Section 4
Permitted and Registered Activities in the Watauga River Basin

There are several programs in place to protect North Carolina's water resources. Programs include wastewater and stormwater, land application of wastewater effluent and biosolids, wetland and buffer, animal operations, source water protection, groundwater and drinking water protection. This section includes brief descriptions of the regulatory requirements, programs, management strategies and resources available for protecting waters of the state. More information about each of the programs can be found on the NC Department of Environmental Quality (DEQ) website and in the Supplemental Guide to Basinwide Planning (2008) as well as other state agency and county websites responsible for permitting or compliance issues.

4.1 Wastewater Management

The National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. It is authorized under the Clean Water Act. Not complying with permit limits on wastewater flow can lead to degraded water quality making surface waters unsafe for drinking, fishing, swimming and other activities. The NPDES Permitting and Compliance Programs in DWR are responsible for administering the program within North Carolina. These permits are reviewed and potentially renewed every 5 years. There are 31 NPDES permits issued in the Watauga River basin.

Table 4.1: NPDES Permits – Watauga River Basin

HUC	Permit Number	Facility Name	Receiving Stream	Permitted Flow (MGD)
060101030301	NC0030473	Mill Ridge Development WWTP	Watauga River	0.052
060101030301	NC0032123	Hound Ears WWTP	Watauga River	0.140
060101030301	NC0032191	Hebron Colony & Grace Home WWTP	Watauga River	0.009
060101030301	NC0032212	Yonahlossee WWTP	Lance Creek	0.150
060101030301	NC0033448	Valley Creek Apartments WWTP	Valley Creek	0.005
060101030301	NC0035149	Seven Devils Resort	Unnamed Tributary	0.120
060101030301	NC0042358	Adams Apple Condominiums WWTP	Watauga River	0.020
060101030301	NC0049174	Smoketree Lodge	Watauga River	0.010
060101030301	NC0050610	The Ponds WWTP	Watauga River	0.076
060101030301	NC0058891	Valley Creek WWTP	Valley Creek	0.900
060101030301	NC0062961	Tynecastle WWTP	Watauga River	0.030
060101030301	NC0070408	Art Plaza WWTP	Watauga River	0.035
060101030301	NC0087963	Buckeye Creek WWTP	Thunderhole Branch/ Laurel Creek	0.050
060101030301	NC0088579	Stone Bridge WWTP	Lance Creek	0.050

HUC	Permit Number	Facility Name	Receiving Stream	Permitted Flow (MGD)
060101030301	NC0089036	NC 105 WWTP	Watauga River	0.150
060101030302	NC0032182	Sunset Apartments	Brushy Fork	0.003
060101030302	NC0036242	Woodland Hills Apartments WWTP	Brushy Fork	0.007
060101030302	NC0067008	Old Cove Creek School	Cove Creek	0.010
060101030303	NC0032166	Camp Broadstone WWTP	WATAUGA RIVER	0.008
060101030303	NC0038041	Laurel Seasons WWTP	Laurel Fork	0.020
060101030303	NC0061425	Willow Valley Resort WWTP	Laurel Fork	0.030
060101030303	NC0067024	Valle Crucis Elementary School	Dutch Creek	0.007
060101030303	NC0072559	Valle Landing Shopping Center WWTP	Dutch Creek	0.004
060101030304	NC0066991	Bethel Elementary School	Beaverdam Creek	0.007
060101030305	NC0022730	Grassy Gap Creek WWTP	Buckeye Creek	0.080
060101030305	NC0069761	Pond Creek WWTP	Pond Creek	0.400
060101030201	NC0022900	Sugar Mountain WWTP	Flattop Creek	1.000
060101030201	NC0032115	Banner Elk WWTP	Elk River (Mill Pond)	0.600
060101030201	NC0058378	Elk River WWTP	Elk River (Mill Pond)	0.080
060101030201	NC0079561	Elk Park WWTP	Little Elk Creek	0.100
060101030201	NC0088439	Cranberry Creek Development WWTP	Blevins Creek	0.072

As part of their NPDES permit, some facilities are required to monitor whole effluent toxicity (WET). Acute and/or chronic toxicity tests are used to determine toxicity of the discharge to sensitive aquatic species (usually the fathead minnow, *Pimephales promelas*, or the water flea, *Ceriodaphnia dubia*). Results of the test can be used to help predict the impacts of the discharge to a receiving stream. DWR's Aquatic Toxicology Branch (ATB) in the Water Sciences Section maintains a compliance summary for all facilities required to perform WET tests and provides monthly updates of the information to regional offices as well as the central office.

