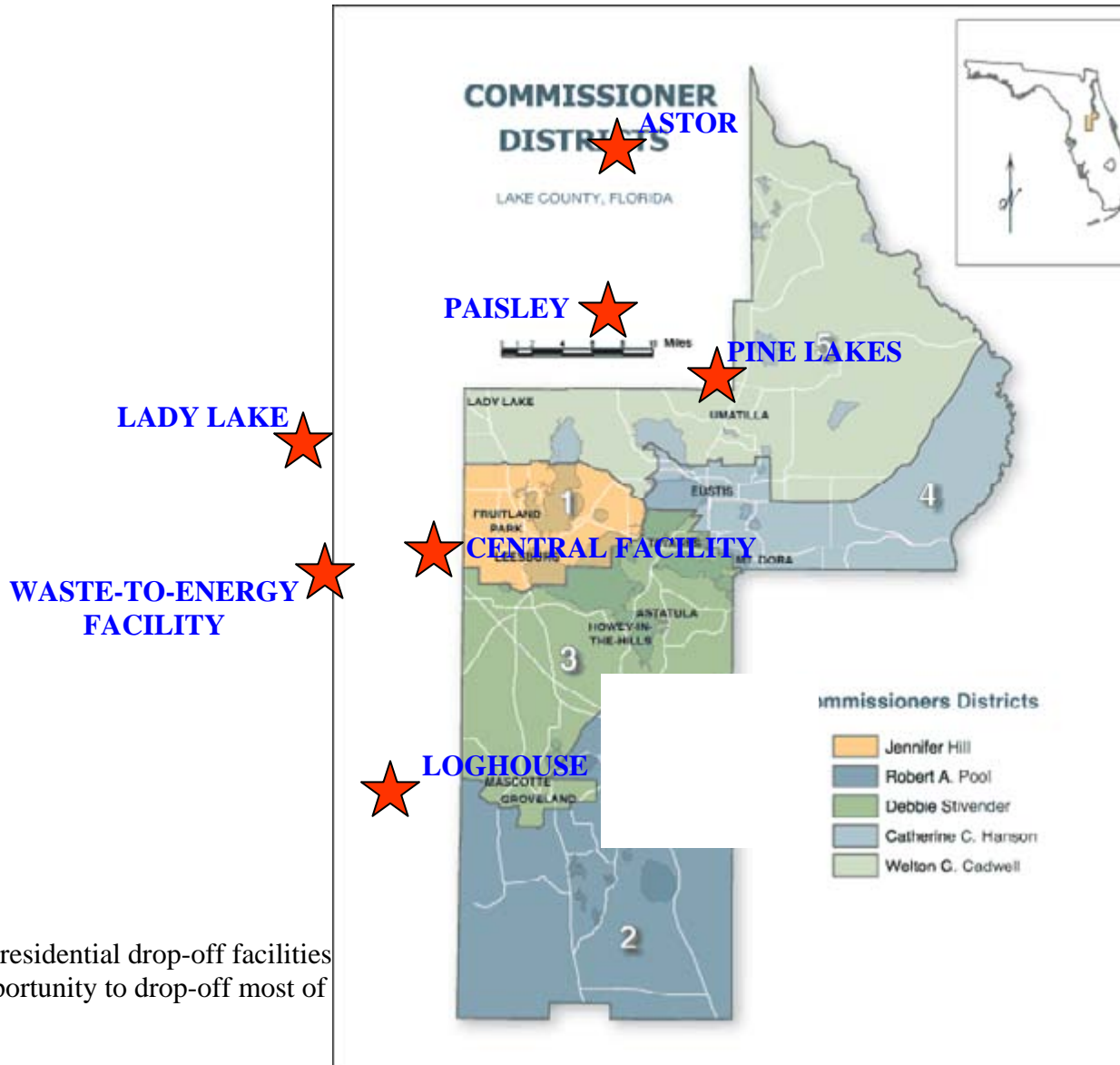
- class I landfilling;
- class III processing and disposition service;
- yard and wood waste processing and disposition service;
- waste tire processing and disposition service;
- construction and demolition debris landfilling;
- residential drop-off services;
- leachate collection, transfer, and disposal; and
- weighing (scale) services.

The Central Facility is open from 7:30 AM to 5:00 PM, Monday thru Saturday.

In addition to the residential drop-off at the Central Facility, the SWMOD operates five (5) remote residential drop-off facilities.

