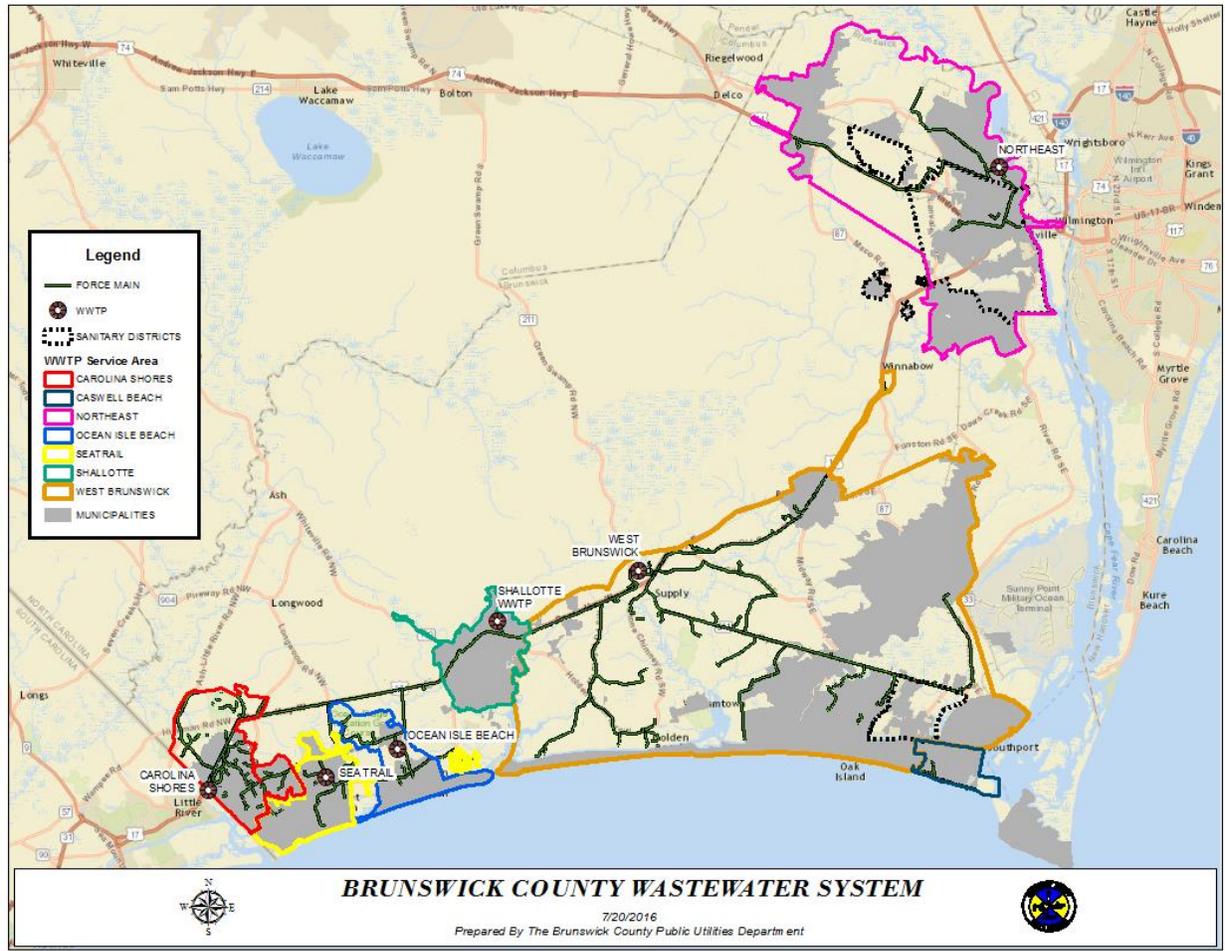


**Brunswick County Public Utilities**  
**Wastewater Collection and Treatment System Annual Report**  
**July 1, 2015, through June 30, 2016**

**System Overview**



**History**

Sewer systems are generally required in areas where development density, the proximity to surface waters, or soil conditions prevent the proper function of septic systems. In recent decades there has been a greater need for sewer service in Brunswick County due to its abundance of surface waters, marginal soil conditions, and ever-increasing housing density as a result of it being a favorite retirement and vacation location. In the late 90s, Brunswick County began operating its first wastewater treatment plant (WWTP) to serve the Leland Industrial Park. Around this same timeframe many developers constructed small metallic “package” wastewater treatment plants in order to treat wastewater from their individual

residential developments. Due to the increasing need for additional sewer treatment capacity from new development and the need for a higher standard of sewage treatment than these “package” wastewater plants could provide, Brunswick County began design and construction of the Northeast Brunswick Regional Water Reclamation Facility. This facility, located in the Town of Navassa, was completed in the summer of 2003 with an initial treatment capacity of 1.625 million gallons per day (mgd). It replaced the Leland Industrial Park WWTP as well as a developer-constructed package WWTP serving the Clairmont development in the Town of Leland. In 2013, the Northeast Brunswick Regional Water Reclamation Facility treatment capacity was upgraded to 2.475 million gallons per day. This facility provides sewer treatment for Brunswick County, the Town of Leland, the Town of Navassa, the City of Northwest, and residents within Brunswick Regional Water & Sewer H2GO’s service area (Town of Belville, part of the Town of Leland, and some unincorporated areas).

In 2004, Brunswick County acquired assets of the South Brunswick Water and Sewer Authority (SBWASA) and Carolina Blythe Utilities which provided sewer service to communities in the southern part of Brunswick County including the Towns of Calabash and Carolina Shores. Carolina Blythe Utilities’ Carolina Shores Wastewater Treatment Plant, originally constructed in the late 1970s is an extended aeration tertiary treatment plant with a sewer treatment capacity of 530,000 gallons per day. SBWASA’s Sea Trail WWTP originally served the Sea Trail development in the Town of Sunset Beach and had a 200,000 gallon per day sewage treatment capacity. In 2007, Brunswick County expanded the treatment capacity of this non-discharge WWTP to 300,000 gallons per day. In 2010, Brunswick County completed construction of a sewer collection system for those areas within the Town of Calabash not yet having sewer service and in 2012 the Sunset Beach sewer system was completed by the County. Both of these sewer collection systems convey wastewater to the Sea Trail WWTP. Since acquiring the aging SBWASA and Carolina Blythe Utilities systems, Brunswick County has made significant improvements to both the sewer treatment facilities and the sewer collection systems. Many of the sewer pump stations contributing sewer flow to these WWTPs have been rehabilitated and significant improvements to both WWTPs have been constructed including flow equalization, diversion pump stations with interconnection force mains, process improvements, and capacity improvements.