Two facilities are required to conduct WET tests in the Watauga River basin. These include the Pond Creek WWTP (NC0069761) and the Sugar Mountain WWTP (NC0022900). The Pond Creek WWTP passed all but two tests during the five-year basin cycle covering 2009 through 2013. The Sugar Mountain WWTP passed all but four tests during the same five-year basin cycle. All follow-up tests from the initial failures were compliant.

4.2 Pretreatment, Emergency Response and Collections System (PERCS)

The Federal and State Pretreatment Program gives regulatory authority for EPA, states and municipal governments to control the discharge of industrial wastewater into municipal wastewater treatment plants (WWTP) or publicly owned treatment works (POTW). The objectives of the pretreatment program are to (1) prevent pass-through, interference or other adverse impacts to a POTW, employees or the

environment; (2) promote the beneficial reuse of biosolids; and (3) assure all categorical pretreatment standards are met.

There are an estimated 620 Significant Industrial Users (SIU) who discharge industrial wastewater to over 130 POTW throughout the state of North Carolina. Pretreatment programs are managed by the DWR Pretreatment, Emergency Response and Collections Systems (PERCS). None are located in the Watauga River basin.

4.3 On-Site Wastewater Treatment Systems (Septic Systems)

Instead of being sent to a wastewater treatment facility, wastewater from many households is treated on-site through the use of an on-site wastewater treatment system, more commonly referred to as a septic system. Poorly planned and/or maintained septic systems can fail and contribute to nonpoint source pollution. Wastewater from failing septic systems can contaminate ground and surface water. Failing septic systems are also health hazards and are considered illegal discharges when surface water is impacted.

An NPDES general permit is required if a septic system discharges less than 1,000 gallons per day (gpd) to surface waters. The general permit (NCG550000) allows the discharge of treated domestic wastewater to surface waters. Effluent limits must be met as part of the permit and monitoring is required on an annual basis. Additional provisions may also be included in the permit. Four general permits (NCG550000) were issued in the Watauga River basin. One facility was issued a notice for violating its permit. The Winston-Salem regional office is working with the permittee to ensure conditions of the permit are being met.

For all systems with a discharge greater than 3,000 gallons per day (gpd), system layout, plans and specifications must be reviewed and approved by the State. Guidance for determining the minimum design daily flow for domestic sewage is provided in administrative code (15A NCAC 18A .1949).

Table 4.2: NPDES General Permit – Single Family Domestic Wastewater Discharge – Watauga River Basin

HUC	Permit Number	Permit Type	Version	Violations
060101030301	NCG551312	Single Family Domestic Wastewater Discharge COC	4.0	None
060101030302	NCG550376	Single Family Domestic Wastewater Discharge COC	5.0	None
060101030302	NCG551602	Single Family Domestic Wastewater Discharge COC	1.0	Permit conditions violated. Notice sent 10/18/2016.
060101030202	NCG550770	Single Family Domestic Wastewater Discharge COC	5.0	None

The On-Site Water Protection (OSWP) Branch in the Environmental Health Section (EHS) of the Division of Public Health (DPH) in the Department of Health and Human Services (DHHS) is responsible for providing regulatory oversight of sub-surface on-site wastewater and dispersal systems as well as inspecting and testing the construction, repair or abandonment of a private drinking water well on or after July 1, 2008. OSWP provides statewide regulatory and consultative services related to both wastewater and private drinking water wells to local health departments as well as a number of other clients including:

builders, developers, landowners, system installers, well drillers, system operators, engineers, soil scientists, geologists, and environmental health consultants.

