

CHAPTER 6

RESTORATION STRATEGIES IN THE LOWER FRENCH BROAD RIVER WATERSHED

- 6.1. Background**
- 6.2. Comments from Public Meetings**
 - 6.2.A. Year 1 Public Meeting**
 - 6.2.B. Year 2 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**
 - 6.4.C. Water Treatment Plant 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 Lower French Broad River Watershed as well as specific NPDES permittee information.

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 Lower French Broad River Watershed public meeting was held on December 7, 2000, at the Sevier County Courthouse in Sevierville, Tennessee. 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. Twenty-seven people attended the meeting.

Major Concerns/Comments Voiced at Public Meeting

- Does monitoring take into account seasonal or tourism effects?
- Bank erosion on French Broad River due to releases at Douglas Dam
- TDEC does not require newest treatment technologies
- Upstream soil erosion and siltation of river bed
- Upstream pollution from human, animal, and chemical wastes
- Ineffectiveness of government agencies to resolve critical ongoing problems (like flooding).

6.2.B. Year 3 Public Meeting. Not scheduled.

6.2.C. Year 5 Public Meeting. Not scheduled.

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.

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/>.

Approved TMDLs:

Lower French Broad Watershed - Total Maximum Daily Load for Pathogens in the Lower French Broad Watershed in Cocke, Jefferson and Sevier Counties. Approved 12/20/2005

<http://www.state.tn.us/environment/wpc/tmdl/approvedtmdl/LowerFrenchPath.pdf>

Lower French Broad River - Total Maximum Daily Load for Siltation and Habitat Alteration in the Lower French Broad River Watershed in Blount, Cocke, Jefferson, Knox, and Sevier Counties. Approved 08/17/2007.

<http://state.tn.us/environment/wpc/tmdl/approvedtmdl/LowerFrenchBroadSed.pdf>

TMDLs are prioritized for development based on many factors.

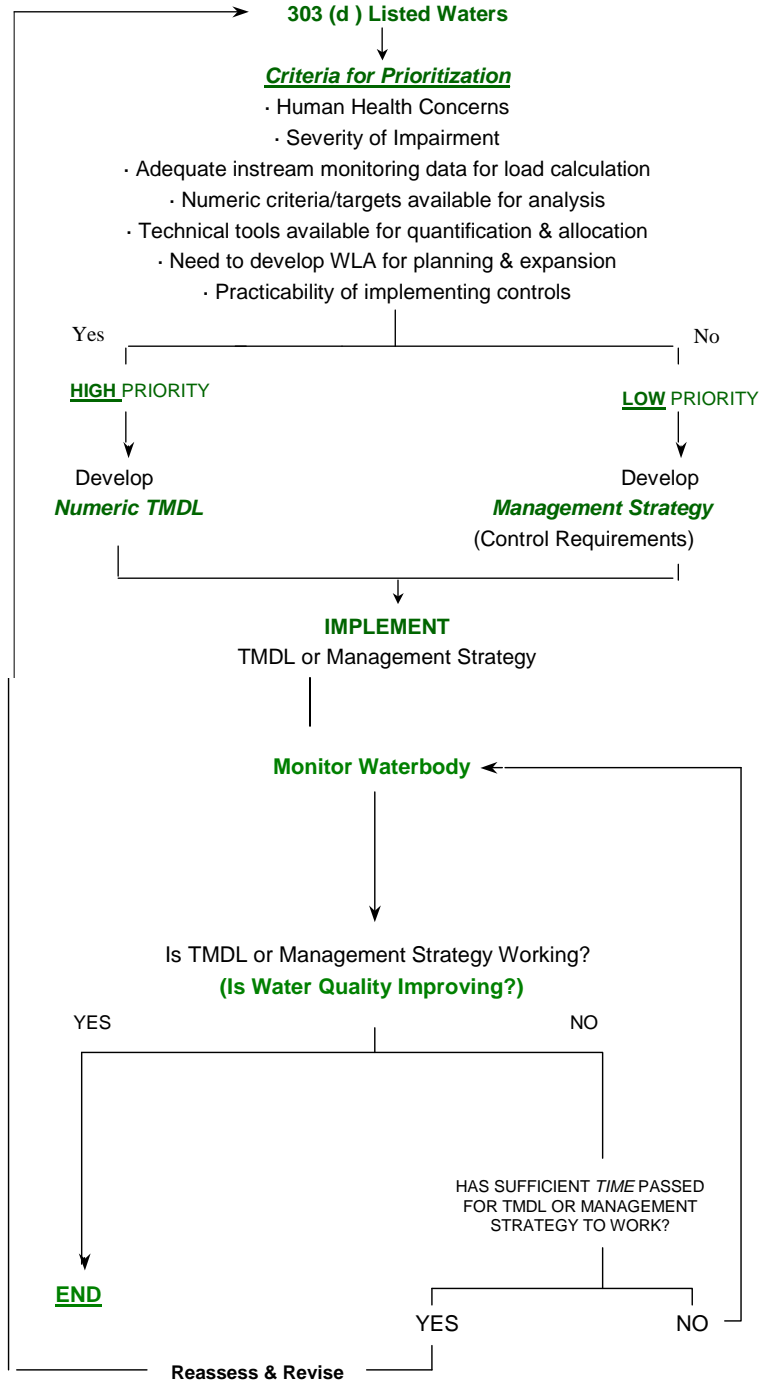


Figure 6-1. Prioritization Scheme for TMDL Development.