In June of 2006, Brunswick County acquired the Ocean Ridge WWTP, a 100,000 gallon per day non-discharge “package” plant serving the Ocean Ridge golf community located in southern Brunswick County. This WWTP has been decommissioned and all flow has been diverted to the Ocean Isle Beach WWTP.

The largest of the County’s sewer treatment facilities, the West Brunswick Water Reclamation Facility located in Supply, NC, was completed in 2006 to serve the unincorporated areas in central Brunswick County; the Towns of Supply, Bolivia, Holden Beach, St. James; and portions of Shallotte. Once completed, the existing ‘package’ plants serving Brunswick Community College, Winding River development, and the Town of St. James along with a facultative lagoon serving the Brunswick County Government Complex were taken out of service and all sewer flow was diverted to the new facility. As part of the agreement with the Town of Shallotte, Brunswick County assumed ownership of the Town of Shallotte’s WWTP. This WWTP is a facultative lagoon, non-discharge facility with a treatment capacity of 500,000 gallons per day. Due to subsequent piping improvements constructed by Brunswick County, excess flow to the Shallotte WWTP can be diverted to any of a number of other County-operated sewer treatment plants. A three

million gallon per day expansion to the West Brunswick Water Reclamation Facility was completed in 2009 to accommodate sewer treatment for the Town of Oak Island's sewer collection system. This brought the total sewer treatment capacity for the extended aeration tertiary treatment non-discharge facility to six million gallons per day. The plant contains a septage receiving station for septage haulers pumping wastewater from failing septic tanks. In 2008, the City of Southport entered into an agreement with Brunswick County and subsequently completed a connection to the regional transmission system to convey wastewater to the West Brunswick facility for treatment.

Brunswick County and the Town of Ocean Isle Beach reached an agreement in 2012 whereby the Town conveyed the Ocean Isle Beach WWTP to the County. This facility is permitted to treat 1.050 mgd and current improvements include a new diversion pump station and force main that allows up to .296 mgd to be transferred to the WBR Facility for treatment.

In November of 2015, the Town of Caswell Beach conveyed its utility system to Brunswick County. The Caswell Beach sewer collection system is a combination of gravity, low pressure, and vacuum systems that pump wastewater to the Town of Oak Island's Fish Factory Road WWTP for treatment.

Overall, Brunswick County currently operates six wastewater treatment plants with a permitted sewer treatment capacity of 10,855,000 gallons per day. The County provides retail sewer service within the municipalities of Boiling Spring Lakes, Bolivia, Calabash, Carolina Shores, Caswell Beach, Sandy Creek, St. James, Sunset Beach, Varnamtown, and the unincorporated areas of Brunswick County as well as providing wholesale sewer treatment to Holden Beach, Leland, Navassa, Northwest, Oak Island, Ocean Isle Beach, Shallotte, Southport, and H2GO. The County sewer transmission and collection system consists of over 569 miles of force main, gravity, low pressure, and vacuum sewer pipeline; 153 major pump stations; 3,183 manholes; and around 6,700 individual grinder pump stations. Additionally, Brunswick County operates and maintains the sewer collection systems for the City of Northwest and Town of Navassa.



## **Connection Programs**

New developments in Brunswick County located in proximity to a sewer line are required to construct sewer collection facilities in the development and all new homes must make connection to these facilities. Existing structures are not required to make connection to sewer collection systems when new sewer mains are constructed near them. However, property owners that would like to connect to the sewer system have several options available to them:

*Neighborhood Water & Sewer Main Extension Policy Petition Process* – Neighborhoods may request that the County install water and/or sewer mains into their subdivision. At least 50% of the property owners must sign a petition to start the process. The County then prioritizes all petition projects and the Board of Commissioners determines which projects will be designed and constructed in a given year. A Special Assessment District is created for each project to be constructed and the cost of construction is then assessed back to the property owners up to a set maximum amount established in advance by the Brunswick County Board of Commissioners.

*Rural Sewer Program* – Allows existing structures adjacent to a high pressure force main that have failing septic systems to connect to the high pressure force main using a grinder pump system. Fees for this type of connection are available on the Brunswick County Web site.

Additional information on these programs is available at the Brunswick County Engineering Department located in the County Government Complex (910-253-2500).

## **Staff Training and Certification**

The combination of large diameter, high pressure sewer force mains, low pressure sewer grinder systems, vacuum sewer systems, gravity sewer systems, pumping stations, SCADA system, and wastewater treatment plants requires a highly-skilled and diverse staff for proper operation and maintenance. Wastewater Collection System and Treatment personnel are certified through the Water Pollution Control System Operators Certification Commission that is governed by North Carolina State law and administered through the North Carolina Department of Environmental Quality (NCDEQ). Brunswick County has 54 dedicated staff members within three divisions to provide operation and maintenance of the system:

- Sewer Collection Division (23) – 22 NCWPCSOCC Certified Operators
- Wastewater Treatment Division (22) - 21 NCWPCSOCC Certified Operators and Maintenance Technicians, 1 Certified Laboratory Technician
- Instrumentation & Electrical Division (9) - 4 NC Licensed Electricians

To become certified by NCWPCSOCC and to become NC licensed electricians, individuals must meet certain education and experience criteria, complete required coursework, and must pass a state-administered exam. After initial certification, wastewater operators and licensed electricians are required to attend continuing education courses on an annual basis in order to maintain their certification. Additionally, Brunswick County provides frequent training in other areas: safety, valves, generators, HVAC,

system maintenance, regulatory updates, and similar programs related to system operation and maintenance.

### **Laboratory Analysis**

Over 5,000 laboratory tests are performed annually at the West Brunswick Water Reclamation Facility's Lab by certified laboratory staff to ensure compliance with Division of Water Resource's Water Quality Section requirements and National Pollutant Discharge Elimination System (NPDES) permits. On-site laboratory analysis allows for expedient operational adjustments to ensure efficient operation of the plant in order to maintain permit limits for the treated water leaving the plants. Brunswick County has an extensive reuse program that requires a high degree of treatment prior to using the treated wastewater (reuse water) for irrigation purposes.