Information about the proper installation and maintenance of septic tanks can be obtained by contacting OSWP or county health departments. OSWP also has a Non-Point Source (NPS) Pollution Program that identifies potential NPS pollution from on-site systems as well as best management practices to ensure an on-site system is functioning properly. The program also has county statistics on the number of households using septic systems. The facts and figures are based off of the 1990 Census. In the Watauga River basin, it was determined that 62 percent of the residents in Avery County were using septic systems to dispose of domestic waste and 63 percent in Watauga County.

Table 4.3: Number of Septic Systems in the Watauga River Basin (based on 1990 Census data)

County	Land (mi2)	Total Population	Sewage Disposal (Housing Units)			Sewer Usage (%)	Septic Usage (%)	Potential N (lbs/yr)
			Sewer	Septic	Other			
Avery	108.03	8,014	1,796	3,193	131	35.08	62.36	60,118
Watauga	187.91	16,841	3,484	6,748	419	32.71	63.36	123,226
Total	295.94	24,855	5,280	9,941	550			183,343

Local health departments are responsible for ensuring that new septic systems are sited and constructed properly and an adequate repair area is available. Understanding the potential economic and human health ramifications caused by failing septic systems can help county, town and city planners plan for long-term septic system sustainability. In the Watauga River basin, information about septic systems can be directed to the Environmental Health program of the Appalachian District Health Department (AppHealthCare) in Watauga County and to the Environmental Health Section of the Toe River Health District in Avery County.

4.4 Non-Discharge Permitting (NDPU) and Land Application of Wastewater Effluent

Residuals, often referred to as biosolids, treated sludge or sewage sludge, are by-products of the wastewater treatment process. The Non-Discharge Permitting Unit (NDPU) is responsible for the permitting and compliance of facilities that land apply residual and wastewater effluent. Non-discharge wastewater options include spray irrigation, rapid infiltration basins, and drip irrigation systems. Biosolid sites include landfills, dedicated and non-dedicated residual disposal sites, and agricultural land for crops not consumed by humans. Biosolids are also available to the public as fertilizer for home use. When applied to land, steps must be taken to assure that residuals are applied at or below agronomic rates based on the soil and crop type. If the application is over agronomic rates, the biosolids must be taken to a dedicated residual disposal site or landfill. In addition to land application of biosolids, NDPU is also responsible for permitting facilities for the beneficial use of reclaimed water for the purpose of conserving the state's potable, ground and surface water resources. Currently, there are four non-discharge permits issued in the Watauga River basin.

Table 4.4: Non-Discharge Permits – Watauga River Basin

HUC	Permit Number	Facility Name	Permit Type
060101030301	WQ0003590	The Greater Foscoe Mining Company	Closed-Loop Recycle
060101030302	WQ0034774	Appalachian Residences	Wastewater Irrigation
060101030303	WQ0035784	Cottages of Boone	Wastewater Irrigation
060101030305	WQ0002523	Town of Beech Mountain Residuals Composting Facility and Distribution Program	Distribution of Residual Solids (503)

4.5 Wetland and Buffer Permitting Programs

DWR's 401 & Buffer Permitting Branch is responsible for implementing North Carolina's waters, wetlands and riparian buffer regulatory programs. The branch is also responsible for assisting with compliance and enforcement procedures. The number 401 refers to Section 401 of the Clean Water Act (CWA). A 401 certification confirms that a project will not degrade waters of the state or violate state water quality standards. The certificate is required for any federally permitted or licensed activity that may result in streambed, streambank or wetland disturbance. This includes damming a stream channel to create a pond or lake or placing material in a stream, wetland or open water. Examples include culvert installation, utility lines, dams, dikes or artificial islands. Active and expired 401 certifications and buffer permits can be found on an interactive projects map on the branch's website.