6.3.B. Nonpoint Sources

Common nonpoint sources of pollution in the Lower French Broad River Watershed include urban runoff, riparian vegetation removal, and inappropriate land development, agricultural, and road construction 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 some of the contaminants impacting waters in the Lower French Broad River Watershed. Most of these are limited to only 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 or less than 1 acre if it’s part of a larger development. 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 and sediment control measures on sites in the watershed of streams that are already impaired due to siltation or are considered high quality. Regardless of the size, no construction site is allowed to cause a condition of pollution.

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

6.3.B.i.b. From Channel and/or Bank Erosion. Some streams within the Lower French Broad River Watershed suffer from varying degrees of streambank erosion. When stream channels are altered, or large tracts of land are cleared, storm water runoff will cause banks to become unstable and highly erodable. Heavy livestock traffic can also severely disturb banks. Destabilized banks contribute to sediment load and to the loss of beneficial riparian vegetation to the stream. Some inappropriate agricultural practices have impacted the hydrology and morphology of stream channels in this watershed.

Several agencies such as the NRCS and TDA, as well as watershed citizen groups, are working to stabilize portions of stream banks using bioengineering and other techniques. Affected streams, like Clear Creek and Dumplin Creek, could benefit from these types of projects. Other methods or controls that might be necessary to address common problems are:

Voluntary activities

- Re-establish bank vegetation (Clear Creek, Walden Creek).
- Establish off-channel watering areas for livestock by moving watering troughs and feeders back from stream banks (Clear Creek).
- Limit cattle access to streams and bank vegetation (Clear Creek and Dumplin Creek).

Regulatory Strategies

- Increase efforts in the Master Logger program to recognize impaired streams and require more effective management practices.
- Require post-construction run-off rates to be no greater than pre-construction rates in order to avoid in-channel erosion.
- Implement additional restrictions on logging in streamside management zones.
- 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.
- Limit clearing of stream and roadside ditch banks or other alterations. *Note: Permits may be required for any work along streams.*
- Encourage or require strong local buffer ordinances.
- Restrict rock harvesting and sand removal to permitted sites.

Additional strategies

- Better community planning and MS4 oversight for the impacts of development on small streams, especially development in growing areas such as Sevierville and Gatlinburg.

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 any type of vegetated buffer along stream corridors is sometimes a problem in the Lower French Broad River Watershed. Impacted streams that could benefit from the establishment of riparian buffer zones include Clear Creek, Walden Creek and its tributaries, and Dumplin Creek.

6.3.B.ii. Pathogen Contamination.

Possible sources of pathogens 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. 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 Knoxville Field Office and delegated county health departments regulate septic tanks and field lines. In addition to discharges to surface waters, businesses may employ either subsurface or surface disposal of wastewater. The Division of Water Pollution Control regulates surface water disposal.

Currently, 14 stream systems in the Lower French Broad River Watershed are known to have excessive pathogen contamination. King Branch, Gnatty Branch and Beech Branch Creek in the West Prong Little Pigeon River system are examples of streams impacted by bacterial contamination coming from septic drainfields. The West Prong of the Little Pigeon River, Dudley Creek, Mill Creek, and Roaring Fork are included in those streams impacted by bacterial contamination from collection system leaks and overflows and/or urban runoff. In agricultural watersheds, Clear Creek, Boyds Creek, and Waldens Creek shows elevated bacterial levels from pasture grazing and cattle access to streams.

Other measures that may be necessary to control pathogens are:

Voluntary activities

- 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 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.

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.

Other 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. Examples of streams that could benefit are Waldens Creek and its tributaries and Clear Creek.
- 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.

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.
- Impose timely and appropriate enforcement for noncomplying sewage treatment plants, large and small, and their collection system.
- Identify Concentrated Animal Feeding Operations not currently permitted.
- Support and train local MS4 programs within municipalities to deal with storm water pollution issues.

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. The West Prong of the Little Pigeon River is the best example of a stream currently listed as impaired from these kinds of sources in the Lower French Broad River Watershed. 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.

Many materials enter our streams due to apathy, or lack of civility or knowledge by the public. 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.

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

- Prohibit illicit discharges to storm drains.
- Strengthen litter law enforcement at the local level.

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.

The section of the Lower French Broad River immediately downstream of Douglas Dam is listed as impaired due to power generation and flow regulation activities, which sometimes result in low dissolved oxygen levels and thermal and physical alterations. However, 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.
- 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 such means as culverting, lining, or impounding. Mill Creek, for example, has had significant reaches impacted by channelization activities.
- Require mitigation for impacts to streams and wetlands when modifications are allowed.

Additional Enforcement

- Increased enforcement may be needed when violations of current regulations occur.

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 are encouraged to develop and implement appropriate monitoring programs by the designated date.

Some storm sewer discharges are not regulated through the NPDES MS4 program. Strategies to address runoff from 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 Lower French Broad River Watershed. Compliance information was obtained from EPA's Permit Compliance System (PCS). All data was queried for a five-year period between May 1, 2002, and May 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

Stream Segment information, including designated uses and impairments, are described in detail in Chapter 3, *Water Quality Assessment of the Lower French Broad River Watershed*.

