

## **CHAPTER 6**

### **RESTORATION STRATEGIES IN THE OLD HICKORY LAKE WATERSHED**

- 6.1. Background**
- 6.2. Comments from Public Meetings**
  - 6.2.A. Year 1 Public Meeting**
  - 6.2.B. Year 3 Public Meeting**
  - 6.2.C. Year 5 Public Meeting**
- 6.3. Approaches Used**
  - 6.3.A. Point Sources**
  - 6.3.B. Nonpoint Sources**
- 6.4. Permit Reissuance Planning**
  - 6.4.A. Municipal Permits**
  - 6.4.B. Industrial Permits**

#### **6.1. BACKGROUND.**

The Watershed Water Quality Management Plan serves as a comprehensive inventory of resources and stressors in the watershed, a recommendation for control measures, and a guide for planning activities in the next five-year watershed cycle and beyond. Water quality improvement will be a result of implementing both regulatory and nonregulatory programs.

In addition to the NPDES program, some state and federal regulations, such as the TMDL and ARAP programs, address point and nonpoint issues. Construction and MS4 storm water rules (implemented under the NPDES program) have transitioned from Phase 1 to Phase 2. More information on storm water rules may be found at: <http://www.state.tn.us/environment/wpc/stormh2o/>.

This Chapter addresses point and nonpoint source approaches to water quality problems in the Old Hickory Lake Watershed.

**6.2. COMMENTS FROM PUBLIC MEETINGS.** Watershed meetings are open to the public, and most meetings were represented by citizens who live in the watershed, NPDES permittees, business people, farmers, and local river conservation interests. Locations for meetings were chosen after consulting with people who live and work in the watershed. Everyone with an interest in clean water is encouraged to be a part of the public meeting process. The times and locations of watershed meetings are posted at: <http://www.state.tn.us/environment/wpc/watershed/public.shtml>.

**6.2.A. Year 1 Public Meeting.** The first Old Hickory Lake Watershed public meeting was held October 5, 1999 as a joint meeting with the Barren River Watershed at the Volunteer State Community College Gallatin campus. The goals of the meeting were to: (1) present, and review the objectives of, the Watershed Approach, (2) introduce local, state, and federal agency and nongovernmental organization partners, (3) review water quality monitoring strategies, and (4) solicit input from the public.

#### Major Concerns/Comments

- Silt from Construction
- Rapid Development
- Low Dissolved oxygen in Old Hickory Lake, especially near Hendersonville
- Litter

**6.2.B. Year 3 Public Meeting.** The second Old Hickory Lake Watershed public meeting was held November 26, 2001 as a joint meeting with the Barren River Watershed at the Volunteer State Community College Gallatin campus. The goals of the meeting were to: (1) provide an overview of the watershed approach, (2) review the monitoring strategy, (3) summarize the most recent water quality assessment, (4) discuss the TMDL schedule and citizens' role in commenting on draft TMDLs, and (5) discuss BMPs and other nonpoint source tools available through the Tennessee Department of Agriculture 319 Program and NRCS conservation assistance programs.

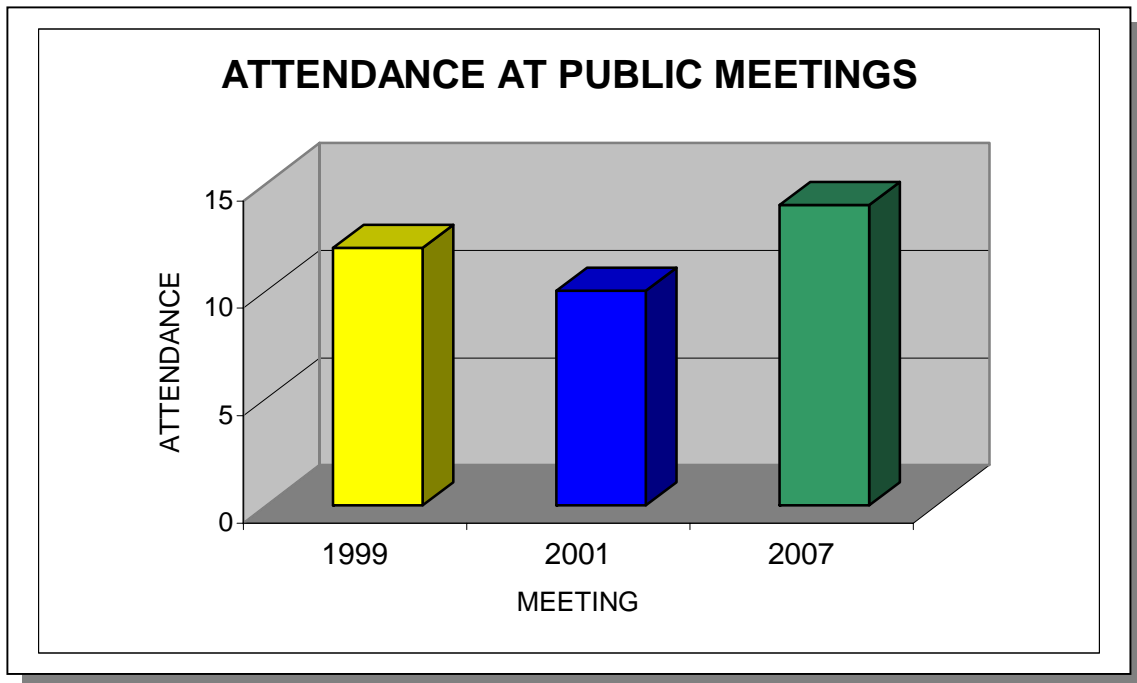
#### Major Concerns/Comments

- Hendersonville (Gallatin Road and Indian lake Road) lift stations have a bad odor and some fecal matter in stream
- The Waste Water Treatment Plant at Town Creek and East Fork Station Creek (Gallatin) bypasses after a heavy rain
- Increased silt in Old Hickory Lake and main tributaries
- Silt in Town Creek over the past 20 years
- Construction on Bartons and Bledsoe Creeks
- Municipal dischargers of "acceptable" levels of pollutants. It is not "acceptable" if there are water quality violations

**6.2.C. Year 5 Public Meeting.** The third scheduled Old Hickory Lake Watershed public meeting was held October 2, 2007 at the Electric Department in Gallatin and featured eight educational components:

- Overview of watershed approach flash video
- Benthic macroinvertebrate specimens and interpretation
- SmartBoard™ with interactive GIS maps
- “Is Your Stream Healthy” self-guided slide show
- “Why We Do Biological Sampling” self-guided slide show
- Water supply and ground water protection educational display
- Water quality and land use maps
- Old Hickory Watershed Association educational display

In addition, citizens had the opportunity to make formal comments on the draft Watershed Water Quality Management Plan.



**Figure 6-1. Attendance at the Old Hickory Lake Watershed Public Meetings.** Attendance numbers do not include TDEC personnel. Meetings in 1999 and 2001 represent Old Hickory Lake and Barren River Watersheds joint public meetings.



**Figure 6-2. At Watershed Meetings, Citizens Learn About Benthic Macroinvertebrates (Small Invertebrates that Live on the Bottom of the Streams) in Their Watershed.**



**Figure 6-3. Networking is a Valuable Outcome of Watershed Meetings.**



**Figure 6-4. Watershed Meetings Bring Citizens, Discharge Permit Holders, Universities, Local Interest Groups, NGOs, and Staff Together to Discuss the Condition of the Watershed.**