### **Treated Wastewater as a Resource**

Historically, once treated wastewater leaves a wastewater treatment plant it has been discharged into a stream or river. Brunswick County's older WWTPs do operate this way, but all newer WWTPs have been permitted as non-discharge facilities. Rather than discharging treated wastewater to a stream or river, a non-discharge WWTP uses the highly treated wastewater for large-scale irrigation. The highly treated wastewater is termed "Reuse Water". Brunswick County operates over 25 miles of reuse force mains that supply reuse water for irrigation to eleven golf courses and 1,040 acres of dedicated tree farms and turf farms at four different locations. Using reuse water for irrigation has several advantages. One major advantage is that reuse water replaces potable water from the County's water system that would have been used for irrigation. This reduces the peak loading on the water system which ultimately reduces costs and helps to reduce rate increases. Additionally, using reuse water for irrigation allows golf courses to reduce the amount of fertilizer spread on the golf course. Golf courses using reuse water for irrigation include those in Sea Trail, Ocean Ridge, Winding River, and St. James.

## **Residuals Management**

The Wastewater Treatment Division oversees the disposal of wastewater sludge from each of the wastewater treatment facilities. In Fiscal Year 2015-16 Brunswick County produced 6,645,500 gallons of liquid sludge and approximately 250 tons of dry dewatered biosolids. The sludge and biosolids are land-applied as soil amendments on farm fields by the County's contractor.

## **Fiscal Year 2015-2016 Highlights**

- 2015 American Water Works Association Medium Collection System of the Year Award
- Assimilation and upgrades to the Town of Caswell Beach sewer collection and transmission system into the County's utility system
- Ocean Isle Beach Water Reclamation Facility improvements including the construction of a new transfer pump station and force main for interconnectivity between multiple treatment facilities
- The laboratory at the West Brunswick Water Reclamation Facility in Supply was expanded to increase the number and type of testing performed.
- Installation of 182 grinder replacement pumps in low pressure sewer areas
- 85 home wiring upgrades to 30 amp service to facilitate grinder pump upgrade
- The purchase of three spare pumps at the St. James main pump station (125 hp), Southport Sandy Lane pump station (150 hp), and Brunswick County Jail (35 hp) for emergency replacement
- Town of Sandy Creek/City of Northwest sewer main improvements
- A storm of historic proportions struck Brunswick County the first week of October 2015 causing extensive flooding County wide. Several areas in the southern part of the County received 24" of rainfall in a 4-5 day period. The majority of the Brunswick County Public Utilities collections and treatment systems were able to handle the excessive flows without incident.

## **Planned Fiscal Year 2016-2017 Capital Improvements**

- Installation of 200 grinder replacement pumps in low pressure sewer areas
- Completion of the Carolina Shores North sewer collection system
- Enterprise Funded Sewer Main Extensions - Willetts Drive, Windover Drive, and North Shore Drive (Boiling Spring Lakes); Nursery Road NW, Norwood Street SW, Schooners Court SW (Sunset Beach)



**Infiltration Basin Construction**

**Brunswick County Public Utilities**  
**Wastewater Collection and Treatment System Annual Report**  
**July 1, 2015, through June 30, 2016**

House Bill 1160, the Clean Water Act of 1999, requires entities that own or operate wastewater treatment and collections facilities in North Carolina provide customers with an annual performance report. This report is available for viewing at the Brunswick County Public Utilities Operations Center or by logging on to our Web site at <[www.brunswickcountync.gov](http://www.brunswickcountync.gov)>. Customers will be notified of its availability by printed notice on sewer bills. Questions, comments, or requests for paper copies of this report should be directed to the Brunswick County Public Utilities Department at 910-253-2657. This report has been completed by staff of the Utilities Department and is accurate to the best of our knowledge and belief.

*Steve Hlastala*

Wastewater Collections Superintendent

910-253-2681

*Donald Dixon*

Wastewater Treatment Superintendent

910-253-2485



**West Brunswick Water Reclamation Facility**

**Regulated Entity: West Brunswick Regional Wastewater Treatment Plant (WBRWWTP)**

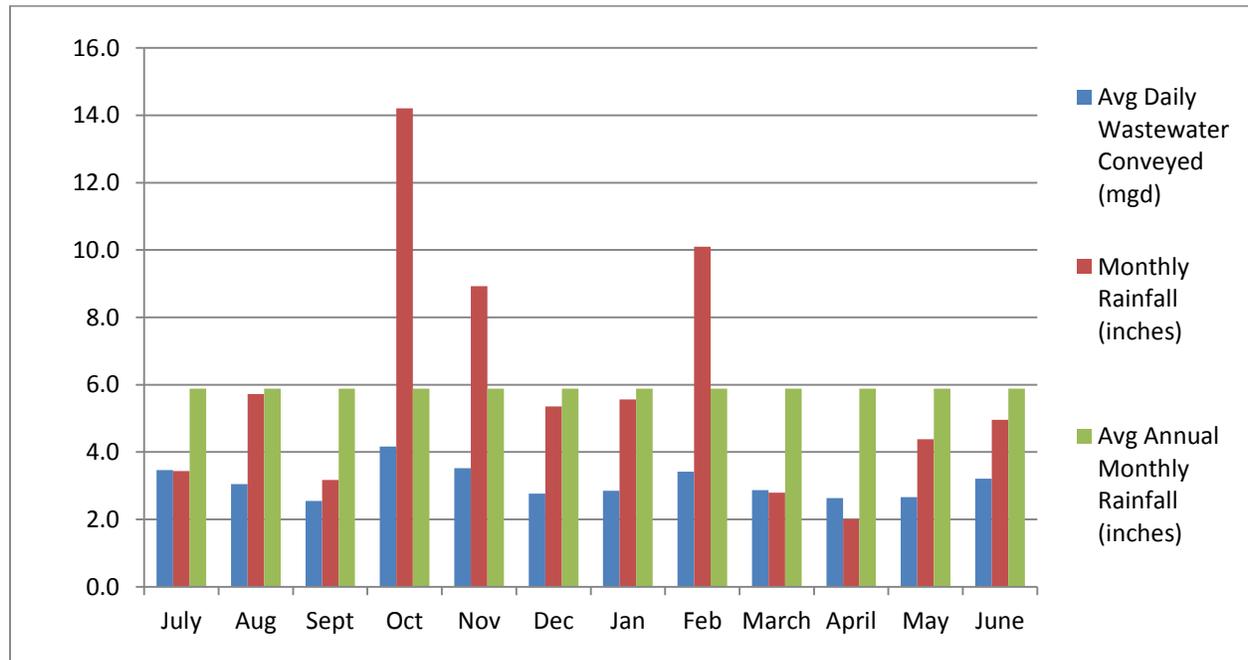
Operator in Responsible Charge: Dixon Medlin  
Phone: 910-253-2479  
Permit(s): WQ0023693 (Non-Discharge)

