Columbia County, Pennsylvania

CHESAPEAKE BAY TRIBUTARY STRATEGY

Completed February 2005
Updated March 2013

CONTENTS

A. COLUMBIA COUNTY

County Description

Columbia County, located in north central Pennsylvania, was created on March 22, 1813 from part of Northumberland County. The name Columbia is a poetic description for the United States that alludes to Christopher Columbus. There are nine boroughs within Columbia County; Ashland, Benton, Berwick, Briar Creek, Catawissa, Centralia, Millville, Orangeville, and Stillwater. There are twenty-four townships within Columbia County; Beaver, Benton, Briar Creek, Catawissa, Cleveland, Conyngham, Fishing Creek, Franklin, Greenwood, Hemlock, Jackson, Locust, Madison, Main, Mifflin, Montour, Mount Pleasant, North Centre, Orange, Pine, Roaring Creek, Scott, South Centre, and Sugarloaf. Columbia County has the distinction of having the only incorporated town in Pennsylvania; Bloomsburg, which is also the county seat. As of 2010, the population of Columbia County was 67,295. Most of the population is located in the communities surrounding the Susquehanna River, which travels east to west through the center of the county. The area south of the Susquehanna River is mostly farmland and state game lands with the southern tip of Columbia County being part of Pennsylvania's Coal Region. Farmland and several patches of forest cover much of the area north of the Susquehanna River to the Sullivan County border. Columbia County has a total area of 490 square miles (313,600 acres), of which 485 square miles (310,400 acres) is land and 5 square miles (3,200 acres) is water. More than 50% of Columbia County is forested and 26% of the land is used for Agriculture. All 490 square miles of Columbia County drain into the Susquehanna River and eventually into the Chesapeake Bay.

Columbia County by the Numbers, 2010

Population: 67,295
Density: 138/sq. mi

Area: 490 sq. mi (313,600 acres)
Land: 485 sq. mi (310,400 acres)
Water: 5 sq. mi (3,200 acres)

Land Use:
52% Forest: 256 sq. mi (164,200 acres)
26% Cropland: 128 sq. mi. (81,430 acres)
4% Urban: 18 sq. mi (11,441 acres)
17% Non-Ag/Lawn: 82 sq. mi (52,829 acres)
1% Water: 6 sq. mi (3,283 acres)

Total Length of:
All Waterways: 783.5 mi
High Quality (HQ): 93.6 mi
Exceptional Value (EV): 39 mi
Cold Water Fishes (CWF): 472 mi
Warm Water Fishes (WWF): 69 mi
Trout Stocked Fishes (TSF): 109 mi
Impaired Waterways: 196.6 mi

Watersheds:
Briar Creek: 32 sq. mi (20,480 acres)
Catawissa Creek: 152 sq. mi (97,280 acres)
Chillisquaque Creek: 112 sq. mi (71,680 acres)
Fishing Creek: 386 sq. mi (247,040 acres)
Roaring Creek: 88 sq. mi (56,320 acres)
Susquehanna River: 49 sq. mi (31,680 acres)

B. CHESAPEAKE BAY

History of the Chesapeake Bay Program

The original Chesapeake Bay Agreement was a simple one-page pledge signed in 1983 by the Environmental Protection Agency (EPA), the State of Maryland, the Commonwealths of Pennsylvania and Virginia, and the District of Columbia. These partners agreed that the findings of the Chesapeake Bay Program had shown an historical decline in the living resources of the Chesapeake Bay and that a cooperative approach was needed to fully address the extent, complexity and sources of pollutants entering the Bay.

The 1987 Chesapeake Bay Agreement set the first numeric goals to reduce pollution and restore the Bay ecosystem. Among other goals, the agreement aimed to reduce nitrogen and phosphorus entering the Bay by 40 percent by 2000. Agreeing to numeric goals with specific deadlines was unprecedented in 1987, but the practice has become a hallmark of the Bay Program. In amendments added in 1992, Bay Program partners agreed to attack nutrients at the source: upstream in the Bay's rivers.

Photo: Chesapeake Bay Watershed

In 2000, Bay Program partners signed Chesapeake 2000, a comprehensive agreement that set a clear vision and strategy to guide restoration efforts through 2010. Chesapeake 2000 established over 100 goals to reduce pollution, restore habitats, protect living resources, promote sound land use practices and engage the public in Bay restoration. It was also the first Bay agreement to emphasize ecosystem-based fisheries management. The agreement was successful in laying the groundwork for restoration efforts in the 2000s and beyond, but Chesapeake 2000's success was mixed. Bay Program partners achieved significant restoration gains in certain areas, such as land conservation, forest buffer restoration and reopening fish passage. However, limited progress was made toward many other health and restoration measures, including oyster abundance and reducing nutrient pollution from agriculture and urban areas.

By 2009, it was clear that Bay Program partners needed to dramatically accelerate the pace of Bay restoration. That year, the Executive Council decided to focus on short-term restoration goals called milestones. In addition to pursuing long-term deadlines like in past agreements, the seven Bay jurisdictions would set and meet goals every two years. By achieving their two-year milestones, the jurisdictions will put in place all restoration measures necessary for a restored Bay no later than 2025.