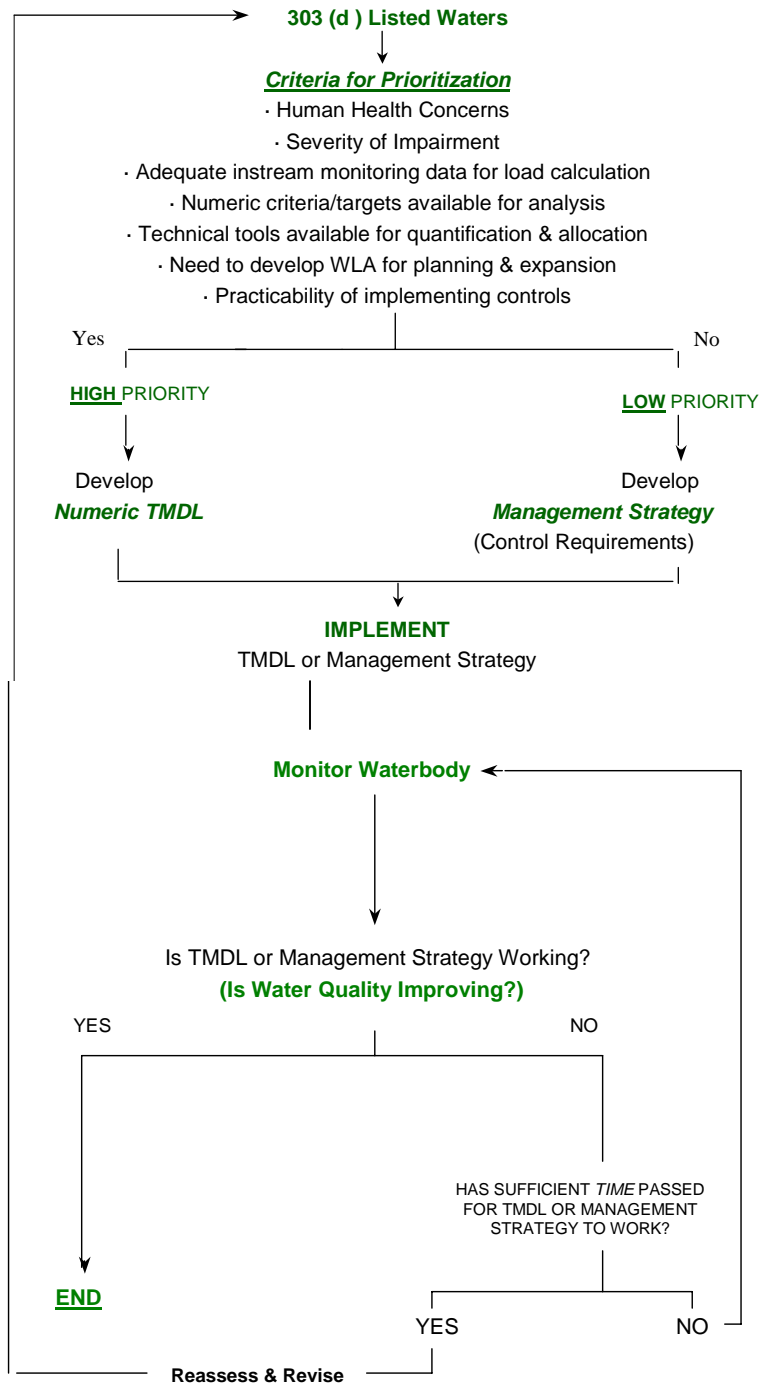
**Figure 6-5. Scotty Sorrells (Division of Water Supply) explains the complicated issues involved with groundwater as a source of drinking water.**

### **6.3. APPROACHES USED.**

**6.3.A.** Point Sources. Point source contributions to stream impairment are primarily addressed by NPDES and ARAP permit requirements and compliance with the terms of the permits. Notices of NPDES and ARAP draft permits available for public comment can be viewed at <http://www.state.tn.us/environment/wpc/wpcppo/>. Discharge monitoring data submitted by NPDES-permitted facilities may be viewed at [http://www.epa.gov/enviro/html/pcs/pcs\\_query\\_java.html](http://www.epa.gov/enviro/html/pcs/pcs_query_java.html).

The purpose of the TMDL program is to identify remaining sources of pollution and allocate pollution control needs in places where water quality goals are still not being achieved. TMDL studies are tools that allow for a better understanding of load reductions necessary for impaired streams to return to compliance with water quality standards. More information about Tennessee's TMDL program may be found at: <http://www.state.tn.us/environment/wpc/tmdl/>.

TMDLs are prioritized for development based on many factors.



**Figure 6-6. Prioritization Scheme for TMDL Development.**

### **6.3.B. Nonpoint Sources**

Common nonpoint sources of pollution in the Old Hickory Lake Watershed include urban storm water runoff, riparian vegetation removal and other habitat alterations, as well as inappropriate land development, road construction, and agricultural practices. Since nonpoint pollution exists essentially everywhere rain falls, existing point source regulations can have only a limited effect. Other measures are, therefore, necessary.

There are several state and federal regulations that address contaminants impacting waters in the Old Hickory Lake Watershed. Most of these are limited to point sources: a pipe or ditch. Often, controls of point sources are not sufficient to protect waters, so other measures are necessary. Some measures include efforts by landowners and volunteer groups and the possible implementation of new regulations. Many agencies, such as the Tennessee Department of Agriculture (TDA) and the Natural Resources Conservation Service (NRCS), offer financial assistance to landowners for corrective actions (like Best Management Practices) that may be sufficient for recovery of impacted streams. Many nonpoint problems will require an active civic involvement at the local level geared towards establishment of improved zoning guidelines, building codes, streamside buffer zones and greenways, and general landowner education.

The following text describes types of impairments, possible causes, and suggested improvement measures. Restoration efforts should not be limited to only those streams and measures suggested below.

#### **6.3.B.i. Sedimentation.**

**6.3.B.i.a. From Construction Sites.** Construction activities have historically been considered “nonpoint sources.” In the late 1980’s, EPA designated them as being subject to NPDES regulation if more than 5 acres were being disturbed. In the spring of 2003, that threshold became 1 acre. The general permit issued for such construction sites establishes conditions for maintenance of the sites to minimize pollution from storm water runoff, including requirements for installation and inspection of erosion prevention and sediment controls. Also, the general permit imposes more stringent inspection, design criteria, sediment control measures, and self-monitoring requirements on sites in the watershed of streams that are already impaired due to sedimentation or are considered high quality. Regardless of the size, no construction site is allowed to cause a condition of pollution.

Beginning in 2003, the state began requiring some municipalities to obtain coverage under a permit designed to address nonpoint runoff issues: the General NPDES Municipal Separate Storm Sewer System Permit, commonly known as MS4. This permit requires the holder to develop a comprehensive storm water management program, including the adoption of local regulatory ordinances, regular inspection of construction sites and other discharges into their storm sewers, and a variety of educational, mapping, and monitoring activities. The state audits and oversees these local MS4 programs, which in the Old Hickory Lake Watershed include Gallatin, Hendersonville, Lakewood, Lebanon, Mt. Juliet, Sumner County, and Wilson County.

The explosive housing and land development activities occurring through the Hendersonville-Gallatin corridor, and Mt. Juliet-Lebanon area, have made the development of these local programs essential, but—unfortunately—has also resulted in additional sediment runoff into many area streams. Examples of streams seriously impaired by sediment and land development in the Old Hickory Lake Watershed are Town Creek, the North and Middle Forks of Cedar Creek, Wilson Creek, and Sinking Creek.

Construction sites within a sediment-impaired watershed may also have higher priority for inspections by WPC and MS4 personnel, and are likely to have enforcement actions for failure to control erosion.

**6.3.B.i.b. From Channel and/or Bank Erosion.** Many streams within the Old Hickory Lake Watershed suffer from varying degrees of streambank erosion. When stream channels are altered, banks can become unstable and highly erodible. Heavy livestock traffic can also severely disturb banks. When large tracts of land are cleared of vegetation (especially trees) and replaced with impermeable surfaces like asphalt and rooftops, the large increases in the velocities and volumes of storm water runoff can also overwhelm channel and bank integrity because destabilized banks contribute to sediment loadings and to the loss of beneficial riparian vegetation.

Some inappropriate agricultural practices and overzealous land development have impacted the hydrology and morphology of many stream channels in this watershed, although none severely enough to cause a loss of use impairment at this time.

Several agencies such as the NRCS and TDA, as well as citizen watershed groups, are working to stabilize portions of stream banks using bioengineering and other techniques. Many of the affected streams, especially in the more rural areas of southeastern Wilson County and portions of Trousdale and Smith Counties, could benefit from these types of projects, as well as tributaries to Old Hickory Lake in Smith County.

Some methods or controls that might be necessary to address common problems are:

*Voluntary activities*

- Re-establish bank vegetation.
- Establish off-channel watering areas for livestock by moving watering troughs and feeders back from stream banks, or at least limit cattle access to restricted areas with armored bank entry (Neal Branch, Big Caney Branch, Round Lick Creek).

*Additional strategies*

- Better community planning and MS4 oversight for the impacts of development on small streams, especially development in growing areas (Town Creek in Gallatin, Cedar Creek, Sinking and Bartons Creek in Lebanon, and urban growth areas in Carthage).
- Require post-construction run-off rates to be no greater than pre-construction rates in order to avoid in-channel erosion (all MS4 areas should establish these ordinances).
- Encourage or require strong local buffer ordinances.
- Implement additional restrictions on logging in streamside management zones.
- Limit clearing of stream and ditch banks or other alterations (Little Goose Creek).  
*Note: Permits may be required for any work along streams.*
- Limit road and utility crossings of streams through better site design.
- Restrict the use of off-highway vehicles on stream banks and in stream channels.

**6.3.B.i.c.** From Agriculture and Silviculture. The Water Quality Control Act exempts normal agricultural and silvicultural practices that do not result in a point source discharge. Nevertheless, efforts are being made to address impacts due to these exempted practices.