6.4.A. Municipal Permits

TN0021245 Dandridge STP

Discharger rating: Minor
City: Dandridge
County: Jefferson
EFO Name: Knoxville
Issuance Date: 8/31/05
Expiration Date: 8/31/10
Receiving Stream(s): Douglas Lake at French Broad River mile 45.5
HUC-12: 060101070102
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Flow equalization, contact stabilization, aerobic digestion, chlorination, sludge drying beds.

SEGMENT	TN06010107029_1000
Name	Douglas Reservoir
Size	30400
Unit	Acres
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-1. Stream Segment Information for Dandridge 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		mg/L	DMax Conc	Continuous	Composite	Influent (Raw Sewage)
BOD5	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
BOD5	All Year	133	lb/day	DMax Load	3/Week	Composite	Effluent
BOD5	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
BOD5	All Year	100	lb/day	MAvg Load	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
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	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	Non Wet Weather
Overflow Use Occurences	All Year		Occurences/ Month	MAvg Load	Continuous	Visual	Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	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		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	133	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	3/Week	Composite	Effluent
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	100	lb/day	MAvg 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 6-2. Permit Limits for Dandridge STP.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 26 Biological Oxygen Demand (BOD)
- 14 Total Suspended Solids (TSS)
- 15 Settleable Solids
- 6 Suspended Solids % Removal
- 3 Total Chlorine
- 8 Escherichia coli
- 2 Dissolved Oxygen
- 1 pH
- 30 Overflows
- 7 Bypasses

Enforcement:

Directors Order #07-068 STP continues to exceed permit limits due to hydraulic and organic overload, and aging technology. Enforcement necessary to upgrade existing treatment facility.

Comments:

5/25/06: application for design expansion from 0.4 to 0.9 MGD. Dandridge STP is organically and hydraulically overloaded. The city is working with Gary McGill Engineering on a treatment plant expansion.

TN0024503 TN DOT I-40 R.A. Jefferson W.B

Discharger rating: Minor
City: Dandridge
County: Jefferson
EFO Name: Knoxville
Issuance Date: 8/31/06
Expiration Date: 8/31/10
Receiving Stream(s): Davy Crockett Reservoir at Nolichucky River mile 47.5
HUC-12: 060101070101
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: WAS to aerobic digester to hauler to KUB WWTP.

SEGMENT	TN06010107029_1000
Name	Douglas Reservoir
Size	30400
Unit	Acres
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-3. Stream Segment Information for TN DOT I-40 R.A. Jefferson W.B.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	30	mg/L	DMax Conc	2/Month	Grab	Effluent
BOD5	All Year	20	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	2/Week	Grab	Effluent
E. coli	All Year	487	#/100mL	DMax Conc	2/Month	Grab	Effluent
E. coli	All Year	126	#/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	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
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 TN DOT I-40 R.A. Jefferson W.B.

Comments:

None

TN0055565 Jefferson County High School

Discharger rating: Minor
City: Dandridge
County: Jefferson
EFO Name: Knoxville
Issuance Date: 2/28/05
Expiration Date: 2/28/10
Receiving Stream(s): Mile 0.4 of an unnamed tributary which enters Dumplin Creek at mile 12.3
HUC-12: 060101070203
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Activated sludge

SEGMENT	TN06010107038_1000
Name	Dumplin Creek
Size	19.1
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Recreation (Supporting), Irrigation (Supporting), Fish and Aquatic Life (Non-Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Physical substrate habitat alterations, Sedimentation/Siltation
Sources	Channelization, Grazing in Riparian or Shoreline Zones, Site Clearance (Land Development or Redevelopment)

Table 6-5. Stream Segment Information for Jefferson County High School.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	mg/L	DMax Conc	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	5	mg/L	MAvg Conc	Weekly	Grab	Effluent
CBOD5	All Year	40	mg/L	DMax Conc	Weekly	Grab	Effluent
CBOD5	All Year	30	mg/L	MAvg Conc	Weekly	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	941	#/100mL	MAvg Ari Mean	Weekly	Grab	Effluent
E. coli	All Year	123	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Continuous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekly	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Weekly	Grab	Effluent
pH	All Year	8.5	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-6. Permit Limits for Jefferson County High School.

Comments:

The plant is old and the City of Dandridge is going to provide sewer to the school eventually. The plant is still operational, but is getting close to needing an upgrade, if Dandridge doesn't provide sewer service soon.

TN0064971 White Pine STP

Discharger rating: Minor
City: White Pine
County: Jefferson
EFO Name: Knoxville
Issuance Date: 7/01/05
Expiration Date: 5/31/10
Receiving Stream(s): French Broad River at mile 67.9 (Douglas Reservoir)
HUC-12: 060101070101
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Activated sludge, chlorination/dechlorination, aerobic digestion, sludge dewatering (filter press).