In 2010, the EPA established the landmark Chesapeake Bay Total Maximum Daily Load (TMDL). The Chesapeake Bay TMDL is a federal "pollution diet" that sets limits on the amount of nutrients and sediment that can enter the Bay and its tidal rivers to meet water quality goals. Each of the seven Bay jurisdictions has created a Watershed Implementation Plan (WIP) that spells out detailed, specific steps the jurisdiction will take to meet these pollution reductions by 2025. Federal, state and local governments are coordinating through the Bay Program partnership to develop the WIPs. The WIPs will guide local and state Bay restoration efforts through the next decade and beyond. The Bay jurisdictions will use their two-year milestones to track and assess progress toward completing the restoration actions in their WIPs.

Current Health of the Bay

The current status of the Bay's health remains unacceptable. While total pollution levels have declined since 1983, most of the Bay's waters are degraded and are incapable of fully supporting fishing, crabbing, or recreational activities. Algal blooms fed by nutrient pollution block sunlight from reaching underwater Bay grasses and lead to low oxygen levels in the water. Suspended sediment from urban development, agricultural lands, and some natural sources is carried into the Bay and clouds its waters. Portions of the Bay and its tidal tributaries are contaminated with chemical pollutants that can be found in fish tissue. The Bay's critical habitats

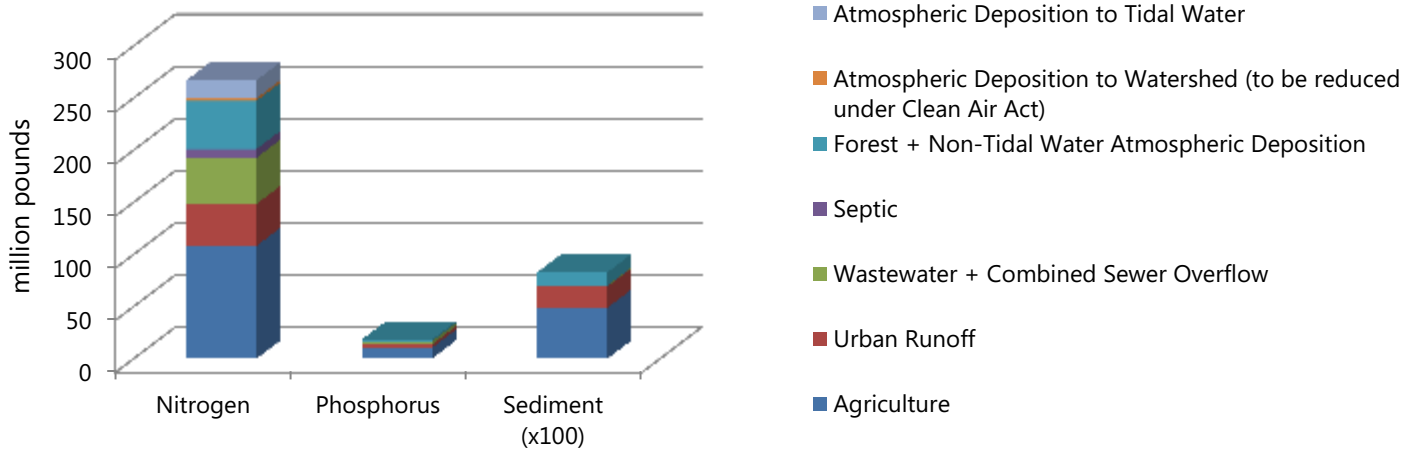
and food web are at risk. Nutrient and sediment runoff have harmed Bay grasses and bottom habitat, while disproportionate algae growth has pushed the Bay food web out of balance. The Bay's habitats and lower food web (benthic and plankton communities) are functioning at 45 percent of desired levels. Many of the Bay's fish and shellfish populations are below historical levels. The blue crab population continues to be low, and the stock is not rebuilding; oyster restoration efforts are hampered by disease, and the stock remains at low levels; American shad continues at depressed levels; the menhaden population in the Bay is low despite healthy populations along the Atlantic coast; and while striped bass are plentiful, there is concern about disease and malnutrition.

Significant Pollutants and Sources

The greatest pollution threats to the Bay are from sediment and nutrients (nitrogen and phosphorus). These pollutants come from many sources, including agricultural operations, wastewater treatment facilities, urban storm water runoff, and air deposition from power plants and cars. Agricultural sources contribute the largest nutrient and sediment pollution in the watershed, accounting for approximately 38 percent of nitrogen loading, 45 percent of phosphorus loading, and 60 percent of the sediment loading. About one-half of the nitrogen from agriculture is from animal manure. Municipal and industrial wastewater treatment facilities account for approximately 20 percent of the nutrient loading to the Bay. Urban and suburban storm water runoff account for approximately 10 percent of the nitrogen loading, 31 percent of phosphorous loading, and 19 percent of sediment loading. Population growth and development and the rapid increase in the amount of impervious surfaces have caused storm water pollution to be a growing concern.

Air pollution contributes approximately 34 percent of the total nitrogen loading to the Bay. Modeling estimates based on projected emissions for 2025 indicate that the relative contributions of different source sectors of airborne nitrogen oxide (NOx) emissions to oxidized nitrogen deposition to the Bay watershed will be 26 percent from on-road mobile sources; 21 percent from non-road/marine/construction mobile sources; 17 percent from industrial sources; 15 percent from power plants; 12 percent from residential and commercial sources; and 9 percent from other sources. Other pollutants of concern in the Bay include hazardous wastes, like polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals in river sediment. These contaminants can leach into the groundwater or discharge directly into the Bay from different sources in the watershed and air shed, such as industrial facilities, hazardous waste sites, landfills, urban storm water runoff, and mobile and stationary air sources.