The Master Logger Program has been in place for several years to train loggers how to install Best Management Practices that lessen the impact of logging activities on streams. Recently, laws and regulations established the authority for the Commissioners of the Departments of Environment and Conservation and of Agriculture to stop the logging operation that, upon failing to install these BMPs, is causing impacts to streams.

Since the Dust Bowl era, the agriculture community has strived to protect the soil from wind and water erosion. Agencies such as the Natural Resources Conservation Service (NRCS), the University of Tennessee Agricultural Extension Service, and the Tennessee Department of Agriculture are striving to identify better ways of farming, to educate the farmers, and to install the methods that address the sources of some of the impacts due to agriculture. Cost sharing is available for many of these measures.

Many sediment problems traceable to agricultural practices also involve riparian loss due to close row cropping or pasture clearing for grazing. Lack of vegetated buffers along stream corridors is a problem throughout the Old Hickory Lake Watershed, due both to agricultural and residential/commercial land uses. Nearly all impacted streams would benefit from the establishment of more extensive riparian buffer zones, including Sinking Creek, Spring Creek, and Round Lick Creek, and tributaries to Old Hickory Lake).

### 6.3.B.ii. Pathogen Contamination.

Possible sources of pathogens in streams are inadequate or failing septic tank systems, overflows or breaks in public sewer collection systems, poorly disinfected discharges from sewage treatment plants, and fecal matter from pets, livestock and wildlife washed into streams and storm drains. When fecal bacterial levels are shown to be consistently elevated to dangerously high levels, especially in streams with high potential for recreational uses, the division must post signage along the creek warning the public to avoid contact. Once pathogen sources have been identified and corrected, and pathogen level reductions are documented, the posting is lifted. Sinking Creek in Lebanon is an example of a stream that had to be temporarily posted due to chronic sewage overflows.

Permits issued by the Division of Water Pollution Control regulate discharges from point sources and require adequate control for these sources. Individual homes are required to have subsurface, on-site treatment (i.e., septic tank and field lines) if public sewers are not available. The Division of Ground Water Protection within the Cookeville and Nashville Environmental Field Offices and delegated county health departments regulate septic tanks and field lines. In addition to discharges to surface waters, businesses may employ subsurface treatment for domestic wastewater or surface discharge of treated process wastewater. The Division of Water Pollution Control regulates surface water discharges and near-surface land application of treated wastewater.

Currently, eight stream systems in the Old Hickory Lake Watershed are known to have excessive pathogen contamination. Round Lick Creek, Sinking Creek, and Bartons Creek are impacted by urban areas, with contributions of bacterial contamination coming from storm water runoff, sewage collection system leaks, and treatment plants operation failures. Many streams in agricultural watersheds show elevated bacterial levels including Spring Creek, Johnson Branch, Neal Branch, Beech Log Creek, and Little Goose Creek.

Some measures that may be necessary to control pathogens are:

#### *Voluntary Activities*

- Clean up pet waste.
- Repair failed septic systems.
- Establish off-channel watering of livestock.
- Limit livestock access to streams and restrict stream crossings.
- Improve and educate on the proper management of animal waste from confined feeding operations.

#### *Enforcement strategies*

- Strengthen enforcement of regulations governing on-site wastewater treatment.
- Determine timely and appropriate enforcement for non-complying sewage treatment plants, large and small, and their collection systems.
- Identify Concentrated Animal Feeding Operations not currently permitted.

### *Additional strategies*

- Develop intensive planning in areas where sewer is not available and treatment by subsurface disposal is not an option due to poor soils, floodplains, or high water tables.
- Develop and enforce leash laws and controls on pet fecal material.
- Greater efforts by sewer utilities to identify leaking lines or overflowing manholes.
- Review the pathogen limits in discharge permits to determine the need for further restriction.

### **6.3.B.iii. Excessive Nutrients and/or Dissolved Oxygen Depletion.**

These two impacts are usually listed together because high nutrients often contribute to low dissolved oxygen within a stream. Since nutrients often have the same source as pathogens, the measures previously listed can also address many of these problems. Elevated nutrient loadings are also often associated with urban runoff from impervious surfaces, from fertilized lawns and croplands, and faulty sewage disposal processes. Nutrients are often transported with sediment, so many of the measures designed to reduce sediment runoff will also aid in preventing organic enrichment of streams and lakes.

Dissolved oxygen depletion can also be due to the discharge of other biodegradable materials. These are limited in NPDES permits as ammonia and as either Biological Oxygen Demand (BOD) or Carbonaceous Oxygen Demand (CBOD).

Some sources of nutrients can be addressed by:

### *Voluntary activities*

- Educate homeowners and lawn care companies in the proper application of fertilizers.
- Encourage landowners, developers, and builders to leave stream buffer zones. Streamside vegetation can filter out many nutrients and other pollutants before they reach the stream. These riparian buffers are also vital along livestock pastures. Nearly every stream in the Old Hickory Lake Watershed within agricultural areas would benefit from additional riparian buffers.
- Use grassed drainage ways that can remove fertilizer before it enters streams.
- Use native plants for landscaping since they don't require as much fertilizer and water.
- Develop better overall storm water management in urban and residential areas, including retrofitting existing commercial lots, homes, and roadways with storm water quality and quantity BMPs. This would especially improve the urban streams and lakes currently polluted by excessive nutrient inputs.

Physical changes to streams can prevent them from providing enough oxygen to biodegrade the materials that are naturally present. A few additional actions can address this problem:

- Maintain shade over a stream. Cooler water can hold more oxygen and retard the growth of algae. As a general rule, all stream channels suffer from some canopy removal. An intact riparian zone also acts as a buffer to filter out nutrient loads before they enter the water.
- Discourage impoundments. Ponds and lakes do not aerate water. *Note: Permits may be required for any work on a stream, including impoundments.*

#### *Regulatory strategies.*

- Strengthen enforcement of regulations governing on-site wastewater treatment.
- Impose more stringent permit limits for nutrients discharged from sewage treatment plants (Gordonsville STP and Carthage STP).
- Impose timely and appropriate enforcement for noncomplying sewage treatment plants, large and small, and their collection systems (Sinking Creek, Bartons Creek).
- Encourage TDA- and NRCS-sponsored educational programs targeted to agricultural landowners and aimed at better nutrient management, as well as information on technology-based application tools.
- Identify Concentrated Animal Feeding Operations (CAFO) not currently permitted.
- Identify any Animal Feeding Operations (AFO) that contribute to stream impacts and declare them as a CAFO requiring a permit.
- Support and train local MS4 programs within municipalities to deal with storm water pollution issues and require additional storm runoff quality control measures.
- Require nutrient management plans for all golf courses.

#### **6.3.B.iv. Toxins and Other Materials.**

Although some toxic substances are discharged directly into waters of the state from a point source, much of these materials are washed in during rainfalls from an upland location, or via improper waste disposal that contaminates groundwater. In the Old Hickory Lake Watershed, a relatively small number of streams are damaged by storm water runoff from industrial facilities or urban areas. More stringent inspection and regulation of permitted industrial facilities, and local storm water quality initiatives and regulations, could help reduce the amount of contaminated runoff reaching state waters. Examples of streams that could benefit from these measures include the many small, urbanized tributaries within the urban centers of Hendersonville, Gallatin, Mt. Juliet, and Lebanon, as well as the Cumberland River which receives a large amount of storm water runoff from road surfaces, parking lots, and factories in Carthage.

Individuals may also cause contaminants to enter streams by activities that may be attributed to apathy or the lack of knowledge or civility. Litter in roadside ditches, garbage bags tossed over bridge railings, paint brushes washed off over storm drains,

and oil drained into ditches are all blatant examples of pollution in streams. To lessen the future impact to the waters of the state, each community can strive to raise its awareness for better conservation practices and prosecution of violators.

Some of these problems can be addressed by:

*Voluntary activities*

- Provide public education.
- Paint warnings on storm drains that connect to a stream.
- Sponsor community clean-up days.
- Landscape public areas.
- Encourage public surveillance of their streams and reporting of dumping activities to their local authorities.

*Enforcement strategies*

- Continue to prohibit illicit discharges to storm drains and to search them out.
- Strengthen litter law enforcement at the local level.

*Regulatory Strategies*

- Increase the restrictions on storm water runoff from industrial facilities.

**6.3.B.v. Habitat Alteration.**

The alteration of the habitat within a stream can have severe consequences. Whether it is the removal of the vegetation providing a root system network for holding soil particles together, the release of sediment, which increases the bed load and covers benthic life and fish eggs, the removal of gravel bars, “cleaning out” creeks with heavy equipment, or the impounding of the water in ponds and lakes, many alterations impair the use of the stream for designated uses. Habitat alteration also includes the draining or filling of wetlands.

Some notable streams in the Old Hickory Lake Watershed that have suffered significant harm from alterations include Town Creek, Drakes Creek, Cedar Creek, North Creek, Spencer Creek, Sinking Creek, Little Goose Creek, and Rankin Branch.