**Facility Description:**

- *Permitted Flow:* 6.0 million gallons per day
- *Treatment Type:* Extended Aeration, Tertiary Treatment, Biological Nutrient Removal with Autothermal Thermophilic Aerobic Digestion (ATAD) process for solids handling
- *Discharge:* Non-Discharge Permit – Reuse water applied to golf courses, infiltration basins, and dedicated tree farm surface irrigation sites

**Performance:**

**Monthly Wastewater versus Rainfall 1**



- Annual Average Daily Flow: 3,096,868 gpd (gallons per day)
- Maximum Daily Flow/Date: 9,395,017 gallons October 6, 2015
- Total Annual Flow: 1,133,277,183 gallons
- There were zero (0) Notices of Violation/Deficiency issued for this facility during the reporting period



727.520.8181  
[www.aerophoto.com](http://www.aerophoto.com)

**Northeast Brunswick Regional  
Wastewater Treatment Facility**

Image # 131021 0274  
Date 10.21.13

**Regulated Entity: Northeast Brunswick Regional Water Reclamation Facility**

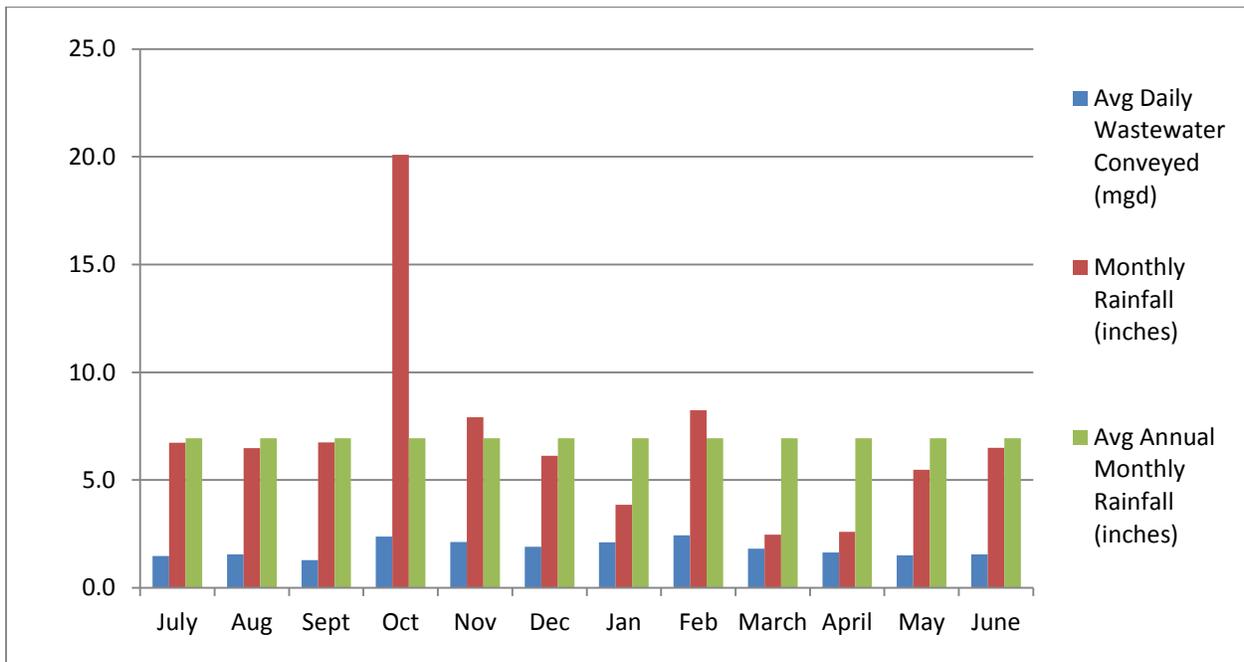
Operator in Responsible Charge: Randy Bumgarner  
Phone: 910-383-2811  
Permit(s): NC0086819 (Discharge)

**Facility Description:**

- *Permitted Flow:* 2.475 million gallons per day
- *Treatment Type:* Extended Aeration, Tertiary Treatment, Biological Nutrient Removal with Autothermal Thermophilic Aerobic Digestion (ATAD) process for solids handling
- *Discharge:* Discharge Permit – Cape Fear River

**Performance:**

**Monthly Wastewater versus Rainfall 2**



- Annual Average Daily Flow: 1,814,680 gpd
- Maximum Daily Flow/Date: 4,639,570 gallons October 5, 2015
- Total Annual Flow: 662,358,151 gallons
- There was one (1) Notice of Deficiency issued for this facility during the reporting period for a Monitoring Frequency Violation (Feb 2016)