SEGMENT	TN06010107029_1000
Name	Douglas Reservoir
Size	30400
Unit	Acres
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-7. Stream Segment Information for White Pine 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		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	82	lb/day	MAvg Load	3/Week	Composite	Effluent
BOD5	All Year	109	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	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)
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Grab	Effluent
TRC	All Year	0.1	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year	109	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	82	lb/day	MAvg 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 6-8. Permit Limits for White Pine STP.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 4 Overflows

Comments:

None

TN0078131 Harbor Crest Condominium Association

Discharger rating: Minor
City: Dandridge
County: Jefferson
EFO Name: Knoxville
Issuance Date: 6/30/06
Expiration Date: 6/30/10
Receiving Stream(s): French Broad River 38.01
HUC-12: 060101070103
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Septic tank and recirculating sand filter.

SEGMENT	TN06010107029_1000
Name	Douglas Reservoir
Size	30400
Unit	Acres
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-9. Stream Segment Information for Harbor Crest Condominium Association.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
BOD5	All Year	45	mg/L	DMax 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	2/Month	Grab	Effluent
E. coli	All Year	941	#/100mL	MAvg Ari Mean	2/Month	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	DMax 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	30	mg/L	MAvg Conc	2/Month	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	2/Month	Grab	Effluent
pH	All Year	6	SU	DMin Conc	2/Week	Grab	Effluent
pH	All Year	9	SU	DMax Conc	2/Week	Grab	Effluent

Table 6-10. Permit Limits for Harbor Crest Condominium Association.

Enforcement:

NOV on 2/21/06 for late permit application.

Comments:

None

TN0028223 Gap Creek Elementary School

Discharger rating: Minor
City: Knoxville
County: Knox
EFO Name: Knoxville
Issuance Date: 9/01/02
Expiration Date: 7/31/07
Receiving Stream(s): Cement Mill Creek at mile 2.0
HUC-12: 060101070204
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Septic tank sand filter

SEGMENT	TN06010107001_0300
Name	Cement Mill Creek
Size	3.2
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Industrial Water Supply (Not Assessed), Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-11. Stream Segment Information for Gap Creek Elementary School.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TSS	All Year	45	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Monthly	Grab	Effluent

Table 6-12. Permit Limits for Gap Creek Elementary School.

Comments:
 None

TN0023337 Johnson Bible College-Knoxville

Discharger rating: Minor
City: Knoxville
County: Knox
EFO Name: Knoxville
Issuance Date: 2/28/05
Expiration Date: 2/28/10
Receiving Stream(s): French Broad River at mile 9.9
HUC-12: 060101070204
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Extended aeration

SEGMENT	TN06010107001_1000
Name	French Broad River
Size	25.1
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-13. Stream Segment Information for Johnson Bible College.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD % removal	All Year	85	Percent	MAvg % Removal	Weekly	Calculated	% Removal
BOD5	All Year	45	mg/L	DMax Conc	Weekly	Composite	Effluent
BOD5	All Year	53	lb/day	DMax Load	Weekly	Composite	Effluent
BOD5	All Year	30	mg/L	MAvg Conc	Weekly	Composite	Effluent
BOD5	All Year	40	mg/L	WAvg Conc	Weekly	Composite	Effluent
BOD5	All Year	47	lb/day	WAvg Load	Weekly	Composite	Effluent
BOD5	All Year	35	lb/day	MAvg Load	Weekly	Composite	Effluent
D.O.	All Year	1	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	941	#/100mL	MAvg Ari Mean	Weekly	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	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)
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekly	Composite	Effluent
TRC	All Year	2	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekly	Composite	Effluent
TSS	All Year	47	lb/day	WAvg Load	Weekly	Composite	Effluent
TSS	All Year	53	lb/day	DMax Load	Weekly	Composite	Effluent
TSS	All Year	30	mg/L	MAvg Conc	Weekly	Composite	Effluent
TSS	All Year	35	lb/day	MAvg Load	Weekly	Composite	Effluent
TSS	All Year	40	mg/L	WAvg Conc	Weekly	Composite	Effluent
TSS % Removal	All Year	85	Percent	MAvg % Removal	Weekly	Calculated	% Removal
pH	All Year	9	SU	DMax Conc	Weekly	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Weekly	Grab	Effluent

Table 6-14. Permit Limits for Johnson Bible College.

Comments:

None

TN0022748 Harrison Chilhowee Baptist Academy

Discharger rating: Minor
City: Seymour
County: Sevier
EFO Name: Knoxville
Issuance Date: 7/29/05
Expiration Date: 7/29/10
Receiving Stream(s): Unnamed tributary at mile 0.4 to Boyd's Creek at mile 11.3
HUC-12: 060101070202
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Extended aeration

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	2.4	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	1.2	mg/L	MAvg Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	3.6	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	1.8	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	Summer	25	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	Summer	15	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	Winter	40	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	Winter	25	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	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	0.02	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	Weekdays	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-15. Permit Limits for Harrison Chilhowee Baptist Academy.