Although large-scale public projects such as highway construction can alter significant portions of streams, individual landowners and developers are responsible for the vast majority of stream alterations.

Some measures that can help address these problems are:

*Voluntary activities*

- Sponsor litter pickup days to remove litter that might enter streams
- Organize stream cleanups removing trash, limbs and debris before they cause blockage.
- Avoid use of heavy equipment to “clean out” streams. Instream work other than debris removal will require an Aquatic Resource Alteration Permit (ARAP).

- Plant native vegetation along streams to stabilize banks and provide habitat.
- Encourage developers to avoid extensive use of culverts in streams.

#### *Current regulations*

- Restrict modification of streams by means such as culverting, lining, or impounding.
- Require mitigation for impacts to streams and wetlands when modifications are allowed.
- Require permitting of all rock harvesting operations.

#### *Additional Enforcement*

- Increased enforcement may be needed when violations of current regulations occur, especially for illicit gravel dredging.

#### **6.3.B.vi. Storm Water.**

MS4 discharges are regulated through the Phase I or II NPDES-MS4 permits. These permits require the development and implementation of a Storm Water Management Program (SWMP) that will reduce the discharge of pollutants to the maximum extent practicable and not cause or contribute to violations of state water quality standards. The NPDES General Permit for Discharges from Phase I and II MSF facilities can be found at:

<http://www.state.tn.us/environment/wpc/stormh2o/>.

For discharges into impaired waters, the MS4 General Permit requires that SWMPs include a section describing how discharges of pollutants of concern will be controlled to ensure that they do not cause or contribute to instream exceedances of water quality standards. Specific measurements and BMPs to control pollutants of concern must also be identified. In addition, MS4s must implement the proposed waste load allocation provisions of an applicable TMDL (i.e., siltation/habitat alteration, pathogens) and describe methods to evaluate whether storm water controls are adequate to meet the waste load allocation. In order to evaluate SWMP effectiveness and demonstrate compliance with specified waste load allocations, MS4s must develop and implement appropriate monitoring programs.

Some storm sewer discharges are not regulated through the NPDES MS4 program. Strategies to address runoff from in these urban areas include adapting Tennessee Growth Readiness Program (TGRP) educational materials to the watershed. TGRP is a statewide program built on existing best management practices from the Nonpoint Education for Municipal Officials program and the Center for Watershed Protection. TGRP developed the program to provide communities and counties with tools to design economically viable and watershed friendly developments. The program assists community leaders in reviewing current land use practices, determining impacts of imperviousness on watershed functions, and allowing them to understand the economics of good watershed management and site design.

#### **6.4. PERMIT REISSUANCE PLANNING**

Under the *Tennessee Water Quality Control Act*, municipal, industrial and other dischargers of wastewater must obtain a permit from the Division. Approximately 1,700 permits have been issued in Tennessee under the federally delegated National Pollutant Discharge Elimination System (NPDES). These permits establish pollution control and monitoring requirements based on protection of designated uses through implementation of water quality standards and other applicable state and federal rules.

The following three sections provide specific information on municipal, industrial, and water treatment plant active permit holders in the Old Hickory Lake Watershed. Compliance information was obtained from EPA's Permit Compliance System (PCS). All data was queried for a five-year period between August 1, 2002 and July 31, 2007. PCS can be accessed publicly through EPA's Envirofacts website. This website provides access to several EPA databases to provide the public with information about environmental activities that may affect air, water, and land anywhere in the United States:

[http://www.epa.gov/enviro/html/ef\\_overview.html](http://www.epa.gov/enviro/html/ef_overview.html)

Stream Segment information, including designated uses and impairments, are described in detail in Chapter 3, *Water Quality Assessment of the Old Hickory Lake Watershed*.

**6.4.A. Municipal Permits**

**TN0022993 Carthage STP**

**Discharger rating:** Minor  
**City:** Carthage  
**County:** Smith  
**EFO Name:** Cookeville  
**Issuance Date:** 4/1/04  
**Expiration Date:** 2/27/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 308  
**HUC-12:** 051302010101  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Activated sludge

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-1. Stream Segment Information for Carthage STP.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
BOD % removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	3/Week	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	3/Week	Composite	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year	209	lb/day	DMax Load	3/Week	Composite	Effluent
TSS	All Year	30	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS	All Year	156	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-2. Permit Limits for Carthage STP.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

- 6 Overflows
- 1 Settleable Solids
- 1 Total Chlorine
- 1 Total Suspended Solids
- 1 Biological Oxygen Demand
- 1 Suspended Solids % Removal

**Comments:**

Carthage STP is a relatively old STP. The plant sits adjacent to the Cumberland River. Inflow and the Infiltration (I/I) of rainwater is an issue. I/I causes operational problems and permit violations. There is very little industry on the plant. Odor complaints are sometimes submitted to the STP operators due to the close proximity to downtown Carthage. The City states that they are going to step up the maintenance on the sewer collection system.

4/12/07 Compliance Review Meeting: Plant was in compliance. Bench sheets need some refinement. Due to growth in the area collection system maintenance should be a priority. Increased flows will affect the ability of this aging plant to treat the city's wastewater (this is demonstrated by the inflow of rain water during storm events).

**TN0067733 Gordonsville STP**

**Discharger rating:** Minor  
**City:** South Carthage  
**County:** Smith  
**EFO Name:** Cookeville  
**Issuance Date:** 7/1/06  
**Expiration Date:** 4/30/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 308.3  
**HUC-12:** 051302010101  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Activated sludge

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-3. Stream Segment Information for Gordonsville STP.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
BOD % removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
BOD5	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
BOD5	All Year	81	lb/day	MAvg Load	3/Week	Composite	Effluent
BOD5	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
BOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
BOD5	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
BOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
BOD5	All Year	108	lb/day	WAvg Load	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		Occurrences/Month	MAvg Load	Continuous	Visual	Wet Weather
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	487	#/100mL	DMax Conc	3/Week	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	3/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year	81	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	108	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-4 Permit Limits for Gordonsville STP.**

***Compliance History:***

The following numbers of exceedences were noted in PCS:

- 1 Overflow
- 1 Bypass
- 1 Biological Oxygen Demand
- 1 Total Suspended Solids

***Comments:***

This plant serves a large amount of industry and restaurants. The plant is in close proximity to the Cumberland River (across the river from the Carthage STP). It receives wastewater from areas as far away as Interstate 40. The plant is relatively new and works well. Some problems noted with composite sampling devices. Road cut near by (Hwy 70) presents a falling rock hazard.

**TN0020141 Gallatin STP**

**Discharger rating:** Major  
**City:** Gallatin  
**County:** Sumner  
**EFO Name:** Nashville  
**Issuance Date:** 6/1/06  
**Expiration Date:** 4/30/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 237.9  
**HUC-12:** 051302010401  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Waste Activated Sludge to aerobic digester to land application contractor

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-5. Stream Segment Information for Gallatin STP.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
48hr LC50: Ceriodaphnia Dubia	All Year	1.9	Percent	DMin Conc	Semi-annually	Grab	Effluent
48hr LC50: Fathead Minnows	All Year	1.9	Percent	DMin Conc	Semi-annually	Grab	Effluent
BOD % removal	All Year	40	Percent	DMin % Removal	Weekdays	Calculated	% Removal
BOD % removal	All Year	85	Percent	MAvg % Removal	Weekdays	Calculated	% Removal
BOD5	All Year	45	mg/L	DMax Conc	Weekdays	Composite	Effluent
BOD5	All Year		mg/L	DMax Conc	Weekdays	Composite	Influent (Raw Sewage)
BOD5	All Year	1835	lb/day	WAvg Load	Weekdays	Composite	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	Weekdays	Composite	Effluent
BOD5	All Year	1376	lb/day	MAvg Load	Weekdays	Composite	Effluent
BOD5	All Year		mg/L	MAvg Conc	Weekdays	Composite	Influent (Raw Sewage)
BOD5	All Year	40	mg/L	WAvg Conc	Weekdays	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	487	#/100mL	DMax Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekdays	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekdays	Composite	Effluent
TSS	All Year	1376	lb/day	MAvg Load	Weekdays	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	Weekdays	Composite	Influent (Raw Sewage)
TSS	All Year	1835	lb/day	WAvg Load	Weekdays	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	Weekdays	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	Weekdays	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	MAvg Conc	Weekdays	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	Weekdays	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	Weekdays	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-6. Permit Limits for Gallatin STP.**

***Compliance History:***

The following numbers of exceedences were noted in PCS:

- 147 Overflows
- 9 Bypasses
- 11 Total Suspended Solids
- 7 Settleable Solids
- 7 Biological Oxygen Demand
- 2 Escherichia coli

***Enforcement:***

Commissioner's Order 05-0369: Multiple NPDES violations including 32 unpermitted overflows and/or bypasses. Order requires corrective action on collection system and moratorium on new connections.