**Regulated Entity: Ocean Isle Beach Water Reclamation Facility**

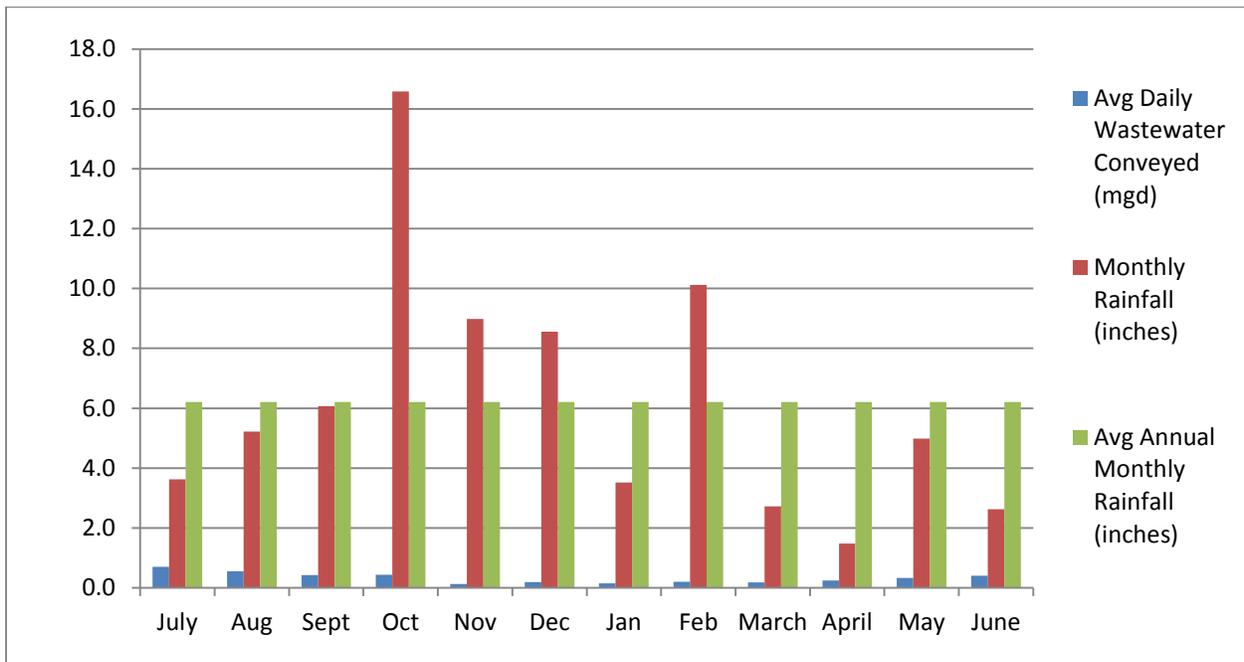
Operator in Responsible Charge: Scott Leonard  
Phone: 910-579-9365  
Permit(s): WQ0006085 (Non-Discharge)

**Facility Description:**

- *Permitted Flow:* 1.050 million gallons per day
- *Treatment Type:* Sequencing Batch Reactor
- *Discharge:* Non-Discharge Permit – Reuse water applied to dedicated tree farm and turf farm surface irrigation sites

**Performance:**

**Monthly Wastewater versus Rainfall 3**



- Annual Average Daily Flow: 329,847 gpd
- Maximum Daily Flow/Date: 1,135,926 gallons October 5, 2015
- Total Annual Flow: 121,094,722 gallons
- There were zero (0) Notices of Violation/Deficiency issued for this facility during the reporting period



### Carolina Shores WWTP

**Regulated Entity:** Carolina Shores Wastewater Treatment Plant

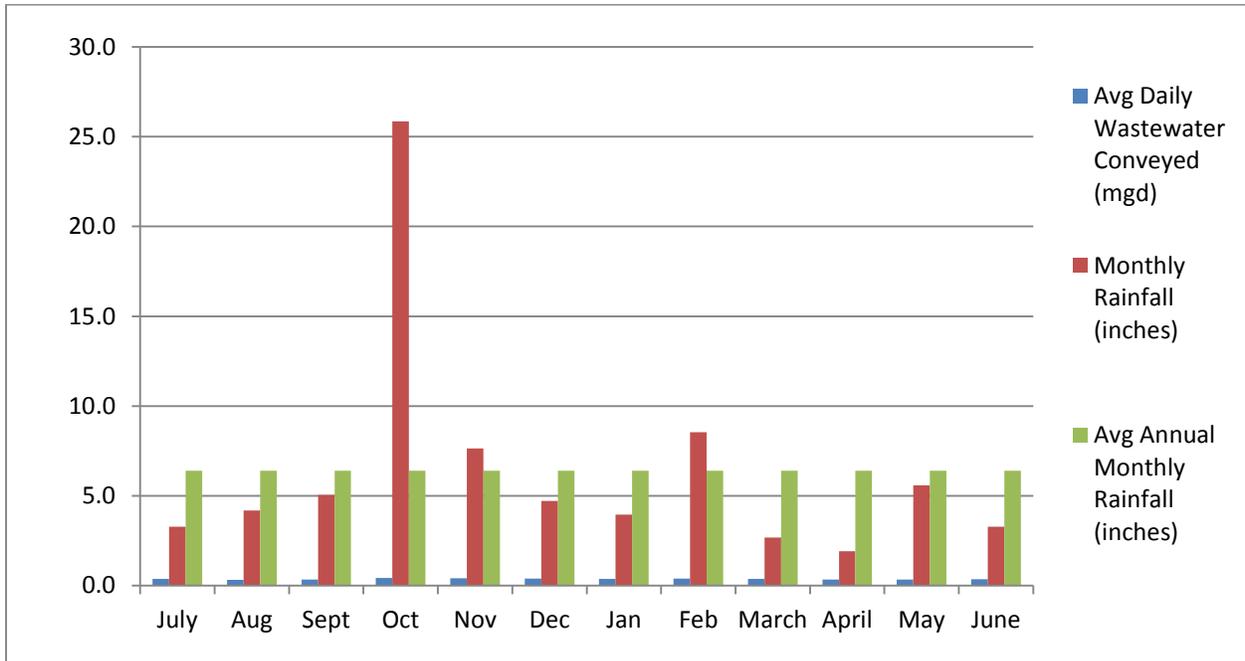
Operator in Responsible Charge: Scott Leonard  
Phone: 910-579-9365  
Permit(s): NC0044873 (Discharge)

**Facility Description:**

- *Permitted Flow:* 0.530 million gallons per day
- *Treatment Type:* Extended Aeration, Tertiary Treatment
- *Discharge:* Discharge Permit – Tributary to Persimmon Swamp, Lumber River Basin

**Performance:**

**Monthly Wastewater versus Rainfall 4**



- Annual Average Daily Flow: 373,750 gpd
  - Maximum Daily Flow/Date: 847,000 gallons October 3, 2015
  - Total Annual Flow: 136,936,200 gallons
  - There were zero (0) Notices of Violation/Deficiency issued for this facility during the reporting period
-