Table: Loads Delivered to the Chesapeake Bay by Source, 2010*



*Loads simulated using 5.3.2 version of Watershed Model and wastewater discharge data reported by Bay jurisdictions.

C. COLUMBIA COUNTY WATER RESOURCES

Water Quality

Columbia County has 783.5 miles of waterways that all flow to the Chesapeake Bay. Of these, 196.6 miles are listed as impaired with 125 miles impaired by agricultural use. As of 2013, the Department of Environmental Protection (DEP) has completed Total Maximum Daily Load (TMDL) studies on 75 miles of Columbia County waterways. A TMDL provides a "pollution diet" or limit on the amount of pollutants entering a body of water. With a TMDL completed, the Columbia County Conservation District is able to discuss options with partnering agencies and private landowners to reduce pollutants entering the waterways and work to develop and implement best management practices (BMPs) to improve water quality. A full list of completed and proposed TMDLs can be found on DEPs website.

Columbia County Streams	Miles	Designated Use	Impairment	TMDL (Date) [1]
Briar Creek Watershed				
East Branch Briar Creek	1.2	CWF	Low Dissolved Oxygen, Thermal	
Total Impaired Stream Miles:	**1.2**			
Catawissa Creek Watershed				
Catawissa Creek	20.6	CWF, TSF	Abandoned Mine Drainage - Metals	Metals, pH (2003)
Cranberry Run	2.0	CWF	Atmospheric Deposition - pH	Metals, pH (2003)
Fisher Run	0.1	TSF	Abandoned Mine Drainage - Metals	Metals, pH (2003)
Unnamed Tributaries	5.0	CWF, TSF	Abandoned Mine Drainage – pH	Metals, pH (2003)
Total Impaired Stream Miles:	**27.7**			
Chillisquaque Creek Watershed				
East Branch Chillisquaque Creek	2.2	WWF	Agriculture - Siltation	
Middle Branch Chillisquaque Creek	1.5	WWF	Agriculture - Siltation	
Mud Creek	4.0	WWF	Agriculture - Siltation, Organic	Organic Enrich. (2011)
White Hall Creek	1.3	WWF	Agriculture - Siltation, Organic	
Unnamed Tributaries	26.5	WWF	Agriculture - Siltation, Organic	
Total Impaired Stream Miles:	**35.5**			
Fishing Creek Watershed				
Deerlick Run	3.8	CWF	Agriculture - Siltation, Road Runoff	Siltation (2012)
East Branch Fishing Creek	2.3	HQ-CWF	Atmospheric Deposition - pH	Metals, pH (2010)
Elk Run	0.1	EV	Atmospheric Deposition - pH	
Frozen Run	2.4	CWF	Agriculture - Siltation	
Hemlock Creek	8.0	CWF	Agriculture - Siltation	Siltation (2012)
Little Fishing Creek	2.4	CWF	Source Unknown - Pathogens	
Montour Run	4.2	CWF	Crop Related Agriculture - Siltation	Siltation (2012)
Mud Run	6.5	TSF	Agriculture - Siltation, Road Runoff	Siltation (2012)
West Hemlock Creek	3.7	CWF	Agriculture - Siltation	
Wolfhouse Run	2.9	EV	Road Runoff	
Unnamed Tributaries	58.1	CWF, TSF	Agriculture – Siltation Atmospheric Deposition - pH	
Total Impaired Stream Miles:	**94.4**			
Roaring Creek Watershed				
Roaring Creek	8.9	HQ-CWF, TSF	Source Unknown - Pathogens	
South Branch Roaring Creek	2.2	HQ-CWF	Source Unknown - Pathogens	

Unnamed Tributaries	2.8	CWF, TSF	Agriculture Siltation Source Unknown - Pathogens	
Total Impaired Stream Miles:	**13.9**			
Susquehanna River Watershed (Columbia County Tributaries)				
Kinney Run	3.2		Urban Runoff/Storm Sewers - Siltation	
Nescopeck Creek	0.05		Abandoned Mine Drainage - Metals	Metals; pH (2006)
Susquehanna River	18.4		Source Unknown – Mercury Source Unknown - PCB	PCB (1999)
Unnamed Tributaries	2.2		Channelization – Flow Alterations	
Total Impaired Stream Miles:	**23.9**			
Total Impaired Stream Miles (Within Columbia County):	**196.6**			

[1] Only impaired streams within Columbia County are shown in table. For a full list of TMDL streams please see DEP TMDL website.

Columbia County Watersheds

There are six main watersheds in Columbia County; Briar Creek Watershed, Chillisquaque Creek Watershed, Catawissa Creek Watershed, Fishing Creek Watershed, Roaring Creek Watershed, and the Susquehanna River (Columbia County Tributaries) Watershed.