***Comments:***

3/17/07 Performance Audit: Some records not on file at STP. Problems with land application at Dickey Lassiter site, hauler/site owner not properly land applying biosolids, no soil analysis conducted, not applying at agronomic rates, 8,000 gallon loads discharged to one point, not sending reports to EPA or WPC, not keeping records of application rates, biosolids holding pond not used for designed/approved purpose, and not removing biosolids from holding pond to land apply.

**TN0030899 Hartsville STP**

**Discharger rating:** Minor  
**City:** Hartsville  
**County:** Trousdale  
**EFO Name:** Nashville  
**Issuance Date:** 2/1/07  
**Expiration Date:** 4/29/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 278.6  
**HUC-12:** 051302010104  
**Effluent Summary:** treated domestic wastewater from Outfall 001  
**Treatment system:** Activated sludge plant with chlorination and dechlorination;  
 Waste Activated Sludge to aerobic digester to drybed to landfill.

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-7. Stream Segment Information for Hartsville STP.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	Percent Removal
BOD % removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	Percent Removal
BOD5	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
BOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
BOD5	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
BOD5	All Year	188	lb/day	MAvg Load	3/Week	Composite	Effluent
BOD5	All Year	250	lb/day	WAvg Load	3/Week	Composite	Effluent
BOD5	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
BOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	3/Week	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	3/Week	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Settleable Solids	All Year	1	mL/L	DMax Conc	3/Week	Composite	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year	250	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS	All Year	188	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	Percent Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	Percent Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-8. Permit Limits for Hartsville STP.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

5 Biological Oxygen Demand  
4 Total Suspended Solids  
1 pH  
1 Suspended Solids % Removal

**Enforcement:**

6/30/04 Notice of Violation: Failure to collect representative samples and follow EPA approved methods.

4/7/05 Notice of Violation; Dry weather manhole overflow near the STP due to pumpage from the STP.

3/5/05 Notice of Violation: Problems with E coli analysis

**Comments:**

6/27/07 Technical Assistance and file review: In compliance

**TN0059137 Boxwell Reservation, Boys Scouts of America**

**Discharger rating:** Minor  
**City:** Lebanon  
**County:** Wilson  
**EFO Name:** Nashville  
**Issuance Date:** 11/1/04  
**Expiration Date:** 9/30/09  
**Receiving Stream(s):** Outfall 001 to Spencer Creek Embayment at mile 1.0 and  
 Outfall 002 to the Old Hickory Reservoir at mile 237.5  
**HUC-12:** 051302010401  
**Effluent Summary:** Treated domestic wastewater from Outfalls 001 and 002.  
**Treatment system:** Extended aeration for discharge 001 and septic tank,  
 recirculating sand filter and UV disinfection for discharge  
 002.

<b>Segment</b>	TN05130201001T_1400
<b>Name</b>	Spencer Creek
<b>Size</b>	11.6
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-9. Stream Segment Information for Boxwell Reservation, Boys Scouts of America at Spencer Creek.*

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-10. Stream Segment Information for Boxwell Reservation, Boys Scouts of America at Old Hickory Reservoir.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Ari Mean	Monthly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-11. Permit Limits for Outfall 001 and 002 for Boxwell Reservation, Boys Scouts of America.**

**Comments:**

None

**TN0056006 Carroll-Oakland Elementary School**

**Discharger rating:** Minor  
**City:** Lebanon  
**County:** Wilson  
**EFO Name:** Nashville  
**Issuance Date:** 7/1/04  
**Expiration Date:** 5/28/09  
**Receiving Stream(s):** Spring Creek at mile 5.1  
**HUC-12:** 051302010106  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended aeration

<b>Segment</b>	TN05130201013_2000
<b>Name</b>	Spring Creek
<b>Size</b>	10
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	-
<b>Uses</b>	Recreation (Supporting), Irrigation (Supporting), Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-12. Stream Segment Information for Carroll-Oakland Elementary School.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	4	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	2	mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	5	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekly	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	9	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-13. Permit Limits for Carroll-Oakland Elementary School.**

**Enforcement:**

10/24/05 Notice of Violation for reasons stated below.

**Comments:**

10/24/05 Compliance Evaluation Inspection: Poor operation & maintenance, treatment units severely corroded & grills unsafe, repairs neglected, inadequate sludge removal & improper disposal. Not running effluent analysis at required frequency, inadequate self-monitoring records. Monthly Operating Reports show effluent violations for CBOD, ammonia, total chlorine residual, dissolved oxygen, fecal coliform & E. coli.

**TN0060968 Erwin Marine Group**

**Discharger rating:** Minor  
**City:** Gallatin  
**County:** Sumner  
**EFO Name:** Nashville  
**Issuance Date:** 7/1/04  
**Expiration Date:** 5/28/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 240.2  
**HUC-12:** 051302010401  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended Aeration

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-14. Stream Segment Information for Erwin Marine Group.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Monthly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-15. Permit Limits for Erwin Marine Group.**

**Comments:**  
 None

**TN0040622 Hendersonville Utility District-Saundersville STP**

**Discharger rating:** Minor  
**City:** Hendersonville  
**County:** Sumner  
**EFO Name:** Nashville  
**Issuance Date:** 8/1/04  
**Expiration Date:** 6/30/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 313.5  
**HUC-12:** 051302010405  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended Aeration

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-16. Stream Segment Information for Hendersonville Utility District-Saundersville STP.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	40	Percent	DMin % Removal	Weekly	Calculated	% Removal
BOD % removal	All Year	85	Percent	MAvg % Removal	Weekly	Calculated	% Removal
BOD5	All Year	45	mg/L	DMax Conc	Weekly	Grab	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	Weekly	Grab	Effluent
BOD5	All Year	25	lb/day	MAvg Load	Weekly	Grab	Effluent
BOD5	All Year	33	lb/day	WAvg Load	Weekly	Grab	Effluent
BOD5	All Year	40	mg/L	WAvg Conc	Weekly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Composite	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Composite	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekly	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	33	lb/day	WAvg Load	Weekly	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Weekly	Grab	Effluent
TSS	All Year	25	lb/day	MAvg Load	Weekly	Grab	Effluent
TSS	All Year	40	mg/L	WAvg Conc	Weekly	Grab	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	Weekly	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	Weekly	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-17. Permit Limits for Hendersonville Utility District-Saundersville STP.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

12 Overflows  
19 Bypasses  
14 Settleable Solids  
20 Total Chlorine  
11 Suspended Solids % Removal  
8 Biological Oxygen Demand  
12 Total Suspended Solids  
2 Escherichia coli

**Enforcement:**

3/10/05 Notice of Violation for deficiencies discovered during 1/26/05 Performance Audit Inspection with sampling, analytical, data calculating and reporting procedures. The HUD's self-monitoring program had been compromised.

**Comments:**

1/26/05 Performance Audit Inspection: WWTP performs ok with normal influent flows. Monthly Operating Reports (MORs) indicate wet weather peak flows have been increasing which have tended to wash solids out of the WWTP causing permit violations; collection system appears to have excessive infiltration/inflow levels. This repeats the findings of the 2002 inspection. Numerous laboratory deficiencies.

12/13/05 Compliance Sampling Inspection: There are plans to retire this treatment plant and replace it with a pump station in the near future. There is a problem with inflow and infiltration (I/I). The collection system is undergoing rehabilitation work. There have been significant improvements made in the areas of sample collection, analyses and reporting since previous performance audit inspection in January 2005.

**TN0024716 Lakeview Elementary School**

**Discharger rating:** Minor  
**City:** Mt. Juliet  
**County:** Wilson  
**EFO Name:** Nashville  
**Issuance Date:** 7/1/04  
**Expiration Date:** 5/28/09  
**Receiving Stream(s):** Wet weather conveyance at mile 0.4 to Smith Branch at mile 1.1 to the Cumberland River at mile 224.8  
**HUC-12:** 051302010405  
**Effluent Summary:** treated domestic wastewater from Outfall 001  
**Treatment system:** Extended aeration.

<b>Segment</b>	TN05130201001T_0999
<b>Name</b>	Misc Tribs to Old Hickory Reservoir
<b>Size</b>	87.6
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-18. Stream Segment Information for Lakeview Elementary School.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	4	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	2	mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	5	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekly	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-19. Permit Limits for Lakeview Elementary School.**

**Enforcement:**

10/25/05 Notice of Violation for reasons listed below.

**Comments:**

10/25/05 Compliance Evaluation Inspection: Poor operation & maintenance, severely corroded and deteriorating treatment units, unsafe conditions, and improper sludge disposal. Not running analysis at required frequency, inadequate self-monitoring records. Violations of effluent limits for CBOD, suspended solids, ammonia, total chlorine residual, & dissolved oxygen.