### Shallotte WWTP Pump Station

**Regulated Entity:**       **Shallotte Wastewater Treatment Plant**

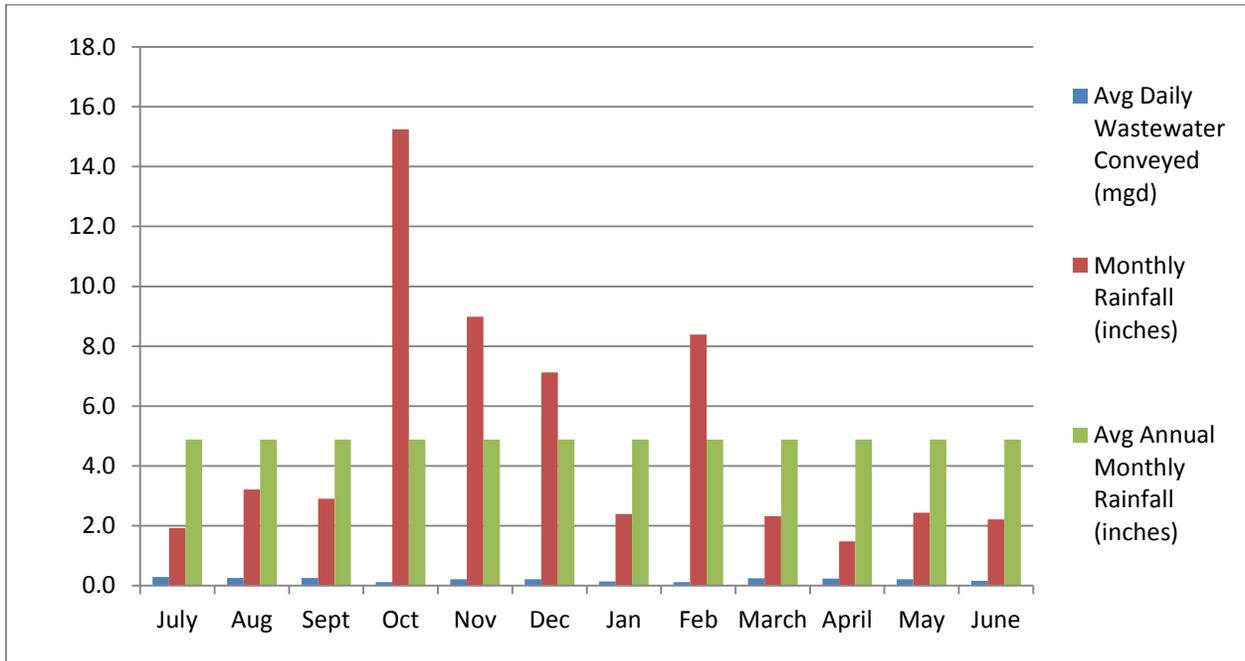
Operator in Responsible Charge:       Mac Yow  
Phone:                               910-754-7744  
Permit(s):                               WQ0000798 (Non-Discharge)

**Facility Description:**

- *Permitted Flow:* 0.5 million gallons per day
- *Treatment Type:* Facultative Lagoon
- *Discharge:* Non-Discharge Permit – Effluent water applied to tree farm surface irrigation sites

**Performance:**

**Monthly Wastewater versus Rainfall 5**



- Annual Average Daily Flow: 194,870 gpd
- Maximum Daily Flow/Date: 501,000 gallons December 27, 2015
- Total Annual Flow: 59,316,792 gallons
- There was one (1) Notice of Deficiency issued for this facility during the reporting period for Exceeding Daily Maximum Influent Flow to the Facility (Various Days in the Months of June, July and August 2015)

**Regulated Entity: Sea Trail Wastewater Treatment Plant**

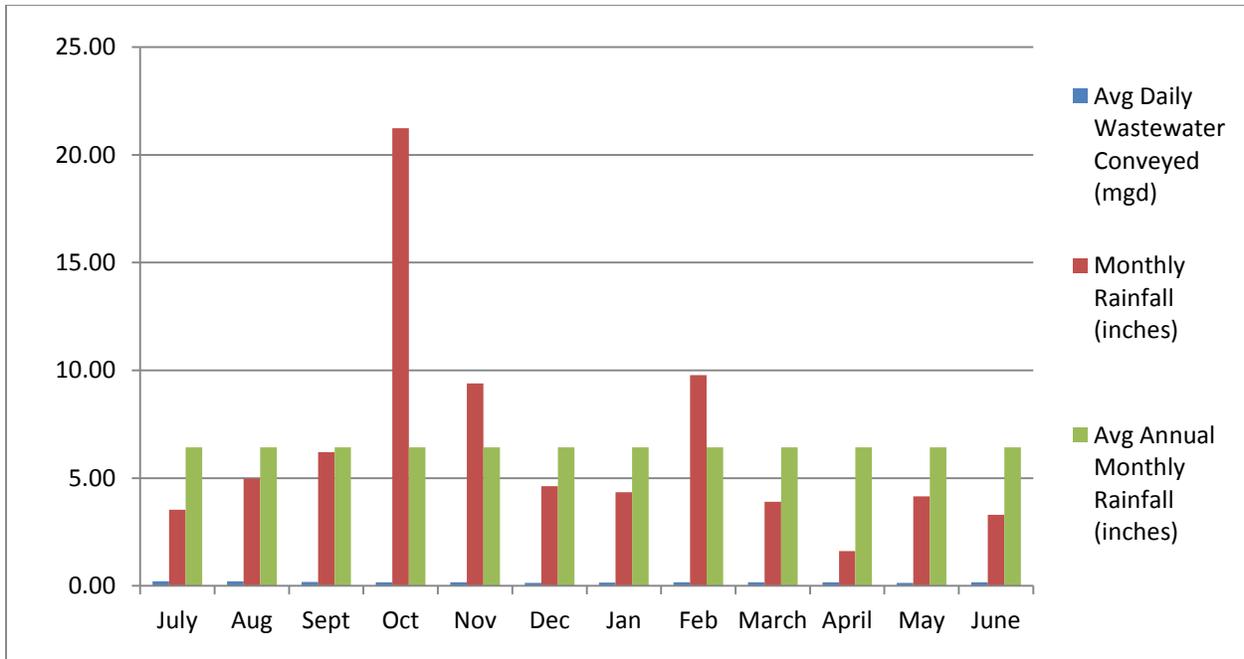
Operator in Responsible Charge: Aaron Hewett  
Phone: 910-269-7400  
Permit(s): WQ0012748 (Non-Discharge)

**Facility Description:**

- *Permitted Flow:* 0.3 million gallons per day
- *Treatment Type:* Extended Aeration, Tertiary Treatment
- *Discharge:* Non-Discharge Permit – Reuse water applied to Sea Trail golf courses

**Performance:**

**Monthly Wastewater versus Rainfall 6**



- Annual Average Daily Flow: 169,250 gpd
- Maximum Daily Flow/Date: 248,00 gallons August 7, 2015
- Total Annual Flow: 61,857,000 gallons
- There were zero (0) Notices of Violation/Deficiency issued for this facility during the reporting period