- Loghouse
- Lady Lake
- Astor
- Paisley
- Pine Lake

SOLID WASTE MANAGEMENT SYSTEM LOCATIONS



Each of the residential drop-off facilities with the opportunity to drop-off most of

household garbage;
recyclables;
residential bulk items such as furniture and appliances;
household hazardous waste;
used electronics;
used motor oil;
yard and wood waste; and
used tires.

The residential drop-offs are all open from 7:30 AM to 5:00 PM, on Saturday and then one day during the week.

Two (2) of the most important components of the Solid Waste Management System are the Class I Landfill and the waste-to-energy facility.

The **Class I Landfill**, located at the Central Facility, provides for the disposal of the solid waste that cannot be disposed of at the waste-to-energy facility due, for the most part, to the generation of more solid waste than can be managed at the waste-to-energy facility. The primary solid waste material received at the Class I Landfill is the ash generated from the waste-to-energy facility. Early next year, the SWMOD will add additional landfill capacity with the completion of a Municipal Solid Waste landfill cell and an Ash Monofill landfill cell.



CLASS I LANDFILL

While not a direct component of the SWMOD, the Lake County **waste-to-energy facility** could be described as the cornerstone of the solid waste management operations. The waste-to-energy facility: incinerates virtually all of the solid waste that can be burned; produces steam; and converts the steam into electricity which is sold to Progress Energy. This facility is owned by Covanta Lake, Inc. but, through a contractual relationship that expires in 2014, Lake County is responsible for almost all of the solid waste delivered to the facility.

In addition to the generation of electricity, the ash residue generated as a result of the incineration process is cycled through a magnetic separation process where the metals are separated and then recycled. The remaining ash residue is transported to the Lake County Class I Landfill where it is landfilled.

Due to safety considerations, this facility only provides service to Lake County transfer vehicles, franchise collectors, and commercial customers which utilize mechanically unloading vehicles.

These services fall under the purview of the DEU Director with staffing being provided by a Procurement Department representative.

Scale Operations

A critical component of the Solid Waste Management System is tracking the amount of the solid waste delivered to the System and tracking which customer delivers that solid waste. This information is used to determine how much to bill each customer and also helps to determine the appropriate fees for the various class of customers. Therefore, all of the solid waste delivered to the System goes across a scale where it is weighed and the weigh amount and the customer class is recorded.



SCALE HOUSE

SOLID WASTE MANAGEMENT PROJECTS DIVISION

The Solid Waste Management Projects Division (SWMPD) provides solid waste management services that complement the services provided by the Solid Waste Management Operations Division. The SWMPD operates with a staffing level of 16 employees, has an annual operating budget of approximately \$11,000,000, and is comprised of four (4) primary sections:

- recyclables processing;
- hazardous waste processing;
- collection services; and
- the solid waste assessment and customer service.

The SWMPD performs a number of functions within the Department of Environmental Utilities. Some of these functions, such as maintaining the Solid Waste Assessment Roll (\$11.9 million in revenue), managing the contract with the franchise solid waste collectors (\$8.9 million contract), and maintaining the household hazardous waste program (high safety risk) are of critical importance to the County.

Recyclables Processing

Recycling is a critical component in Lake County's efforts to manage its solid waste in an efficient and environmentally sensitive manner. To that end, on October 1, 2007, the SWMPD assumed the total responsibility for the operation of the Recycling Facility

located at the Central Facility. This service was previously provided by a private contractor under contract with the County.

This service receives source separated recyclables from: the residential collection service; many of the Lake County municipalities; and private recyclable collectors. The recyclables are processed and then sold to various markets. Lake County, the municipalities and the private recyclable collectors share in the revenues received from the sale of the recyclables.



RECYCLING FACILITY

Hazardous Waste Processing

To minimize the potential negative impact of the improper management of hazardous waste, the SWMPD operates a hazardous waste processing service that receives, transports and processes hazardous waste in an environmentally sensitive manner. This service is provided to residential units (households) and businesses.

This service accepts waste paints, batteries, florescent lamps, fertilizers, pesticides, chemicals, used oil, old gas and antifreeze, and used automobile batteries from the residents of Lake County. The primary processing location is the Hazardous Waste Collection Center (HWCC) located at the Central Facility.



HOUSEHOLD HAZARDOUS WASTE FACILITY

Residential customers can deliver their household hazardous waste to the HWCC or to anyone of the five (5) residential drop-offs. The SWMPD collects the hazardous waste from each of the residential drop-offs and delivers it to the HWCC for further processing.