Watershed Groups

There are four active watershed groups in Columbia County. They are:

Briar Creek Association for Watershed Solutions
Catawissa Creek Restoration Association
Fishing Creek Watershed Association
Roaring Creek Watershed Association

Briar Creek Watershed		
Total Area:	32 sq. mi (20,480 acres)	
Land Use:		
Forest	12.8 sq. mi (8,192 acres)	41%
Cropland	11 sq. mi (7,400 acres)	34%
Urban	1.8 sq. mi (1,150 acres)	6%
Non-Ag/Lawn	6.2 sq. mi (3,900 acres)	19%
Water	0.2 sq. mi (128 acres)	0.1%
Total Length of:		
All Waterways	44.2 mi	
High Quality (HQ)	0 mi	
Exceptional Value (EV)	0 mi	
Cold Water Fishes (CWF)	44.2 mi	
Warm Water Fishes (WWF)	0 mi	
Trout Stocked Fishes (TSF)	0 mi	
Impaired Streams	1.7 mi	

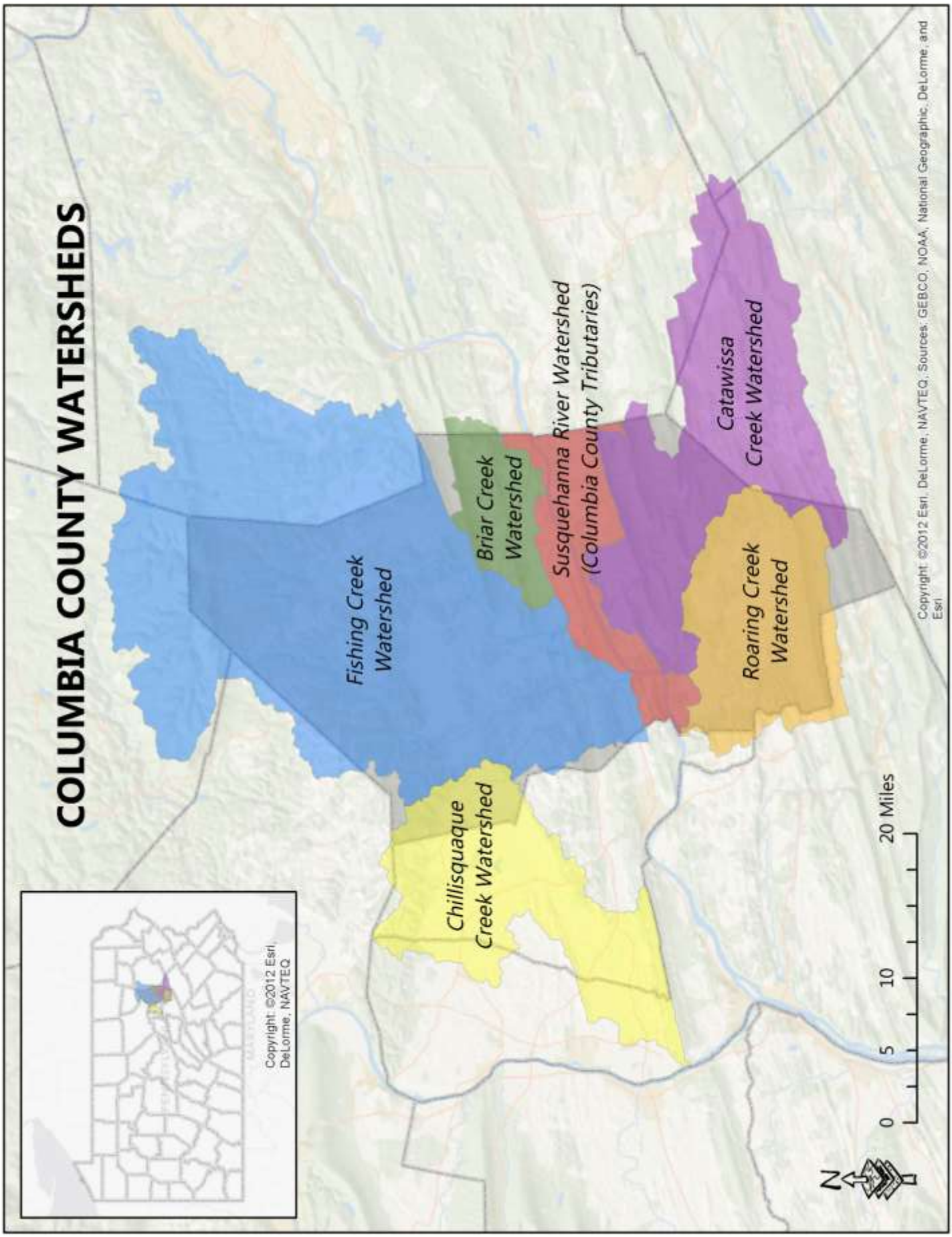
Fishing Creek Watershed		
Total Area:	386 sq. mi (246,826 acres)	
Land Use:		
Forest	239 sq. mi (152,885 acres)	62%
Cropland	73 sq. mi (46,803 acres)	19%
Urban	15 sq. mi (9,698 acres)	4%
Non-Ag/Lawn	56 sq. mi (35,751 acres)	14%
Water	2.5 sq. mi (1,577 acres)	1%
Total Length of:		
All Waterways	679 mi	
High Quality (HQ)	176 mi	
Exceptional Value (EV)	58 mi	
Cold Water Fishes (CWF)	350 mi	
Warm Water Fishes (WWF)	11 mi	
Trout Stocked Fishes (TSF)	85 mi	
Impaired Streams	139 mi	

Catawissa Creek Watershed		
Total Area:	152.9 sq. mi (97,586 acres)	
Land Use:		
Forest	108 sq. mi (69,263 acres)	71%
Cropland	20 sq. mi (12,880 acres)	13%
Urban	2 sq. mi (1,277 acres)	1%
Non-Ag/Lawn	21.9 sq. mi (14,016 acres)	14%
Water	1 sq. mi (689 acres)	1%
Total Length of:		
All Waterways	200.5 mi	
High Quality (HQ)	51.6 mi	
Exceptional Value (EV)	0 mi	
Cold Water Fishes (CWF)	120.4 mi	
Warm Water Fishes (WWF)	0 mi	
Trout Stocked Fishes (TSF)	28.5 mi	
Impaired Streams	70.6 mi	