**Regulated Entity: Brunswick County Wastewater Collections System**

Operator in Responsible Charge: Steve Hlastala  
 Phone: 910-253-2681  
 Permit(s): WQCS00284

**Facility Description:**

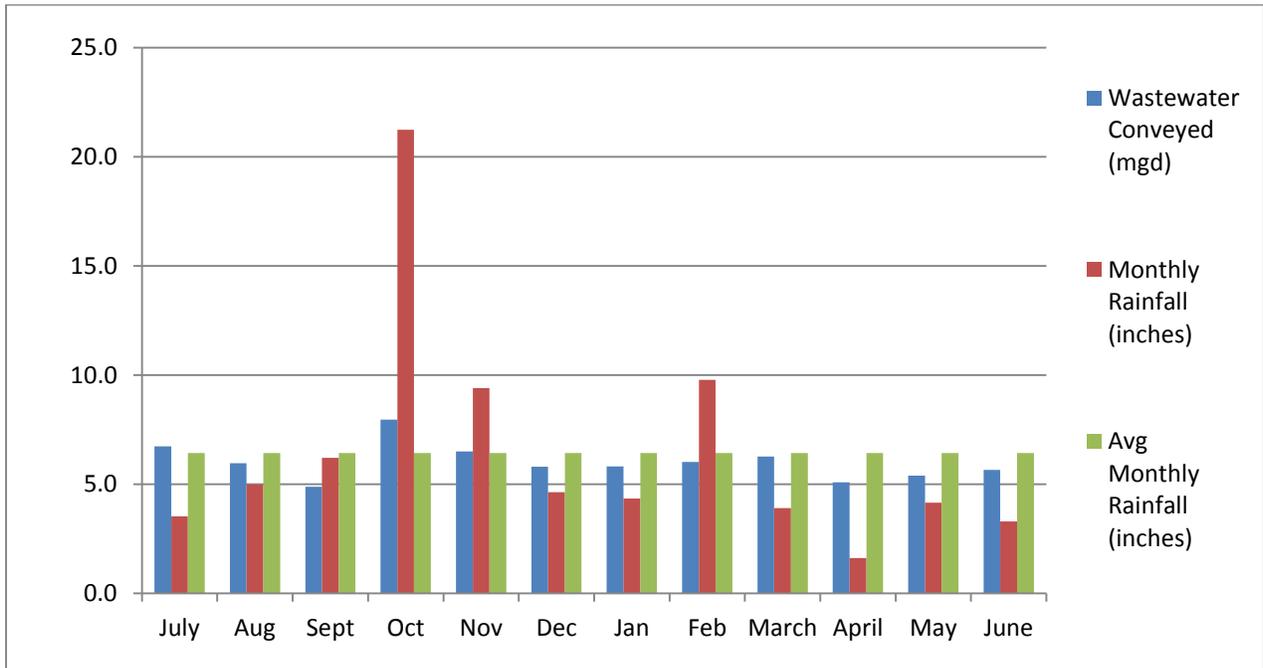
	<u>Gravity Mains</u>	<u>Low Pressure</u>	<u>Vacuum</u>	<u>Force Main</u>
<b>Miles of Line</b>	127	183	11	248

<u>Facility Type</u>	<u>Total</u>
Traditional Major Pump Stations	150
Vacuum System Stations	3
Low Pressure Grinder Pump Stations	6,655
Manholes	3,183

**Performance:**

Total Flow: 2,188,379,415 gallons  
 Feet of Gravity Line Cleaned & Inspected: 66,781  
 Percentage of Gravity Line Inspected: over 10%

**Monthly Wastewater versus Rainfall 7**



Brunswick County reports Sanitary Sewer Overflows in accordance with North Carolina General Statutes and NCDEQ guidance. Discharges of 1,000 gallons or more of untreated waste to the surface waters of the State require Publication of Notice of Discharge. Brunswick County had no discharges of 1,000 gallons or more to surface waters during the fiscal year. When Sanitary Sewer Overflows occur it is standard practice to inspect and remove the source of any blockages; repair, refurbish, and renovate collections facilities; and to clean up and disinfect spill areas.

**Reportable Sanitary Sewer Overflows**

<u>Date</u>	<u>Location</u>	<u>Volume</u>	<u>Known Environmental Impacts</u>	<u>Corrective Measures Taken</u>
1/18/2016	8" force main in railroad r/w off Cedar Hill Rd. in Navassa	28,994 gallons	None	Repaired sewer main; vacuumed sewer from area and lime stabilized
5/23/2016	4" force main at 10250 Royster Road in Navassa	8,000 gallons	None	Repaired sewer main; vacuumed sewer from area and lime stabilized



**Supply Pump Station**

## Sanitary Sewer Overflows

### **What is a Sanitary Sewer Overflow?**

A sanitary sewer overflow is a condition whereby untreated sewage is discharged prior to reaching sewage treatment facilities. Despite the best efforts of Brunswick County Public Utilities staff sanitary sewer overflows (SSOs) occur in Brunswick County, just as they do in every other sewer system. The North Carolina Department of Environmental Quality Division of Water Resource's Water Quality Section defines a reportable SSO as any spill to surface waters of 1,000 gallons or more.

### **Causes of Sanitary Sewer Overflows**

The most common cause of SSOs is due to grease deposits blocking sewer pipes resulting in the escape of raw sewage through manholes, sewer clean outs, and other entries into the sewer collection system. Sewer blockages also occur due to foreign objects being dropped into sewers and manholes, the flushing of non-biodegradable materials down the toilet, and the growth of roots into the sewer system piping. Excessive rainfall can also overload the sewer piping systems and pump stations. Additionally, the cutting of sewer mains by contractors and property owners in the course of excavation has become more problematic as Brunswick County becomes more urbanized. SSOs may also occur due to the failure of pipe or other mechanical equipment.