**TN0028754 Lebanon STP**

**Discharger rating:** Major  
**City:** Lebanon  
**County:** Wilson  
**EFO Name:** Nashville  
**Issuance Date:** 3/1/06  
**Expiration Date:** 1/31/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 252.2  
**HUC-12:** 051302010107  
**Effluent Summary:** Treated municipal wastewater from Outfall 001  
**Treatment system:** Waste Activated Sludge to holding tanks to land application

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-20. Stream Segment Information for Lebanon STP.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
CBOD % Removal	All Year	40	Percent	DMin % Removal	Weekdays	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	Weekdays	Calculated	% Removal
CBOD5	All Year	40	mg/L	DMax Conc	Weekdays	Composite	Effluent
CBOD5	All Year	2189	lb/day	WAvg Load	Weekdays	Composite	Effluent
CBOD5	All Year	25	mg/L	MAvg Conc	Weekdays	Composite	Effluent
CBOD5	All Year	35	mg/L	WAvg Conc	Weekdays	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	Weekdays	Composite	Influent (Raw Sewage)
CBOD5	All Year		mg/L	DMax Conc	Weekdays	Composite	Influent (Raw Sewage)
CBOD5	All Year	1564	lb/day	MAvg Load	Weekdays	Composite	Effluent
D.O.	All Year	3	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	487	#/100mL	DMax Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekdays	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
IC25 7day Ceriodaphnia dubia	All Year	0.9	Percent	DMin Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	0.9	Percent	DMin Conc	Quarterly	Composite	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekdays	Composite	Effluent
TSS	All Year	2502	lb/day	WAvg Load	Weekdays	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	Weekdays	Composite	Effluent
TSS	All Year	1877	lb/day	MAvg Load	Weekdays	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	Weekdays	Composite	Influent (Raw Sewage)
TSS	All Year		mg/L	MAvg Conc	Weekdays	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	MAvg Conc	Weekdays	Composite	Effluent
TSS % Removal	All Year	40	Percent	DMin % Removal	Weekdays	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	Weekdays	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekdays	Grab	Effluent

**Table 6-21. Permit Limits for Lebanon STP.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

324 Overflows  
4 Bypasses  
13 Total Suspended Solids  
17 Suspended Solids % Removal  
9 Settleable Solids  
3 Fecal coliforms  
3 Total Chlorine  
4 Carbonaceous Oxygen Demand  
1 Carbonaceous Biological Oxygen Demand  
1 Escherichia coli

**Enforcement:**

Commissioner's Order 04-0146 for chronic violations of NPDES permit limits from May 2002 thru May 2004: suspended solids, settleable solids, fecal, chlorine, CBOD, DO, Whole Effluent Toxicity, bypasses, and 160 collection system overflows.

**Comments:**

City is upgrading the STP.

12/22/05 Pretreatment Compliance Inspection: In compliance.

12/02/06 Compliance Evaluation Inspection: The facility's overall compliance status is satisfactory.

- Mr. Billy Dranes, treatment plant manager, reported no major operational or reporting problems at the facility.
- There were no apparent operational problems with the influent screening, grit removal unit, and aeration units.
- Two of the clarification units have been coated to prevent algae and slime buildup on the walls. The third unit is scheduled for coating,
- The plant growth previously observed in the chlorine contact chamber walls had been removed, but it had been replaced with additional plant growth. The ongoing problems with plant growth in the chlorine contact chamber walls is scheduled be addressed with the enlargement of the chamber.
- There is a designated manhole at the treatment plant for the discharge of septic tank waste for treatment in the main plant. Marine holding tank waste is discharged to the plant sludge-thickening tank for treatment as part of the sludge pasteurization operation.

**TN0058220 TDEC Bledsoe Creek State Park**

**Discharger rating:** Minor  
**City:** Gallatin  
**County:** Sumner  
**EFO Name:** Nashville  
**Issuance Date:** 4/1/04  
**Expiration Date:** 12/31/09  
**Receiving Stream(s):** Bledsoe Creek Embayment at mile 2.3 to Old Hickory Reservoir at mile 248.4  
**HUC-12:** 51302010502  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Recirculating sand filter and UV disinfection

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-22. Stream Segment Information for TDEC Bledsoe Creek State Park.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	All Year	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	5	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	487	#/100mL	MAvg Ari Mean	2/Month	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-23. Permit Limits for TDEC Bledsoe Creek State Park.**

**Enforcement:**

Notice of Violation on 6/9/04 for late application.

**Comments:**

2/05/07 Compliance Evaluation Inspection: Contract operator said the controls for the recirculation pumps have never operated properly because the controls were based on the assumption that this Recirculating Sand Filter would always have a continuous influent which this WWTP has never had. A licensed electrician installed float switches and timers in order to impose some control over the system and to prevent it from pumping itself dry.

**TN0021491 USACOE Old Hickory Dam, Left Bank**

**Discharger rating:** Minor  
**City:** Old Hickory  
**County:** Davidson  
**EFO Name:** Nashville  
**Issuance Date:** 10/1/04  
**Expiration Date:** 8/31/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 216.2  
**HUC-12:** 051302010407  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended aeration

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-24. Stream Segment Information for USACOE Old Hickory Dam, Left Bank.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
BOD5	All Year	30	mg/L	WAvg Conc	Monthly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	2/Week	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Monthly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	30	mg/L	WAvg Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-25. Permit Limits for USACOE Old Hickory Dam, Left Bank.**

**Comments:**

2/2/07 Compliance Evaluation Inspection: Outfall sign needs current telephone number for DWPC/Nashville EFO. WWTP collection system has very high wet weather inflow and infiltration (I/I) but no reported permit violations. WWTP receives influent flow from USACOE office building and maintenance building, and from two public restrooms which are closed during the winter months.

**TN0021512 USACOE, Old Hickory Lake, Shutes Branch Recreation Area**

**Discharger rating:** Minor  
**City:** Mt. Juliet  
**County:** Wilson  
**EFO Name:** Nashville  
**Issuance Date:** 10/1/04  
**Expiration Date:** 8/31/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 223.5  
**HUC-12:** 051302010405  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended aeration

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-26. Stream Segment Information for USACOE, Old Hickory Lake, Shutes Branch Recreation Area.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Monthly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-27. Permit Limits for USACOE, Old Hickory Lake, Shutes Branch Recreation Area.**

**Comments:**

None

**TN0021504 USACOE, Old Hickory Power House, Rockland Recreation Area**

**Discharger rating:** Minor  
**City:** Hendersonville  
**County:** Sumner  
**EFO Name:** Nashville  
**Issuance Date:** 10/1/04  
**Expiration Date:** 8/31/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 216.4  
**HUC-12:** 051302010405  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended aeration

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-28. Stream Segment Information for USACOE, Old Hickory Power House, Rockland Recreation Area.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Monthly	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-29. Permit Limits for USACOE, Old Hickory Power House, Rockland Recreation Area.**

**Comments:**

10/24/06 Compliance Evaluation Inspection: In compliance

Notes from inspection:

- The wastewater treatment plant appeared to be well-operated and maintained. Mr. Winfrey explained that flow is received from the USA-COE Visitor's Center, the Maintenance Building, the Power House restrooms, and the Recreation Area restrooms (in season). All required records were being kept and retained as required by the permit. The grounds were secured by a perimeter fence with locked gate.
- The receiving stream (Cumberland River) showed no visual adverse impact from the treated effluent. The outfall pipe was posted with an identification sign as required by the permit. However, the telephone number posted for the Nashville Environmental Field Office is obsolete; the correct number that should be displayed per page 14 of the permit is: 1-888-891-8332.
- Review of the Monthly Operation Reports (MOR/DMR) received from January 2003 through September 2006 indicated excellent compliance with the permit effluent limits. This is commendable performance.