4.6 Transportation Permitting

Working closely with the NC Department of Transportation (NCDOT), the Transportation Permitting Branch assists with planning, permitting and designing projects to ensure water quality is protected. The branch reviews 401 certificate applications and wetland and stream mitigation plans associated with road projects. The branch also houses the headwater stream spatial dataset. Documents related to NCDOT projects which include buffer impacts, stream determinations, mitigation and 401 certifications as well as 401 stormwater management plans are available through DWR's Document Management System which is available on the Transportation Permitting Branch's website.

4.7 Stormwater Programs

The goal of the NC Division of Energy, Minerals and Land Resources (DEMLR) stormwater programs is to prevent pollution from entering the waters of the state via stormwater runoff. The Stormwater Permitting Program develops, plans and implements statewide stormwater control policies, strategies and rules designated to protect surface waters. The program handles permitting for industrial, municipal and post-construction (development) projects and provides technical assistance to communities, engineers, industry, citizens and local governments. Stormwater control programs include those required under NPDES, Post-Construction and Water Supply Watersheds. DEMLR maintains an interactive web-based map to help the public determine whether development activities are subject to the post-construction permitting program or other stormwater permitting requirements. A tutorial and guidance documents are also available for interpreting the map.

Currently, there are six NPDES stormwater permits issued in the Watauga River basin (Table xx). North Carolina has 21 different industrial general permits that cover stormwater discharge associated with

industrial activities and construction. Industries that are eligible for one of the general permits are issued a Certificate of Coverage (COC). Industries that are not eligible for a general permit are required to obtain an individual permit. A map is available online to assist the public in finding facilities or projects with stormwater permits.

Table 4.5: NPDES Stormwater Permits – Watauga River Basin

HUC	Permit Number	Facility Name	Permit Type
060101030303	NCG020251	Vulcan Construction Materials-Boone Quarry	Mining Activities Stormwater Discharge Certificate of Coverage (COC)
060101030303	NCG080900	Boone Bin	Transportation w/Vehicle Maintenance/Petroleum Bulk/Oil Water Separator Stormwater Discharge COC
060101030303	NCG140101	Chandler Concrete Co., Inc.	Ready Mix Concrete Stormwater/Wastewater Discharge COC
060101030303	NCG140259	R H Loven Co Incorporated	Ready Mix Concrete Stormwater/Wastewater Discharge COC
060101030303	NCG160039	Maymead Materials Inc - Brown	Asphalt Paving Mixture Stormwater Discharge COC
060101030303	NCG160141	Maymead Materials Inc	Asphalt Paving Mixture Stormwater Discharge COC

4.8 Animal Operations

DWR's Animal Feeding Operations Program is responsible for permitting and compliance activities of animal feeding operations across the state. Animal operations are defined by General Statute 143-215.10B as feedlots having more than 250 swine, 100 confined cattle, 75 horses, 1,000 sheep or 30,000 poultry with a liquid waste management system. All permitted animal operations are required to have a Certified Animal Waste Management Plan (CAWMP). The CAWMP is developed by a Certified Technical Specialist and is incorporated into the permit. An interactive map of confined animal feeding operations can be found on the program's website.

There are many deemed permitted operations across the state. Operations considered deemed permitted have fewer animals than the state requires to obtain a permit or have a waste management system that does not require a state or federal permit. Poultry operations that use dry waste systems (dry litter poultry operations) are examples of operations that are deemed permitted. Owners or operators of dry litter poultry facilities are, however, required to adhere to rules set forth under 15A NCAC 02T .1303 and General Statute 143-215.10C which include minimum stream setbacks, land application rates, soil analysis, and recordkeeping. Working with local stakeholders, no permitted animal agricultural operations were identified as having a water quality impact in the Watauga River basin. Pasture areas and areas with little to no riparian area on agricultural land, however, were identified in three watersheds as potential areas of concern as it relates to water quality as well as cold water habitats for native trout populations.

4.9 Public Water Systems

It is the responsibility of DWR's Public Water Supply Section (PWSS) to regulate public water systems (PWS) within the state under the authority of General Statute 130A Article 10: North Carolina Drinking Water Act. Public water systems (PWS) are those that provide piped drinking water to 15 or more service connections or 25 or more people for 60 or more days per year. A PWS is identified by the number of people served or number of connections and the number of days or months of the year that the population is served. There are 93 PWSs located in the Watauga River basin. Information about the PWSs are included in the watershed chapters.