Roaring Creek Watershed		
Total Area:	88.2 sq. mi (56,320 acres)	
Land Use:		
Forest	46 sq. mi (29,626 acres)	53%
Cropland	27 sq. mi (17,033 acres)	30%
Urban	0.7 sq. mi (466 acres)	1%
Non-Ag/Lawn	14 sq. mi (8,890 acres)	16%
Water	0.5 sq. mi (293 acres)	0.3%
Total Length of:		
All Waterways	127 mi	
High Quality (HQ)	68.7 mi	
Exceptional Value (EV)	0 mi	
Cold Water Fishes (CWF)	42.6 mi	
Warm Water Fishes (WWF)	0 mi	
Trout Stocked Fishes (TSF)	15.7 mi	
Impaired Streams	14 mi	

Chillisquaque Creek Watershed		
Area:	112 sq. mi (71,680 acres)	
Land Use:		
Forest	34 sq. mi (21,879 acres)	31%
Cropland	51 sq. mi (32,379 acres)	45%
Urban	2.5 sq. mi (1,616 acres)	2%
Non-Ag/Lawn	24 sq. mi (15,361 acres)	21%
Water	0.6 sq. mi (391 acres)	1%
Total Length of:		
All Waterways	247 mi	
High Quality (HQ)	0 mi	
Exceptional Value (EV)	0 mi	
Cold Water Fishes (CWF)	0 mi	
Warm Water Fishes (WWF)	247 mi	
Trout Stocked Fishes (TSF)	0 mi	
Impaired Streams	183 mi	

Susquehanna River Watershed (Columbia County Tributaries)		
Area:	49 sq. mi (31,680 acres)	
Land Use:		
Forest	17 sq. mi (11,075 acres)	35%
Cropland	14.7 sq. mi (9,428 acres)	30%
Urban	5 sq. mi (3,203 acres)	10%
Non-Ag/Lawn	9 sq. mi (5,849 acres)	18%
Water	3.3 sq. mi (2,108 acres)	7%
Total Length of:		
All Waterways	71.8 mi	
High Quality (HQ)	4.3 mi	
Exceptional Value (EV)	0 mi	
Cold Water Fishes (CWF)	46.5 mi	
Warm Water Fishes (WWF)	21 mi	
Trout Stocked Fishes (TSF)	0 mi	
Impaired Streams	23.8 mi	