**TN0025488 Watertown STP**

**Discharger rating:** Minor  
**City:** Watertown  
**County:** Wilson  
**EFO Name:** Nashville  
**Issuance Date:** 11/1/06  
**Expiration Date:** 8/30/09  
**Receiving Stream(s):** Round Lick at mile 19.2  
**HUC-12:** 051302010201  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended aeration with ultraviolet disinfecting

<b>Segment</b>	TN05130201021_2000
<b>Name</b>	Round Lick Creek
<b>Size</b>	8.7
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	2004
<b>Designated Uses</b>	Recreation (Non-Supporting), Irrigation (Supporting), Fish and Aquatic Life (Non-Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	Alteration in stream-side or littoral vegetative covers, Escherichia coli, Sedimentation/Siltation, Nitrates, Oxygen, Dissolved
<b>Sources</b>	Grazing in Riparian or Shoreline Zones, Municipal Point Source Discharges

*Table 6-30. Stream Segment Information for Watertown STP.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	2.5	mg/L	DMax Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	4.5	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	2	mg/L	MAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	1.1	mg/L	WAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	2.5	lb/day	MAvg Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	4.5	mg/L	DMax Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	7.4	lb/day	MAvg Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	9	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	3.3	mg/L	WAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	4	mg/L	MAvg Conc	Weekly	Composite	Effluent
CBOD % Removal	All Year	40	Percent	DMin % Removal	Weekly	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	Weekly	Calculated	% Removal
CBOD5	Summer	20	mg/L	DMax Conc	Weekly	Composite	Effluent
CBOD5	Summer	34	lb/day	WAvg Load	Weekly	Composite	Effluent
CBOD5	Summer	23	lb/day	MAvg Load	Weekly	Composite	Effluent
CBOD5	Summer	10	mg/L	MAvg Conc	Weekly	Composite	Effluent
CBOD5	Summer	15	mg/L	WAvg Conc	Weekly	Composite	Effluent
CBOD5	Winter	35	mg/L	DMax Conc	Weekly	Composite	Effluent
CBOD5	Winter	68	lb/day	WAvg Load	Weekly	Composite	Effluent
CBOD5	Winter	25	mg/L	MAvg Conc	Weekly	Composite	Effluent
CBOD5	Winter	56	lb/day	MAvg Load	Weekly	Composite	Effluent
CBOD5	Winter	30	mg/L	WAvg Conc	Weekly	Composite	Effluent
Cd (T)	All Year	0.0015	mg/L	DMax Conc	Annually	Composite	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	Weekly	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Continuous	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Continuous	Intake
Flow	All Year		MGD	MAvg Load	Weekly	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Weekly	Continuous	Intake
Hg (T)	All Year	5E-05	mg/L	DMax Conc	Annually	Composite	Effluent
NOEL 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
NOEL 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Monthly	Composite	% Removal
NOEL 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
NOEL 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Monthly	Composite	%Removal
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekly	Composite	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekly	Composite	Effluent
TSS	All Year	90	lb/day	WAvg Load	Weekly	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	Weekly	Composite	Effluent
TSS	All Year	68	lb/day	MAvg Load	Weekly	Composite	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Weekly	Composite	Effluent

Table 6-31a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TSS % Removal	All Year	40	Percent	DMin % Removal	Weekly	Calculated	% Removal
TSS % Removal	All Year	85	Percent	MAvg % Removal	Weekly	Calculated	% Removal
pH	All Year	8.5	SU	DMax Conc	3/Week	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	3/Week	Grab	Effluent

**Table 6-31b.**

**Tables 6-31a-b. Permit Limits for Watertown STP.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

- 4 Overflows
- 39 Bypasses
- 5 Dissolved Oxygen
- 9 Ammonia
- 2 Suspended Solids % Removal
- 1 Escherichia coli
- 1 Total Suspended Solids
- 1 Carbonaceous Oxygen Demand
- 1 Settleable Solids

**Enforcement:**

3/22/06 Notice of Violation for failure to issue Industrial User with 180 days  
 1/7/03 Commissioner's Order 02-0745: Previous Orders (00-011D & 00-012D) required a WWTP upgrade that was not completed in a timely way. Continued permit exceedences.

**Comments:**

3/22/06 Operational Compliance Inspection. Not in Compliance – failure to issue Industrial User permit with 180 days.

6/6/07 Pretreatment Technical Assistance Visit and file review. There is presently an informal flow restriction on the Technical Plating Rubber Company discharge. I suggest that these informal flow restrictions be placed in an Industrial user permit as a condition of compliance.

The pretreatment files were found in satisfactory condition. No deficiencies were observed, and the Pretreatment Coordinator reported no problems in implementing the program.

**TN0060232 White House Utility District**

**Discharger rating:** Minor  
**City:** Hendersonville  
**County:** Sumner  
**EFO Name:** Nashville  
**Issuance Date:** 4/1/04  
**Expiration Date:** 2/28/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 230.2  
**HUC-12:** 051302010405  
**Effluent Summary:** Treated domestic wastewater from Outfall 001  
**Treatment system:** Extended aeration - Schreiber Bio-Reel.

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-32. Stream Segment Information for White House Utility District.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	20	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent

**Table 6-33. Permit Limits for White House Utility District.**

**Comments:**

11/01/06 Compliance Evaluation Inspection: In compliance. Identification sign for the outfall is missing; it needs to be re-posted as described in the permit. Effluent flowmeter is now checked every 6 months by Labtronix (22.5 degree v-notch weir w/ultrasonic WL detector). SCADA system installed which facilitates remote monitoring and control. May change from Sanuril tablets to liquid bleach disinfection. Currently replacing a section of sewer line to reduce inflow and infiltration (I/I). New aluminum covers over the Schreiber BioReel basins. New residential type perimeter fence installed in lieu of wire mesh type.

**6.4.B. Industrial Permits:**

**TN0068161 Cordell Hull Hydro Power Plant**

**Discharger rating:** Minor  
**City:** Carthage  
**County:** Smith  
**EFO Name:** Cookeville  
**Issuance Date:** 3/1/04  
**Expiration Date:** 11/30/09  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 313.5  
**HUC-12:** 051301060309  
**Effluent Summary:** Noncontact cooling waters, station sump wastewater (which includes waters such as cooling water, river water that has leaked into plant at various points; river water from unwatering of penstock, scroll case, and draft tube; air compressor blowdown and other condensate; and floor washwater); river water from unwatering operations; river water that has leaked into the plant; test waters from fire protection system; and spent waters from certain activities outdoors, including pressure washing of painted surfaces, slot cutting the dam and washing equipment  
**Treatment system:** -

<b>Segment</b>	TN05130106005_1000
<b>Name</b>	Cordell Hull Lake
<b>Size</b>	13901
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-34. Stream Segment Information for Cordell Hull Hydro Power Plant.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	DMax Load	Daily	Estimate	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Estimate	Effluent
PCB Total Scan Effluent	All Year	0.01	mg/L	DMax Conc	Annually	Grab	Effluent
Settleable Solids	All Year	0.5	mL/L	DMax Conc	Annually	Grab	Effluent

**Table 6-35. Permit Limits for Cordell Hull Hydro Power Plant.**

**Comments:**

Hydroelectric generator. The permit allows for discharges associated with power generation at the U.S.A.C.O.E. Dam. Concentrations of PCBs at the Dam are virtually non-existent. BMPs for sediment loss are kept on site. Corps sites are usually in very good condition.

**TN0078417 City of Lebanon Landfill**

**Discharger rating:** Minor  
**City:** Lebanon  
**County:** Wilson  
**EFO Name:** Nashville  
**Issuance Date:** 2/1/05  
**Expiration Date:** 12/30/09  
**Receiving Stream(s):** Unnamed tributary of Spring Creek  
**HUC-12:** 051302010106  
**Effluent Summary:** Treated leachate from inactive municipal landfill through Outfall 001.  
**Treatment system:** Leachate from landfill is routed through subsurface flow constructed wetlands cells.

<b>Segment</b>	TN05130201013_0300
<b>Name</b>	Unnamed Trib to Spring Creek
<b>Size</b>	3.1
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Recreation (Not Assessed), Irrigation (Supporting), Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-36. Stream Segment Information for City of Lebanon Landfill.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	2.2	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	1.1	mg/L	MAvg Conc	2/Month	Grab	Effluent
BOD5	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
BOD5	All Year	12	mg/L	MAvg Conc	2/Month	Grab	Effluent
Benzoic acid	All Year	0.12	mg/L	DMax Conc	2/Month	Grab	Effluent
Benzoic acid	All Year	0.071	mg/L	MAvg Conc	2/Month	Grab	Effluent
Flow	All Year		MGD	DMax Load	2/Month	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	2/Month	Instantaneous	Effluent
Phenols	All Year	0.026	mg/L	DMax Conc	2/Month	Grab	Effluent
Phenols	All Year	0.015	mg/L	MAvg Conc	2/Month	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
TSS	All Year	27	mg/L	MAvg Conc	2/Month	Grab	Effluent
Zn (T)	All Year	0.2	mg/L	DMax Conc	2/Month	Grab	Effluent
Zn (T)	All Year	0.11	mg/L	MAvg Conc	2/Month	Grab	Effluent
alpha-Terpineol	All Year	0.033	mg/L	DMax Conc	2/Month	Grab	Effluent
alpha-Terpineol	All Year	0.016	mg/L	MAvg Conc	2/Month	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Month	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Month	Grab	Effluent
para-Cresol	All Year	0.025	mg/L	DMax Conc	2/Month	Grab	Effluent
para-Cresol	All Year	0.014	mg/L	MAvg Conc	2/Month	Grab	Effluent

**Table 6-37. Permit Limits for City of Lebanon Landfill.**

**Enforcement:**

2/21/06 Notice of Violation for failure to have approved plans.