Comments:
 None

TN0020117 Gatlinburg STP

Discharger rating: Major
City: Gatlinburg
County: Sevier
EFO Name: Knoxville
Issuance Date: 4/30/07
Expiration Date: 8/31/10
Receiving Stream(s): West Prong of the Little Pigeon River Mile 16.4
HUC-12: 060101070307
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: WAS to 2 stage anaerobic dig to centrifuge to composting

SEGMENT	TN06010107010_3000
Name	West Prong Little Pigeon River
Size	5.4
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Livestock Watering and Wildlife (Supporting), Irrigation (Supporting), Recreation (Non-Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Non-Supporting)
Causes	Phosphate, Escherichia coli
Sources	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems), Sanitary Sewer Overflows (Collection System Failures), Discharges from Municipal Separate Storm Sewer Systems (MS4), Municipal Point Source Discharges

Table 6-16. Stream Segment Information for Gatlinburg STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	4	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	75	lb/day	WAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	3	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	2	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	50	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	10	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	7.5	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	125	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	5	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	188	lb/day	DMax Load	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		Occurrences/ Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
CBOD5	All Year	20	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	All Year	375	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	10	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	250	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	All Year	15	mg/L	WAvg Conc	3/Week	Composite	Effluent
D.O.	All Year	5	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	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
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)
IC25 7day Ceriodaphnia Dubia	All Year	55	Percent	DMin Conc	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	55	Percent	DMin Conc	Quarterly	Composite	Effluent
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	0.05	mg/L	DMax Conc	Weekdays	Grab	Effluent

Table 6-17a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
TSS	All Year	25	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	500	lb/day	WAvg Load	3/Week	Composite	Effluent
TSS	All Year	20	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS	All Year	375	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	15	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 6-17b.

Tables 6-17a-b. Permit Limits for Gatlinburg STP.

Compliance History:

The following numbers of exceedences were noted in PCS:

Enforcement:

Commissioners Order #05-0353: Gatlinburg is on EPA's Watch List for effluent violations. This Order requires a Corrective Action Plan (CAP) and Management Operations & Maintenance (MOMs) program.

Comments:

Gatlinburg is under an Agreed Order and is working on operation and maintenance solutions to alleviate treatment plant effluent violations. The Agreed Order also requires extensive work in the collection system and developing a comprehensive MOM program. Long-term goals are to abandon the discharge into the West Prong of Little Pigeon and combine with Pigeon Forge with a discharge to the French Broad River.

TN0021237 Pigeon Forge STP

Discharger rating: Major
City: Pigeon Gorge
County: Sevier
EFO Name: Knoxville
Issuance Date: 8/30/00
Expiration Date: 8/31/05
Receiving Stream(s): West Prong Little Pigeon River Mile 16.4
HUC-12: 060101070312
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Waste activated sludge to dissolved air flotation to anaerobic digester to filter press to composting

SEGMENT	TN06010107010_2000
Name	West Prong Little Pigeon River
Size	5.7
Unit	Miles
First Year on 303(d) List	1996
Designated Uses	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Non-Supporting), Recreation (Non-Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Phosphate, Impairment Unknown, Escherichia coli
Sources	Discharges from Municipal Separate Storm Sewer Systems (MS4), On-site Treatment Systems (Septic Systems and Similar Decentralized Systems), Sanitary Sewer Overflows (Collection System Failures), Municipal Point Source Discharges

Table 6-18. Stream Segment Information for Pigeon Forge STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
48hr LC50: Ceriodaphnia Dubia	All Year	100	Percent	DMin Conc	Continuous	Grab	Effluent
48hr LC50: Fathead Minnows	All Year	100	Percent	DMin Conc	Continuous	Grab	Effluent
Ammonia as N (Total)	All Year	2	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	50	lb/day	DMax Load	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	1	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	33	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	All Year	1.5	mg/L	MAvg Conc	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		Occurrences/ Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
CBOD5	All Year	20	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	All Year	10	mg/L	DMin Conc	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	334	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	All Year	15	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year	500	lb/day	DMax Load	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	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)
Nitrogen Total (as N)	Summer		mg/L	DMax Conc	Weekly	Composite	Effluent
Nitrogen Total (as N)	Summer		mg/L	MAvg Conc	Weekly	Composite	Effluent
Overflow Use Occurences	All Year		Occurrences/ Month	MAvg Load	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		Occurrences/ Month	MAvg Load	Continuous	Visual	Non Wet Weather
Phosphorus, Total	Summer		mg/L	DMax Conc	Weekly	Composite	Effluent
Phosphorus, Total	Summer		mg/L	MAvg Conc	Weekly	Composite	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	3/Week	Composite	Effluent
TRC	All Year	0.07	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	1334	lb/day	DMax Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year	1001	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	WAvg Conc	3/Week	Composite	Effluent

Table 6-19a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
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 6-19b.

Tables 6-19a-b. Permit Limits for Pigeon Forge STP.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 5 Total Suspended Solids (TSS)
- 3 Settleable Solids
- 3 Ammonia
- 2 Suspended Solids % Removal
- 2 Fecal coliform
- 3 Total Chlorine
- 1 Carbonaceous Biological Demand (CBOD)
- 39 Overflows
- 260 Bypasses

Comments:

Pigeon Forge is looking for an expansion from 4MGD to 8MGD. Status of the West Prong of the Little Pigeon's impairment has Pigeon Forge exploring a combined discharge with Gatlinburg on the French Broad River.

TN0055689 Caton's Chapel Elementary School

Discharger rating: Minor
City: Sevierville
County: Sevier
EFO Name: Knoxville
Issuance Date: 10/31/05
Expiration Date: 10/31/10
Receiving Stream(s): Bird Creek at mile 1.7
HUC-12: 060101070305
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Extended aeration

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	6	mg/L	DMin Conc	2/Week	Grab	Effluent
E. coli	All Year	941	#/100mL	DMax Conc	Monthly	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Monthly	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	2/Week	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 6-20. Permit Limits for Caton's Chapel Elementary School.