Table 4.6: Types of Public Water Supply Systems (PWS)

Public Water Supply (PWS) Type	Description
Community	Regularly serves 25 or more year-round residents or has 15 or more connections. Examples include subdivisions, mobile home parks, prisons and assisted living centers.
Non-Transient Non-Community	Serves at least 25 of the same persons 6 or more months per year. Examples include schools, daycares and industries.
Transient Non-Community	Serves 25 or more people at any given time at least 60 days per year. Examples include restaurants, gas stations, rest areas and campgrounds.

4.10 Source Water Assessment Program (SWAP)

Pollution prevention is recognized as the most effective approach for ensuring a reliable, long-term and safe public drinking water supply. The Safe Drinking Water Act (SDWA) amendments of 1996 required that all states establish a Source Water Assessment Program (SWAP). SWAP allows the state to systematically identify potential contaminants and delineate source water protection areas by using existing data from established federal and state environmental programs.

The primary goal of SWAP is to protect public drinking water supplies. Detailed assessments of all public drinking water intakes are available for review and can be used as a planning tool to protect public drinking water sources. An interactive map is also available which provides general information about the water source and its susceptibility rating. The susceptibility rating is based on a contaminant rating and an inherent vulnerability rating and indicates the potential for a drinking water source to become contaminated. It should be noted that the susceptibility rating is not an indicator of water quality, but rather the potential for a water source to be impacted by the identified contaminants within the assessment area.

4.11 Wellhead Protection (WHP) Program

In 1986, amendments to the Safe Drinking Water Act (SWDA) established requirements for states to develop Wellhead Protection (WHP) programs. WHP programs were intended by Congress to be a key part of a national groundwater protection strategy to prevent contamination of groundwater used for public drinking water supplies. In North Carolina, development of a local WHP plan is not mandatory but is encouraged and viewed as a valuable supplement to existing groundwater protection programs. North Carolina's program is intended for city and county governments and water supply operators who wish to provide added protection to their local groundwater supplies. The WHP plan identifies the wellhead

protection area (WHPA). A WHPA is defined as "the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfields." Once implemented, the WHP plan reduces, but does not eliminate, the susceptibility of wells to contaminants. Currently, Banner Elk (PWS ID 01-06-015) and Elk Park (PWS ID 01-06-025) have wellhead protection plans in place.

4.12 Local Water Supply Plans (LWSP)

Under General Statute 143-355(l), local governments that provide public water service are required to prepare local water supply plans (LWSP). All community water systems that have 1,000 or more service connections or serve more than 3,000 people on a regular basis are also required to prepare a LWSP. The LWSP is an assessment of a water system's current and future water needs and its ability to meet those needs. By understanding current and future needs, local governments and community systems will be better able to manage water supplies, plan for future growth, and prepare for system improvements. Data in the LWSP is entered by the Public Water Supply System (PWSS) and includes information about population, population projections, water supply and demand. The PWS reports water usage annually to DWR and updates the LWSP at least every five years.

Five PWS's are required to submit a LWSP. Combined, the PWS's supplied 0.832 millions of gallons (MGD) of water to 5,055 people in 2015[1]. Residential demand accounted for 34 percent of the total use. Non-residential demand accounted for 15 percent. The remaining 51 percent was used for system processes (cleaning and flushing waterlines, backwash, etc.) or is unaccounted for. Due to terrain, elevation and locations, each system is independent of the other. Four PWS's obtain water from self-supplied groundwater wells and one (Beech Mountain PWS ID 01-95-104) relies on surface water. During drought conditions, supply can be limited by relatively low-yielding wells and small headwater streams that drain the basin. More information about water use and demand can be found in the watershed chapters.