COLUMBIA COUNTY WATERSHEDS
Fishing Creek Watershed
Briar Creek Watershed
Susquehanna River Watershed (Columbia County Tributaries)
Catawissa Creek Watershed
Roaring Creek Watershed
Chillisquaque Creek Watershed
0
5
10
20 Miles
N
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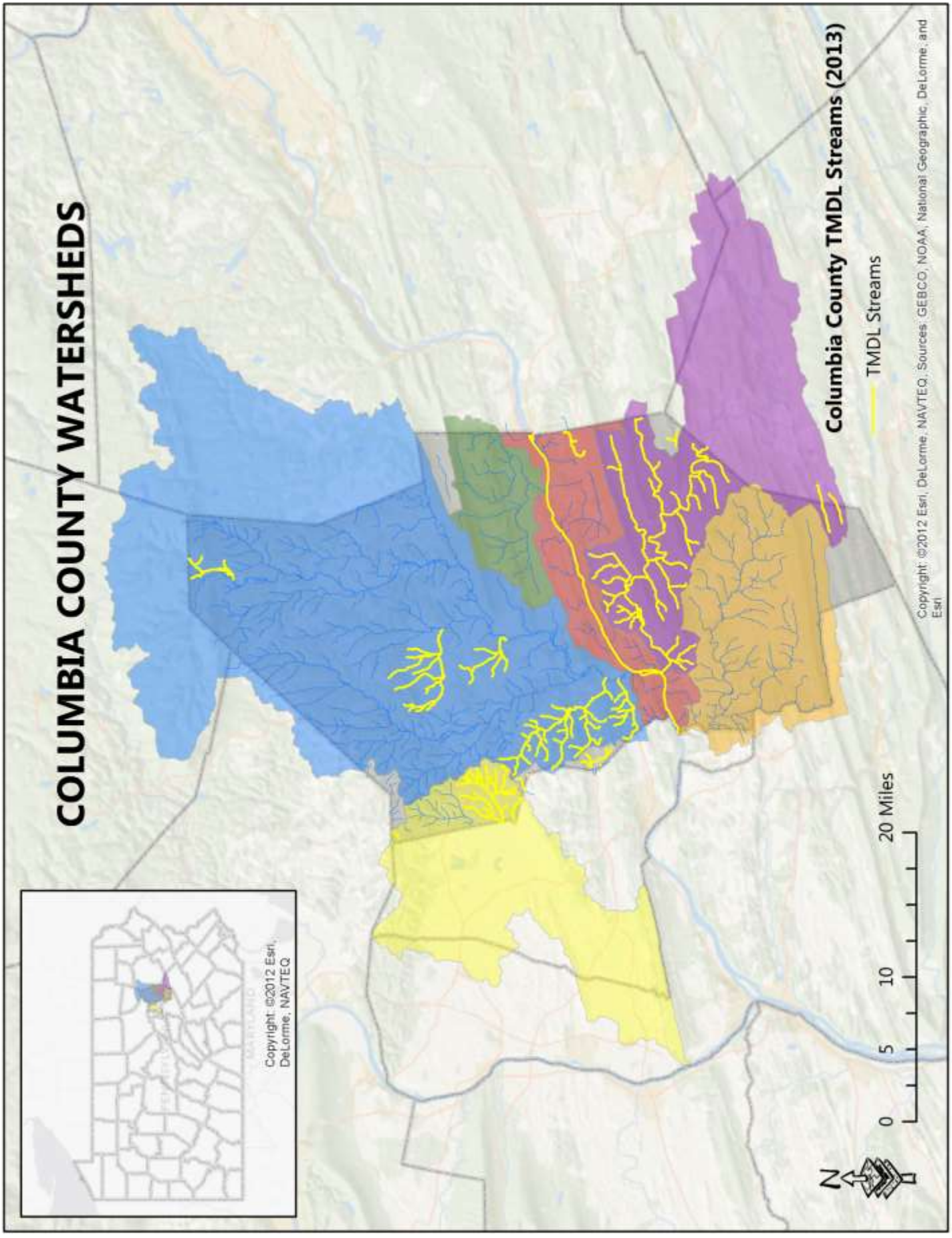