Comments:
 None

TN0055328 Dumplin Valley Associates

Discharger rating: Minor
City: Kodak
County: Sevier
EFO Name: Knoxville
Issuance Date: 8/01/05
Expiration Date: 6/30/10
Receiving Stream(s): Dumplin Creek at mile 2.8
HUC-12: 060101070203
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Extended aeration

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	941	#/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	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	SU	DMin Conc	2/Week	Grab	Effluent

Table 6-21. Permit Limits for Dumplin Valley Associates.

Comments:
 None

TN0055310 Webb Creek Utility District

Discharger rating: Minor
City: Gatlinburg
County: Sevier
EFO Name: Knoxville
Issuance Date: 7/31/06
Expiration Date: 7/31/10
Receiving Stream(s): Webb Creek at mile 2.8
HUC-12: 060101070304
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Extended aeration

SEGMENT	TN06010107007_0400
Name	Webb Creek
Size	15.4
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Recreation (Not Assessed), Irrigation (Supporting), Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-22. Stream Segment Information for Webb Creek U.D.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	2	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1.7	lb/day	WAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	0.5	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	0.8	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	5	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	4.2	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	6.3	lb/day	WAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	3.8	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	2.5	mg/L	MAvg Conc	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		MGD	MAvg Load	Continuous	Visual	
CBOD % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
CBOD5	Summer	10	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	Summer	13	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD5	Summer	8	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	Summer	5	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	Summer	7.5	mg/L	WAvg Conc	3/Week	Composite	Effluent
CBOD5	Winter	20	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	Winter	25	lb/day	WAvg Load	3/Week	Composite	Effluent
CBOD5	Winter	10	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	Winter	17	lb/day	MAvg Load	3/Week	Composite	Effluent
CBOD5	Winter	15	mg/L	WAvg Conc	3/Week	Composite	Effluent
D.O.	All Year	6	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	MAvg Load	Weekly	Continuous	Intake
Flow	All Year		MGD	DMax Load	Weekly	Continuous	Intake
Flow	All Year		MGD	DMax Load	Weekly	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Weekly	Continuous	Effluent
Overflow Use Occurences	All Year		MGD	MAvg Load	Continuous	Visual	Non Wet Weather
Overflow Use Occurences	All Year		MGD	MAvg Load	Continuous	Visual	Wet Weather
Settleable Solids	All Year	1	mL/L	DMax Conc	3/Week	Composite	Effluent
TRC	All Year	0.02	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	20	mg/L	DMax Conc	3/Week	Composite	Effluent
TSS	All Year	25	lb/day	DMax Load	3/Week	Composite	Effluent
TSS	All Year	10	mg/L	WAvg Conc	3/Week	Composite	Effluent
TSS	All Year	17	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year	15	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	8.5	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-23. Permit Limits for Webb Creek U.D.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 11 Total Chlorine
- 4 Ammonia
- 3 Carbonaceous Biological Oxygen Demand (CBOD)
- 1 Suspended Solids % Removal
- 1 Dissolved Oxygen
- 1 Total Suspended Solids (TSS)

Comments

Webb Creek has completed their plant expansion and is up and running.

TN0059102 Venture Out at Gatlinburg

Discharger rating: Minor
City: Gatlinburg
County: Sevier
EFO Name: Knoxville
Issuance Date: 4/29/05
Expiration Date: 4/29/10
Receiving Stream(s): Ogle Springs Branch at mile 1.6
HUC-12: 060101070306
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Extended aeration

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	15	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
E. coli	All Year	941	#/100mL	MAvg Ari Mean	2/Month		Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	2/Month	Grab	Effluent
Flow	All Year		MGD	DMax Load	Weekly	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	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	40	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 6-24. Permit Limits for Venture Out Gatlinburg.

Comments:

None

TN0063959 Sevierville (McCroskey Island) STP

Discharger rating: Major
City: Sevierville
County: Sevier
EFO Name: Knoxville
Issuance Date: 9/30/00
Expiration Date: 9/30/05
Receiving Stream(s): French Broad River Mile 27.3
HUC-12: 060101070201
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Waste Activated Sludge to aerobic digester to centrifuge to compost

SEGMENT	TN06010107006_1000
Name	French Broad River
Size	3.3
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Livestock Watering and Wildlife (Supporting), Irrigation (Supporting), Recreation (Not Assessed), Industrial Water Supply (Supporting), Fish and Aquatic Life (Supporting)
Causes	N/A
Sources	N/A