Table 4.7: Public Water Systems Required to Submit Local Water Supply Plans (LWSP) (2015)

PWS ID	PWS Name	Ownership	Source Water
01-06-015	Banner Elk	Municipality	Groundwater wells
01-06-025	Elk Park	Municipality	Groundwater wells
01-06-107	Sugar Mountain	Business	Groundwater wells
01-95-104	Beech Mountain	Municipality	Surface water intake
01-95-118	Seven Devils	Municipality	Groundwater wells

4.13 Water Withdrawal & Transfer Registration

General Statute 143-215.22H requires that any non-agriculture person or entity who withdraws 100,000 gallons or more of water per day from surface water or groundwater or who transfers 100,000 gallons or more of water per day from one river basin to another register the withdrawal or transfer with the Environmental Management Commission (the Commission). Any agricultural water users that withdraw or transfer 1,000,000 gallons or more of surface water or groundwater per day must also register the withdrawal or transfer. The withdrawal or transfer can be registered through the Water Withdrawal & Transfer Registration (WWATR) program administered through DWR. Under administrative rule (15A

[1] Seven Devils (PWS ID 01-95-118) did not submit updated water use numbers in 2015. The 2014 LWSP was used.

NCAC 02E .0604), registrants must report monthly average water use in million gallons per day (MGD) on an annual basis.

Thirteen facilities withdraw a combined 1.197 MGD over the course of a year with the majority being used for seasonal recreational use. Registered withdrawers include four drinking water supply systems (PWS) not required to submit a LWSP, five golf courses, three ski resorts and one mining operation. More information about water use and demand can be found in the watershed chapters.

Table 4.8: Water Withdraw and Transfer Registration (WWATR) in the Watauga River Basin (2015)

HUC	Facility Name	Facility ID	Use Type	Source Water
060101030301	Crystal Mountain	0378-0021	Public Water Supply PWS ID 01-95-110	Groundwater wells
060101030301	Hound Ears	0378-0004	Public Water Supply PWS ID 01-95-112	Groundwater wells
060101030301	Hound and Ears Club, Inc.	0636-0001	Recreation – Golf Course	Surface water – pond
060101030301	Hawksnest	0405-0001	Recreation – Snow Making	Surface water – ponds
060101030303	Vulcan Construction Materials, L. P.	0199-0023	Mining – Mining Extraction	Surface water – quarry
060101030305	Beech Mountain Club	0766-0001	Recreation – Golf Course	Surface water – lake
060101030305	Ski Beech (Beech Mountain Resort, Inc.)	0404-0001	Recreation – Snow Making	Surface water – pond
060101030201	Diamond Creek Golf Club	0767-0001	Recreation – Golf Course	Groundwater wells Surface water – pond
060101030201	Elk River Club	0724-0001	Recreation – Golf Course	Surface water – pond
060101030201	Mountain Glen Golf Course	0723-0001	Recreation – Golf Course	Groundwater well Surface water – pond
060101030201	Sugar Mountain Ski Area	0415-0001	Recreation – Snow Making	Surface water – pond
060101030201	Ski Country	0378-0017	Public Water Supply PWS ID 01-06-119	Groundwater well
060101030201	Elk River (Elk River Utilities, Inc.)	0378-0011	Public Water Supply PWS ID 01-06-118	Groundwater wells

Table 4.9: Total Water Use of Registered Withdrawers by Type (2015)

Use Type	Number of Facilities	Annual Average (MGD)	Percent of Total Use
Agriculture	0	0	0.0%
Mining	1	0.194	16.2%
Public Water Supply	4	0.213	17.8%
Golf Course (Recreation)	5	0.333	27.8%
Snow Making (Recreation)	3	0.457	38.2%
Total	**13**	**1.197**	**100.0%**

4.14 Groundwater and the Ground Water Management Branch (GWMB)

It's estimated that more than 50 percent of the state's population receives its drinking water supply from groundwater. This includes 25 percent of the public water systems and all the self-supplied domestic drinking water. Groundwater is also withdrawn extensively for irrigation and livestock, mining and self-supplied commercial and industrial uses.