Each Wednesday, the SWMPD receives the same waste streams from our local businesses which qualify as small quantity generators (SQG) and conditionally exempt small quantity generators (CESQG). All businesses are registered with the Department of Environmental Utilities prior to delivery. The County charges a minimal fee which covers the shipping and disposal of the hazardous waste received.

As the hazardous waste is received at the HWCC, it is segregated into compatible waste streams and then stored prior to being shipped off to the state approved contractor for final disposal. All of the hazardous waste that can be recycled is processed for recycling,

thus reducing the cost of disposal, and, for some of the materials, resulting in the receipt of additional revenue.

Collection Services

A critical component of the solid waste services is the collection of the solid waste for delivery to the proper disposal facilities. Lake County provides this service through contracts with private solid waste collection contractors. These services are provided to both residential customers and commercial customers.

The residential customers receive a prescribed level of service as determined by the County. Currently, residential customers receive two (2) garbage collections and one (1) recyclables collection each week. However, for some specific locations, the County only provides one (1) garbage collection each week.

The commercial customers have the opportunity to select the level of service that meets their individual needs.

The SWMPD is responsible for managing the collection contracts to ensure that the collectors comply with the terms of the contracts.

Solid Waste Assessment and Customer Service

For the solid waste collection and disposal services provided by the County, the County bills the residential customers on an annual basis as a non-ad valorem assessment on the ad valorem tax bill. The SWMPD is responsible for maintaining the assessment billing roll by adding new customers when new homes are built and removing customers when homes are no longer habitable.

The SWMPD customer service representatives and field inspectors serve as the main point of contact when customers experience problems with their solid waste services.

WATER QUALITY SERVICES DIVISION

The Water Quality Services Division (WQSD) operates with a staffing level of 8 employees and has an annual operating budget of approximately \$1,000,000. The Division can generally be separated into three (3) distinct categories that define the services within the WQSD.

1. Environmental Programs
2. Program Administration
3. Laboratory / Hydrogeology

Environmental Programs

Petroleum Storage Tank Compliance & Enforcement Program
Critical to ensuring high standards of compliance for underground and above ground fuel storage tank maintenance, the WQSD provides inspection and compliance enforcement for 315 retail gas and commercial fueling facilities, and the Lake Regional Medical Center, the South Lake Hospital, and the Florida Hospital Lake County. The primary funding source for this Program is through a contract with the State of Florida. Any fines acquired through enforcement action are deposited into the Environmental Recovery Fund.



PETROLEUM TANK INSTALLATION

Home Heating Oil Recovery Program

The WQSD provides for the removal of old home heating oil from above and underground residential storage tanks. The Home Heating Oil Recovery Program has been established to protect the water supply and is provided at no cost to Lake County homeowners. This service is funded by the Environmental Recovery Fund.

Exempt Small Quantity Generator Program

To further protect the environment, the WQSD performs inspections of businesses in Lake County to ensure that all businesses which produce hazardous waste are in compliance with state and county regulations. Assistance is given to companies which could benefit from better management practices and education on all regulations in order to remain in compliance.

County Spill & Discharge Coordination

The WQSD provides the expertise within the County to coordinate and manage spills and discharges. Currently management of the petroleum contamination remedial activities located at the Astatula Central Facility and the leachate remediation project in Waycross Georgia are of top priority.

South Umatilla Water System

The WQSD is charged with the operation, maintenance and administration of the County's only public utility system. Acquired in cooperation with the Florida Department of Environmental Protection, the WQSD assures the safe operation and distribution of quality potable water to 450+ residents.

Development Review

The WQSD provides technical reviews of development projects in the area of hydrogeology (water & soil) and petroleum storage tank installation. The assistance provided typically includes:

1. reviewing applications (if applicable);
2. reviewing mining operation plans;
3. reviewing ground and surface water monitoring plan reports as required by Consumptive Use Permitting; and

4. reviewing petroleum storage tank plans for approved equipment as required by state contract.

Program Administration

Water Resource Atlas

The Lake County Water Resource Atlas web site provides comprehensive and current information about water quality, hydrological, ecological, historical and recreational information about Lake County water resources. The WQSD oversees:

- management, preparation, and review of content;
- implementing new features;
- maintaining the database; and
- providing public awareness of the Atlas availability to include coordination with the University of South Florida (USF) where the site is hosted.