Table 6-25. Stream Segment Information for Sevierville (McCroskey Island) STP

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	10	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	250	lb/day	DMax Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	7.5	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	167	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	5	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	20	mg/L	DMax Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	10	mg/L	WAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	334	lb/day	MAvg Load	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	15	mg/L	MAvg Conc	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	500	lb/day	DMax Load	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		Occurences/Month	MAvg Load	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
CBOD5	All Year	40	mg/L	DMax Conc	3/Week	Composite	Effluent
CBOD5	All Year	25	mg/L	DMin Conc	3/Week	Composite	Effluent
CBOD5	All Year	35	mg/L	MAvg Conc	3/Week	Composite	Effluent
CBOD5	All Year	1168	lb/day	DMax Load	3/Week	Composite	Effluent
CBOD5	All Year		mg/L	DMax Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	834	lb/day	MAvg Load	3/Week	Composite	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	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	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
IC25 7day Ceriodaphnia Dubia	All Year	3.8	Percent	DMin Conc	Continuous	Composite	Effluent
IC25 7day Fathead Minnows	All Year	3.8	Percent	DMin Conc	Continuous	Composite	Effluent
Nitrogen Total (as N)	Summer		mg/L	MAvg Conc	2/Month	Composite	Effluent
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
Phosphorus, Total	Summer		mg/L	MAvg Conc	2/Month	Composite	Effluent
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Composite	Effluent
TRC	All Year	0.5	mg/L	DMax Conc	Weekdays	Grab	Effluent

Table 6-26a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
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	1334	lb/day	DMax Load	3/Week	Composite	Effluent
TSS	All Year	40	mg/L	MAvg Conc	3/Week	Composite	Effluent
TSS	All Year	1001	lb/day	MAvg Load	3/Week	Composite	Effluent
TSS	All Year		mg/L	MAvg Conc	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	30	mg/L	WAvg 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 6-26b.

Tables 6-26a-b. Permit Limits for Sevierville (McCroskey Island) STP.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 1 Total Chlorine
- 1 Ammonia
- 1 Carbonaceous Biological Oxygen Demand (CBOD)
- 3 Suspended Solids % Removal
- 1 Fecal coliform
- 3 Total Suspended Solids (TSS)
- 6 Settleable Solids
- 196 Overflows

Comments:

None

TN0060569 East Sevier County Utility District STP

Discharger rating: Minor
City: Sevierville
County: Sevier
EFO Name: Knoxville
Issuance Date: 6/01/05
Expiration Date: 4/29/10
Receiving Stream(s): Wilhite Creek Mile 4.05
HUC-12: 060101070306
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Activated sludge

SEGMENT	TN06010107025_0300
Name	Wilhite Creek
Size	26.3
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Supporting), Recreation (Not Assessed), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-27. Stream Segment Information for East Sevier County Utility District STP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	2.2	mg/L	DMax Conc	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	1.1	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
CBOD % Removal	All Year	40	Percent	DMin % Removal	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	Percent	MAvg % Removal	3/Week	Calculated	% Removal
CBOD5	Summer	20	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	Summer	10	mg/L	MAvg Conc	2/Month	Grab	Effluent
CBOD5	Winter	40	mg/L	DMax Conc	2/Month	Grab	Effluent
CBOD5	Winter	25	mg/L	MAvg Conc	2/Month	Grab	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	941	#/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	Influent (Raw Sewage)
Flow	All Year		MGD	MAvg Load	Weekdays	Instantaneous	Effluent
Flow	All Year		MGD	DMax Load	Weekdays	Instantaneous	Influent (Raw Sewage)
Settleable Solids	All Year	1	mL/L	DMax Conc	2/Week	Grab	Effluent
TRC	All Year	0.02	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 6-28. Permit Limits for East Sevier County Utility District STP.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 4 Suspended Solids % Removal
- 5 Carbonaceous Oxygen Demand (COD)
- 3 Carbonaceous Biological Oxygen Demand (CBOD)
- 1 Ammonia
- 1 Total Suspended Solids (TSS)
- 1 pH
- 3 Overflows

Comments

Tier Designation: This stream designated as Tier 2 stream on 2/09/06 by Knoxville Field Office.

6.4.B. Industrial Permits

TN0003280 Bush Brothers and Company, Inc.

Discharger rating: Minor
City: Dandridge
County: Jefferson
EFO Name: Knoxville
Issuance Date: 10/31/05
Expiration Date: 10/31/10
Receiving Stream(s): Clear Creek at mile 2.8 to Muddy Creek embayment at mile 5.3 of Douglas Reservoir
HUC-12: 060101070103
Effluent Summary: Non-contact cooling water through Outfall 001, and collected spring and well water overflow through Outfall 002
Treatment system: None

SEGMENT	TN06010107029T_1150
Name	Clear Creek
Size	13.6
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Fish and Aquatic Life (Non-Supporting), Recreation (Non-Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Nutrient/Eutrophication Biological Indicators, Escherichia coli
Sources	Grazing in Riparian or Shoreline Zones

Table 6-29. Stream Segment Information for Bush Brothers and Company, Inc.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
48hr LC50: Ceriodaphnia Dubia	All Year	94	Percent	MAvg Min	Annually	Grab	Effluent
48hr LC50: Fathead Minnows	All Year	94	Percent	MAvg Min	Annually	Grab	Effluent
Ammonia as N (Total)	All Year	2.5	mg/L	DMax Conc	Quarterly	Grab	Effluent
CBOD5	All Year	15	mg/L	DMax Conc	Quarterly	Grab	Effluent
D.O.	All Year	3	mg/L	DMin Conc	Quarterly	Grab	Effluent
Flow	All Year		MGD	MAvg Load	Quarterly	Estimate	Effluent
Flow	All Year		MGD	DMax Load	Quarterly	Estimate	Effluent
TRC	All Year	0.043	mg/L	DMax Conc	Quarterly	Grab	Effluent
Temperature (°C)	All Year		°C	DMax Conc	Quarterly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Quarterly	Grab	Effluent
pH	All Year	6	SU	DMin Conc	Quarterly	Grab	Effluent

Table 6-30. Stream Segment Information for Bush Brothers and Company, Inc.