### **What Brunswick County Public Utilities is doing to prevent and reduce Sanitary Sewer Overflows**

All pump stations and plant sites are equipped with a sophisticated Supervisory Control And Data Analysis (SCADA) system that provides automated reports and high level alarms to operators tasked with monitoring the sewer system around the clock. Brunswick County staff is available 24 hours per day, 7 days per week to respond quickly to emergencies in order to prevent SSOs from occurring. Moreover, Brunswick County Public Utilities staff provides daily checks and maintenance to the piping, valves, pump stations, treatment facilities, and other components of the sewer system in order to minimize failures and maintains generators at each pump station for backup power during outages. Additionally, Brunswick County employs a contractor specializing in televised inspection of sewer mains to analyze at least 10% of its gravity sewer system each year. When repairs and blockages are noted, County staff expeditiously makes the needed repairs and maintenance using its wide array of construction equipment, jetting equipment, vacuum truck, and tanker truck. County staff constantly monitors system pressures, capacities, and conditions of the system to make recommendations for needed rehabilitation projects and capital projects to ensure adequate capacity. Each year, Brunswick County spends several million dollars as part of its Capital Improvement Plan to fund these projects. County staff also routinely mows utility easements to minimize the potential for vegetation to cause blockages within the system. As part of its Fats, Oils, and Grease (FOG) Program, Brunswick County helps to educate customers on the proper disposal of these items to minimize sewer blockages and encourages the public to contact Public Utilities if they see deficiencies or misuse of the sewer system. Additionally, Brunswick County is part of the NC 811 call system ([www.NC811.org](http://www.NC811.org)) that seeks to avoid utility damage due to excavation by the general public and contractors by providing proper notification and utility location services.

## What You Can Do to Prevent Sanitary Sewer Overflows

- 1) Contact Brunswick County Public Utilities if you see a maintenance issue, SSO, or someone misusing the public sewer system.
- 2) Never pour grease down sink drains or into toilets! Put grease in a disposable container and dispose of in the garbage or recycle where available.
- 3) Put strainers in kitchen sinks to catch food and debris and empty them into the trash.
- 4) Put wipes, napkins, cat litter, cotton balls, hygiene products, and latex products into the trash; never flush these down the toilet.
- 5) Speak with your neighbors about how to keep grease and other materials out of the sewer. Sewer blockages from grease and other foreign materials don't just impact the person putting them down the drain!

## When an SSO Occurs...

Through active monitoring, maintenance, repair, staff training, investment, and outreach programs Brunswick County Public Utilities seeks to be a good steward of the environment. However, even with due diligence all utilities providing sewer service will experience SSOs from time to time. When an SSO occurs Brunswick County takes the following corrective actions:

- Notification of the public in accordance with Division of Water Resource's Water Quality Section guidelines
- Remove blockages from piping
- Repair, refurbish, and renovate damaged or inadequate facilities
- Cleanup and disinfection of spill area
- Increase inspection frequency as warranted
- Construct capacity improvements as warranted



**Grease Blockage in Pipe**

# Let's Tackle the Grease in This Kitchen!

## Why should I help?



Do

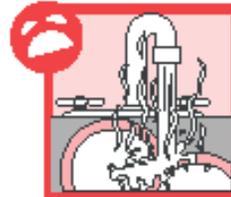


Don't

- Prevent grease buildups from blocking sewer lines.
- Stop sewer overflows into streets and storm drains.
- Reduce the number of times you have to clean your grease trap (food services)
- Save money spent on costly cleanups of sewage spills.
- Protect the quality of our water.



Put oil and grease in covered collection containers.



Don't run water over dishes, pans, fryers, and griddles to wash oil and grease down the drain. Don't rinse off oil and grease with hot water.



Scrape food scraps from dishes into trash cans and garbage bags and dispose of properly. Avoid using your garbage disposal.



Don't pour oil and grease down the drain.



Remove oil and grease from dishes, pans, fryers, and griddles. Cool first before you skim, scrape, or wipe off excess grease.



Don't put food scraps down the drain.



Prewash dishes and pans with cold water before putting them in the dishwasher.



Cover kitchen sink with catch basket and empty into garbage can as needed.



Cover floor drain with fine screen and empty into garbage can as needed.

## More Ways to Tackle Grease

Use environmentally safe cleaning products instead of harsh detergents or cleaners that can damage sewer lines.

If you generate large amounts of used cooking oil, recycle it. To find a recycler, check the phone book under "recyclers" or "rendering companies."

If you generate small amounts of used cooking oil, pour it into a container you can throw away. Never pour it down the drain.

Start a compost pile at your home with scraps that are not meat. Find out about composting in the TCEQ publication, "A Green Guide to Yard Care" (61-028)

# ¡Combatamos la grasa en esta cocina!

¿Por qué tengo que ayudar?

- Para evitar acumulaciones de grasa que obstruyan las tuberías de desagüe.
- Para impedir los desbordamientos del sistema de alcantarillado.
- Para ahorrar dinero que se gastaría en limpiezas costosas de derrames de alcantarillas.
- Para reducir la frecuencia con que se tienen que limpiar las trampas de grasa (servicio de alimentos).
- Para proteger la calidad de nuestra agua.



**¡HACER!**



**¡NO HACER!**



Poner el aceite y la grasa en recipientes cerrados para su recolección.



No enjuagar platos, ollas, sartenes ni planchas con agua para verter el aceite y la grasa en el desagüe. No enjuagar el aceite ni la grasa con agua caliente.



Quitar las sobras de comida de los trastes, tirarlas en bolsas de basura y desecharlas de la forma debida. Evitar usar el triturador de basura.



No verter aceite ni grasa por el desagüe.



Quitar el aceite y la grasa de los platos, ollas, sartenes y parrillas. Primero enfriar antes de tallar o limpiar el exceso de grasa.



No tirar sobras de comida por el desagüe.



Enjuagar los platos y ollas con agua fría antes de ponerlos en el lavaplatos.



Colocar en el fregadero de la cocina una canasta para depositar los desechos y vaciarla en el bote de basura conforme sea necesario.



Cubrir el desagüe del piso con un cedazo fino y tirarlo en el bote de basura conforme sea necesario.

## Más maneras de combatir la grasa

Use productos de limpieza seguros para el medio ambiente en lugar de detergentes o limpiadores abrasivos que puedan dañar las tuberías de desagüe.

Si genera grandes cantidades de aceite comestible usado, recíclalo. Si desea encontrar un centro de reciclaje, busque en el directorio telefónico bajo "reciclaje".

Si genera pequeñas cantidades de aceite comestible usado, luego viértalo en un recipiente que pueda tirar. No lo vierta nunca en el desagüe.

Empiece a hacer abono en su casa con sobras de alimentos que no contengan carne. Infórmese acerca de la técnica de abonar en la publicación de TCEQ: Una Guía Verde para el Cuidado del Jardín (GI-028).