Water Conserv II Program

The Water Conserv II Program delivers reclaimed water to over 100 customers in west Orange County and east Lake County through agreements for the delivery and use of reclaimed irrigation water. The WQSD reviews and oversees monitoring programs and project plans for the Water Conserv II Program in Lake County.

Adopt-A-Lake Program

In FY 07/08, the WQS implemented the Adopt-A-Lake Program (AAL). This is a volunteer program that provides individuals and groups with the opportunity to adopt a water body, or portion thereof, for a two year period and commit to provide at least one of the following activities: water quality monitoring; education; and/or pollution prevention.



TAVARES HS AAL VOLUNTEERS

Water Laboratory / Hydrogeology

Water Laboratory Services

The Water Resources Laboratory performs numerous tests annually on local bodies of water, various DEU sites, and drinking water analysis for citizens. The WQSD collects water samples and receives water samples from others. The analysis results are used for several purposes including, but not limited to: Water Atlas population; Florida Department of Environmental Protection permit requirements; and water quality analysis for private wells. The WQSD manages:

- surface water testing for Total Maximum Daily Loads (TMDL);
- stormwater analysis based on surface water data;
- drinking water analysis;
- laboratory services; and
- water samplings for Lake County Landfill Regulatory Compliance.



WATER SAMPLING



WATER ANALYSIS

MOSQUITO & AQUATIC PLANT MANAGEMENT DIVISION

The Mosquito and Aquatic Plant Management Division (MAPMD) operates with a staffing level of 14 employees, has an annual operating budget of approximately \$1,600,000, and is comprised of three primary sections:

mosquito management;
aquatic plant management; and
maintenance.

These three (3) separate and distinct functions focus on effective prevention, reduction, and monitoring strategies that comply with local, state and federal laws, guidelines, and regulations.

Mosquito Management Section

The Mosquito Management Section manages mosquitoes and other biting insects of public importance in order to reduce the risk of disease transmission and to ensure a reasonable quality of life for all residents of and visitors to Lake County. Lake County employs an integrated pest management approach to control the mosquito population. During a confirmed viral outbreak, special research and further testing, as needed, is employed to investigate possible causes of disease transmission.

Critical functions used as preventative measures to circumvent disease transmission include mosquito surveillance, surveying, and pesticide control of adult mosquitoes and larvae. Mosquito surveillance is utilized to define the nature and extent of the mosquito problem or mosquito abundance levels.

Pesticide control of adult mosquitoes, adulticiding, is the process of applying pesticides by spray trucks to reduce the abundance levels of adult mosquitoes. Pesticide control of larvae, larviciding, involves applying pesticides to breeding habitats to kill larvae. Immature mosquitoes do not pose a disease threat. Therefore, surveying and larviciding are used to reduce the numbers of immature mosquitoes before emergence as adults.



MOSQUITO SPRAY TRUCK

Aquatic Plant Management Section

The Aquatic Plant Management Section manages invasive aquatic plants for all users of public water bodies in order to:

- minimize potential flooding situations;
- restore reasonable navigational opportunities; and
- maintain the natural integrity of water bodies with respect to aquatic vegetation.

Critical functions used to accomplish aquatic plant management activities include, but are not limited to:

- major invasive aquatic plant surveys;
- herbicide applications; and
- post-treatment inspections.

Marine plant surveys are used to determine the presence and extent of growth of the target invasive aquatic plant species. Also, these surveys are used to evaluate the impact invasive exotic marine plants have on the natural flora of aquatic systems. When invasive aquatic plants are located during a survey, herbicide applications are made using: airboats; tunnel-hull boats; and herbicide spray systems. Post-treatment inspections are performed after a herbicide application to determine effectiveness. Also, planning strategies are continually evaluated and, if necessary, improved.



AQUATIC PLANT TREATMENT

Maintenance Section

The Maintenance Section ensures that all equipment and facilities are maintained in proper working condition such that mosquito and aquatic plant management objectives are met. Maintenance personnel are responsible for maintaining and servicing over 60 equipment items including vehicles, airboats, tunnel-hull boats, mosquito and aquatic plant spray systems, and filling stations.

Critical functions of the Maintenance Section include preventative and routine maintenance, major repairs, specialty item fabrication, and spray system calibration. Equipment maintenance is performed on items used for pesticide applications and requires special training in pesticides safety and pesticide application calibration. Specialty items are fabricated for various pesticide and herbicide application techniques. Calibration activities on mosquito spray systems are required by federal law (pesticide label).