Comments: None

TN0001368 Rocore Knoxville, LLC

Discharger rating: Minor
City: Knoxville
County: Knox
EFO Name: Knoxville
Issuance Date: 1/31/01
Expiration Date: 2/28/5
Receiving Stream(s): French Broad River at mile 1.8
HUC-12: 060101070204
Effluent Summary: Combined process and non-process wastewater and storm water runoff from Outfall 001

Treatment system:

SEGMENT	TN06010107001_1000
Name	French Broad River
Size	25.1
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-31. Stream Segment Information for Rocore Knoxville, LLC.

Enforcement:

12/28/06 NOV for discharging without a permit.
 1/3/07 NOV for failure to reapply for a permit.

Comments

Manufacture of aluminum heat exchangers.

TN0061581 Pepsi Bottling Group

Discharger rating: Minor
City: Knoxville
County: Knox
EFO Name: Knoxville
Issuance Date: 9/30/05
Expiration Date: 9/30/10
Receiving Stream(s): French Broad River at mile 0.9
HUC-12: 060101070204
Effluent Summary: Non-contact cooling water from Outfall 001
Treatment system:

SEGMENT	TN06010107001_1000
Name	French Broad River
Size	25.1
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-32. Stream Segment Information for Pepsi Bottling Group.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Flow	All Year		MGD	MAvg Load	Monthly	Instantaneous	Effluent
TRC	All Year	2	mg/L	DMax Conc	Monthly	Grab	Effluent
Temperature (°C)	All Year		°C	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 6-33. Permit Limits for Pepsi Bottling Group.

Comments:

Bottled and Canned Soft Drinks and Carbonated Waters

TN0078948 Panasonic Electronic Devices Corporation of America

Discharger rating: Minor
City: Knoxville
County: Knox
EFO Name: Knoxville
Issuance Date: New
Expiration Date: New
Receiving Stream(s): French Broad River, Mile 1.9
HUC-12: 060101070204
Effluent Summary: Non-contact cooling water.
Treatment system: Propose to use sand filter followed by activated carbon filter.

Compliance History:

New Discharge

Enforcement:

N/A

Comments

This is a new discharge to the French Broad River. The facility previously discharged its cooling water to the KUB sewer.

TN0027421 TVA Douglas Hydro Plant

Discharger rating: Minor
City: Dandridge
County: Sevier
EFO Name: Knoxville
Issuance Date: 6/30/05
Expiration Date: 6/29/10
Receiving Stream(s): French Broad River
HUC-12: 060101070103
Effluent Summary: Cooling water from Outfall 001
Treatment system: -

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	MAvg Conc	Monthly	Grab	Effluent

Table 6-34. Permit Limits for TVA Douglas Hydro Plant.

Comments:

None

TN0002194 Johnson Matthey Catalysts

Discharger rating: Minor
City: Sevierville
County: Sevier
EFO Name: Knoxville
Issuance Date: 1/01/05
Expiration Date: 11/30/10
Receiving Stream(s): Little Pigeon River at mile 7.4
HUC-12: 060101070315
Effluent Summary: Non-contact cooling water from Outfall 001
Treatment system: -

SEGMENT	TN06010107007_0999
Name	Misc Tribs to Little Pigeon River
Size	40.4
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Livestock Watering and Wildlife (Not Assessed), Fish and Aquatic Life (Not Assessed), Recreation (Not Assessed), Irrigation (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-35. Stream Segment Information for Johnson Matthey Catalysts.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Flow	All Year		MGD	MAvg Load	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Monthly	Grab	Effluent
Temperature (°C)	All Year		°C	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 6-36. Permit Limits for Johnson Matthey Catalysts.

Comments:

Manufacturer of sponge nickel catalysts by treatment of nickel aluminum alloy with caustic soda.

6.4.C. Water Treatment Permits

TN0004511 Knox Chapman Utility Knoxville WTP

Discharger rating: Minor
City: Knoxville
County: Knox
EFO Name: Knoxville
Issuance Date: 10/01/04
Expiration Date: 9/29/09
Receiving Stream(s): French Broad River at mile 3.4
HUC-12: 060101070204
Effluent Summary: Filter backwash and/or sedimentation basin washdown from Outfall 001
Treatment system: Alum, caustic, chlorine

SEGMENT	TN06010107001_1000
Name	French Broad River
Size	25.1
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-37. Stream Segment Information for Knox Chapman Utility Knoxville WTP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Al (T)	All Year	10	mg/L	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	mL/L	DMax Conc	Monthly	Grab	Effluent
TRC	All Year	1	mg/L	DMax Conc	Monthly	Grab	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	6.5	SU	DMin Conc	Monthly	Grab	Effluent

Table 6-38. Permit Limits for Knox Chapman Utility Knoxville WTP.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 5 Settleable Solids
- Total Suspended Solids
- 1 pH

Comments:

Turbidity removal WTP