The Ground Water Management Branch (GWMB) of DWR provides technical and management support for the development and use of groundwater resources in the state and manages a comprehensive monitoring network comprised of approximately 650 wells located throughout the state. The primary purpose of the network is to ensure North Carolina has and maintains an adequate groundwater supply for all its citizens. Information collected from the state monitoring network is published in an annual online report and is used to:

- Evaluate the effects of drought, recharge and discharge on water supply;
- Monitor pumping effects to assure groundwater is being used at sustainable rates;
- Regulate water use in the Central Coastal Plain Capacity Use Area (CCPCUA);
- Monitor chloride in the Coastal Plain to determine if saltwater intrusion is impacting water supplies; and
- Provide high quality groundwater data to local governments, groundwater professionals and the public.

Groundwater levels and other data collected from the monitoring network are available online and includes maps, historic and current groundwater levels, chloride measurements, well construction records, well locations and lithologic and geophysical well logs. Hourly water level data is also available upon request for specific wells.

No groundwater monitoring wells are in the Watauga River basin; however, methodology has been developed using stream gage data to estimate the groundwater volumes. More information about water use and availability can be found in the chapter titled Water Use and Availability in the Watauga River Basin.

4.15 Underground Storage Tanks

EPA defines an underground storage tank (UST) system as a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. Federal UST regulations

apply only to UST systems storing either petroleum or certain hazardous substances. Not all USTs fall under federal regulation. These include: farm and residential tanks containing motor fuel for noncommercial purposes with a holding capacity of 1,100 gallons or less; tanks for storing heating oils used on the site where it is stored; tanks on or above the floor of underground areas (i.e., basements or tunnels); septic tanks and systems used to collect storm and/or wastewater; flow-through process tanks; and emergency spill and overfill tanks.

Until the mid-1980s, most USTs were made of bare steel which is likely to corrode over time allowing the contents of the tank to leak into the environment. Inadequate operating and maintenance procedures, as well as faulty installation, can also cause a UST to release its contents into the environment. Once the petroleum or other hazardous substance is released into the environment, it can seep into the soil and contaminate ground and surface water. Other health and environmental risks include the potential for fire and explosion, contaminated drinking water, and potentially deadly impacts to terrestrial and aquatic life.

In North Carolina, the Underground Storage Tanks (UST) Section is in the Division of Waste Management (DWM). The section manages the UST program, the non-UST release program (petroleum aboveground storage tank (AST) releases), and the Ex-Situ Petroleum Contaminated Soil Remediation Permit program. The section also oversees permanent closure activities, administers several trust funds for the reimbursement of cleanup costs associated with releases, and ensures compliance with all relevant state and federal laws, policies, rules and regulations by assisting owners and operators in complying with operation standards.

A petrochemical seep in the Watauga River in the Town of Foscoe was reported to DEQ's Winston-Salem Regional Office (WSRO) and the Watauga County Emergency Response Team in July 2017. It was located between Church Road and Riverside Farm Road and was first reported by a local angler to the Watauga Riverkeeper who then contacted the proper agencies to investigate the source of the seep. Soon after the seep was confirmed, a recreational use advisory was issued by Appalachian District Health Department (AppHealthCare), and the UST Section collected water from water supply wells to ensure the contaminant was below detection limits for drinking water standards. Catch booms were installed to absorb the petrochemical in an effort to prevent the contaminant from moving further downstream.

In September 2017, DWM worked with an environmental consulting firm to stabilize the seeps. Petroleum covered vegetation was removed from the streambank; absorbent pads along with a vacuum truck was used to remove any free product that was present; and more than 100 feet of booms were placed along the streambanks where seeps were observed. An additional boom was placed down river as an added precaution and a recreational advisory is still in effect (Sherrill, October 5, 2017; AppHealthCare, October 5, 2017). Comments received by the Watauga Riverkeeper note that the cleanup improved conditions without impacting the flora and fauna but the seeps remain. An advisory will remain in effect until DHHS and AppHealthCare determine that the seeps are no longer impacting recreational use in the river. Watauga County, AppHealthCare, DEQ, DHHS and DWM continue to investigate the source of the contamination.

4.16 References

References are included throughout this section as hyperlinks.