**Comments:**

2/21/06 Compliance Evaluation Inspection: Facility under construction, Failure to have approved plans, which resulted in a Notice of Violation.

**TN0077852 TVA - Wilson 500-KV Substation**

**Discharger rating:** Minor  
**City:** Mt. Juliet  
**County:** Wilson  
**EFO Name:** Nashville  
**Issuance Date:** 7/24/03  
**Expiration Date:** 6/30/09  
**Receiving Stream(s):** Unnamed tributary to Cedar Creek  
**HUC-12:** 051302010406  
**Effluent Summary:** Groundwater from dewatering system used for establishing hydraulic gradient at mineral oil remediation site from Outfall 001  
**Treatment system:** -

<b>Segment</b>	TN05130201011_0999
<b>Name</b>	Misc Tribs to Cedar Creek
<b>Size</b>	21.4
<b>Unit</b>	Miles
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

*Table 6-38. Stream Segment Information for TVA - Wilson 500-KV Substation.*

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Floating Solids Or Visible Foam-Visual	All Year		YES=1 NO=0	DMax Load	Monthly	Visual	Effluent
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Monthly	Instantaneous	Effluent
TSS	All Year	40	mg/L	DMax Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Monthly	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Monthly	Grab	Effluent

**Table 6-39. Permit Limits for TVA - Wilson 500-KV Substation.**

**Comments:**

Dewatering system used for establishing hydraulic gradient at mineral oil remediation. 02/13/07 Site visit: Site has 2-permits. SOP-02050 for the spray field from this same system, TVA wants to let it expire (Nov.30, 2007). The Individual "outfall" also releases storm water diverted from the site and the retained areas around tanks and transformers. TMSP Sector O would cover all other portions of the site for storm water issues. Let SOP expire, then combine all discharges into one permit. SWPPP should be included to cover storm water being collected and discharged from pond.

**TN0064505 Resource Authority in Sumner County Ash Landfill**

**Discharger rating:** Minor  
**City:** Gallatin  
**County:** Sumner  
**EFO Name:** Nashville  
**Issuance Date:** 1/1/05  
**Expiration Date:** 11/29/10  
**Receiving Stream(s):** Cumberland River (Old Hickory Reservoir) at mile 240.57  
**HUC-12:** 051302010401  
**Effluent Summary:** Storm water runoff/leachate from municipal incinerator ash landfill from Outfall 001  
**Treatment system:** -

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-40. Stream Segment Information for Resource Authority in Sumner County Ash Landfill.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ag (T)	All Year	0.05	mg/L	DMax Conc	Monthly	Composite	Effluent
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	All Year	4.9	mg/L	MAvg Conc	Weekly	Composite	Effluent
BOD5	All Year	140	mg/L	DMax Conc	Weekly	Composite	Effluent
BOD5	All Year	37	mg/L	MAvg Conc	Weekly	Composite	Effluent
Cd (T)	All Year	0.043	mg/L	DMax Conc	Monthly	Composite	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Weekly	Instantaneous	Effluent
Oil and Grease (Freon EM)	All Year	15	mg/L	DMax Conc	2/Month	Grab	Effluent
Oil and Grease (Freon EM)	All Year	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
Pb (T)	All Year	0.21	mg/L	DMax Conc	Weekly	Composite	Effluent
Phenols	All Year	0.026	mg/L	DMax Conc	See Permit	Grab	Effluent
Phenols	All Year	0.015	mg/L	MAvg Conc	See Permit	Grab	Effluent
TSS	All Year	40	mg/L	DMax Conc	Weekly	Composite	Effluent
TSS	All Year	27	mg/L	MAvg Conc	Weekly	Composite	Effluent
Zn (T)	All Year	0.2	mg/L	DMax Conc	Weekly	Composite	Effluent
Zn (T)	All Year	0.11	mg/L	MAvg Conc	Weekly	Composite	Effluent
pH	All Year	9	SU	DMax Conc	Monthly	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Monthly	Grab	Effluent

**Table 6-41. Permit Limits for Resource Authority in Sumner County Ash Landfill.**

**Compliance History:**

The following numbers of exceedences were noted in PCS:

- 12 Total Suspended Solids
- 3 Biological Oxygen Demand
- 18 Ammonia

**Enforcement:**

Consent Order sent by Office of General Counsel on March 31, 2004; same Order resent January 12, 2006.

**Comments:**

2/27/06 Compliance Evaluation Inspection: Not in compliance. Permittee said ash landfill closed last May 2005 but closure plan not yet submitted to Department of Solid Waste management for approval. Leachate pump station still operational; no treatment provided. Pump station wet well not covered, safety hazard.

**TN0005428 TVA Gallatin Fossil Plant**

**Discharger rating:** Major  
**City:** Gallatin  
**County:** Sumner  
**EFO Name:** Nashville  
**Issuance Date:** 6/11/07  
**Expiration Date:** 11/29/09  
**Receiving Stream(s):** Cumberland River at mile 240.5 (001), mile 242.5 (002, 006, & 009), and mile 244.5 (004)  
**HUC-12:** 051302010401  
**Effluent Summary:** Ash transport water, chemical and nonchemical metal cleaning wastes, water treatment plant wastes, combustion turbine oil/water separator effluent, demineralization waste neutralization sump discharges, miscellaneous equipment cooling water, floor washing wastes, boiler makeup water leakage, boiler blowdown, chemical lab drain water, boiler bottom overflow sump discharge, powerhouse extension pump discharge, U-Building pad wash oil/water separator, car wash, ash sluice water leakage, coal pile runoff, and storm water runoff through Outfall 001; steam condenser cooling water, pulverizer cooling water, turbine oil cooling water, and hydrogen cooler cooling water through Outfall 002; intake screen backwash through Outfall 004.  
**Treatment system:** Treatment: Outfall 001 - Settling, neutralization, pH adjustment with CO<sub>2</sub>, oil water separator; IMP 005 - neutralization, chemical precipitation, settling.

<b>Segment</b>	TN05130201001_1000
<b>Name</b>	Old Hickory Reservoir
<b>Size</b>	27439
<b>Unit</b>	Acres
<b>First Year on 303(d) List</b>	-
<b>Designated Uses</b>	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Supporting), Industrial Water Supply (Supporting), Domestic Water Supply (Supporting), Irrigation (Supporting)
<b>Causes</b>	N/A
<b>Sources</b>	N/A

**Table 6-42. Stream Segment Information for TVA Gallatin Fossil Plant.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ag (T)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
Al (T)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
As (T)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
Fe (T)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Weekly	Instantaneous	Effluent
Flow	All Year		MGD	DMax Load	Weekly	Instantaneous	Effluent
IC25 7day Ceriodaphnia dubia	All Year		Percent	DMin Conc	Annually	Composite	Effluent
IC25 7day Fathead Minnows	All Year		Percent	DMin Conc	Annually	Composite	Effluent
Mn (T)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	18	mg/L	DMax Conc	Monthly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	14	mg/L	MAvg Conc	Monthly	Grab	Effluent
Pb (T)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
Sb (T)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
Se (T)	All Year		mg/L	DMax Conc	Quarterly	Grab	Effluent
TSS	All Year	92.7	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	28	mg/L	MAvg Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Weekly	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekly	Grab	Effluent

**Table 6-43. Permit Limits for Outfall 001 at TVA Gallatin Fossil Plant.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	DMax Load	Daily	Estimate	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Estimate	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	Percent	DMin Conc	Quarterly	Composite	Effluent
Oxidants Total Residual	All Year	0.011	mg/L	MAvg Conc	Weekly	Calculated	Effluent
Oxidants Total Residual	All Year	0.019	mg/L	DMax Conc	Weekly	Calculated	Effluent
Temperature (°C)	All Year	32.8	°C	DMax Conc	Daily	Calculated	Effluent
Temperature (°C)	All Year		°C	DMax Conc	Continuous	Recorder	Intake
Time of Chlorine Addition (minute/day/unit)	All Year	120	Minutes	DMax Load	Daily	Pump Log	Effluent

**Table 6-44. Permit Limits for Outfall 002 at TVA Gallatin Fossil Plant.**

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	DMax Load	Quarterly	Estimate	Effluent
pH	All Year		SU	DMax Conc	Quarterly	Grab	Effluent
pH	All Year		SU	DMin Conc	Quarterly	Grab	Effluent

**Table 6-45. Permit Limits for Outfall 006 and 009 at TVA Gallatin Fossil Plant.**

**Comments:**

Modification to permit to change 316(b) requirements based on suspension by EPA. Fossil fueled steam-electric generating plant with capacity of 1,580.4 MW.

3/23/06 Compliance Evaluation Inspection: In compliance