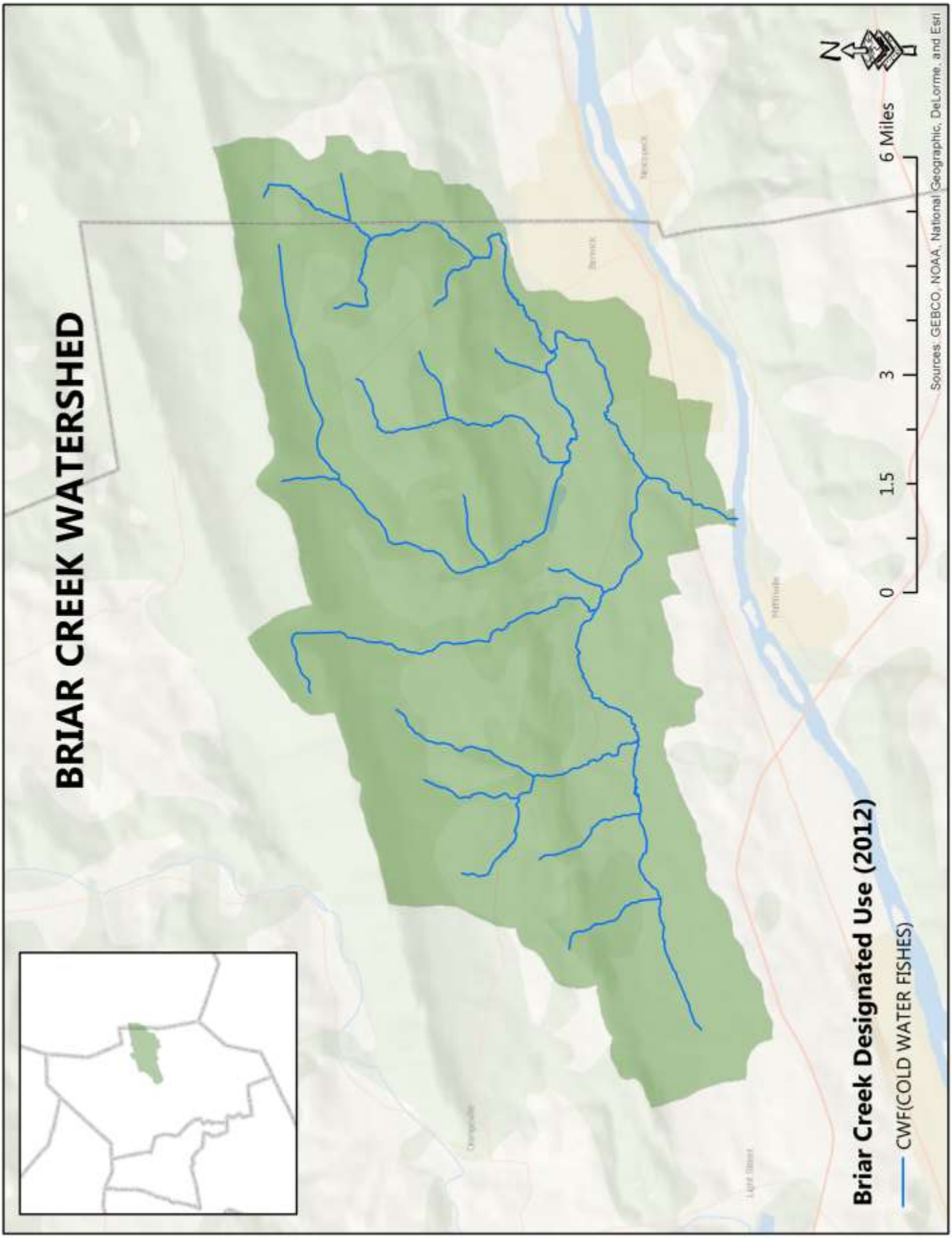
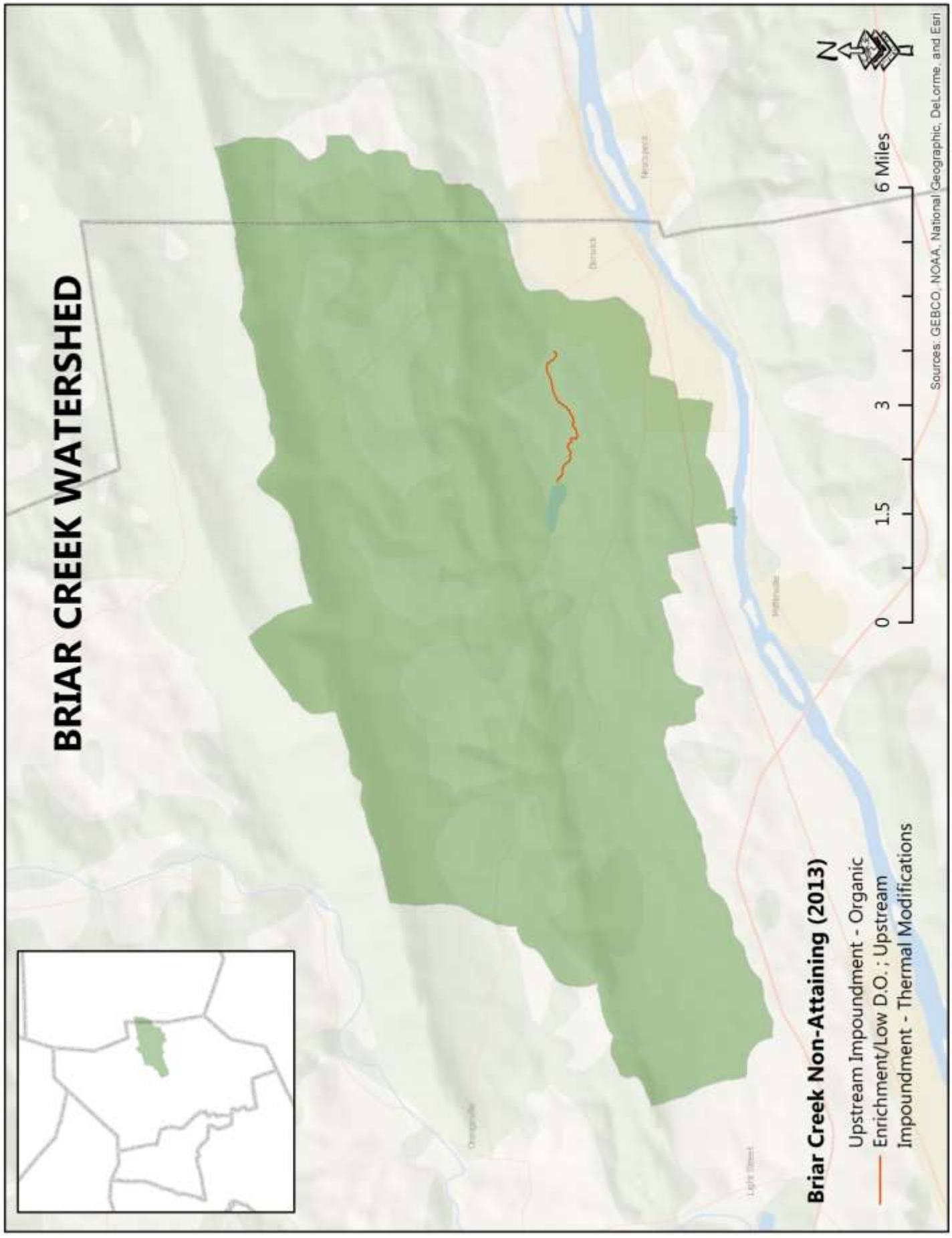
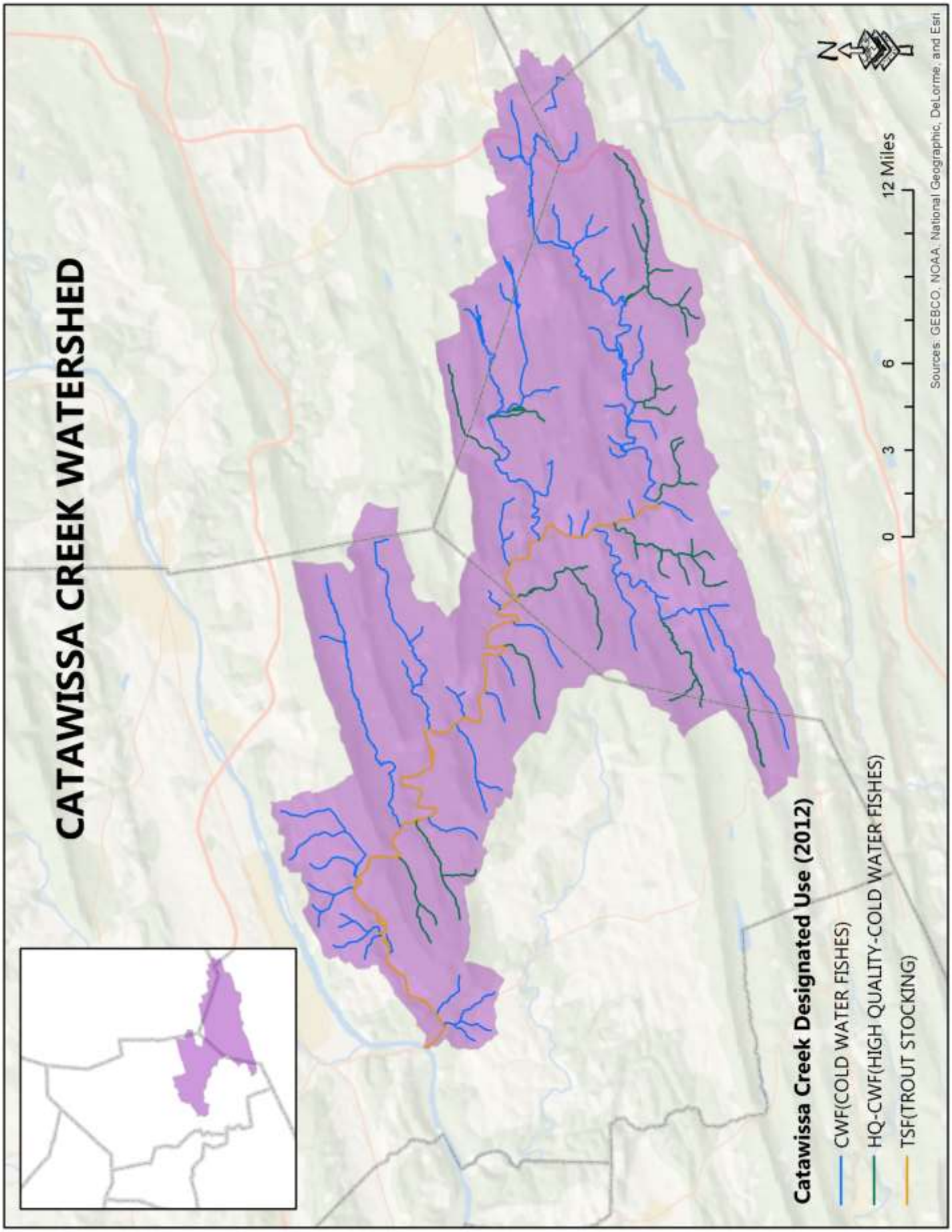
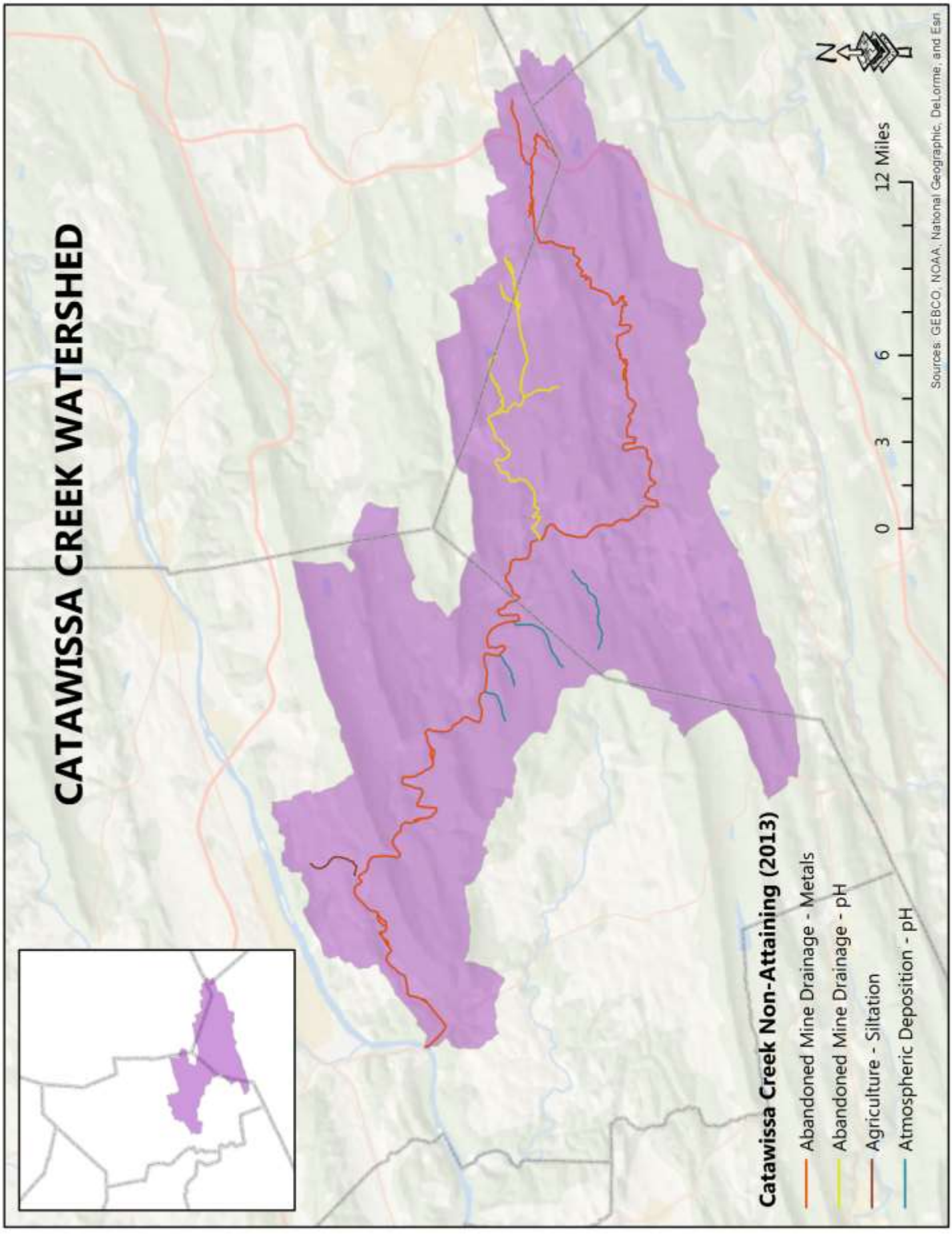
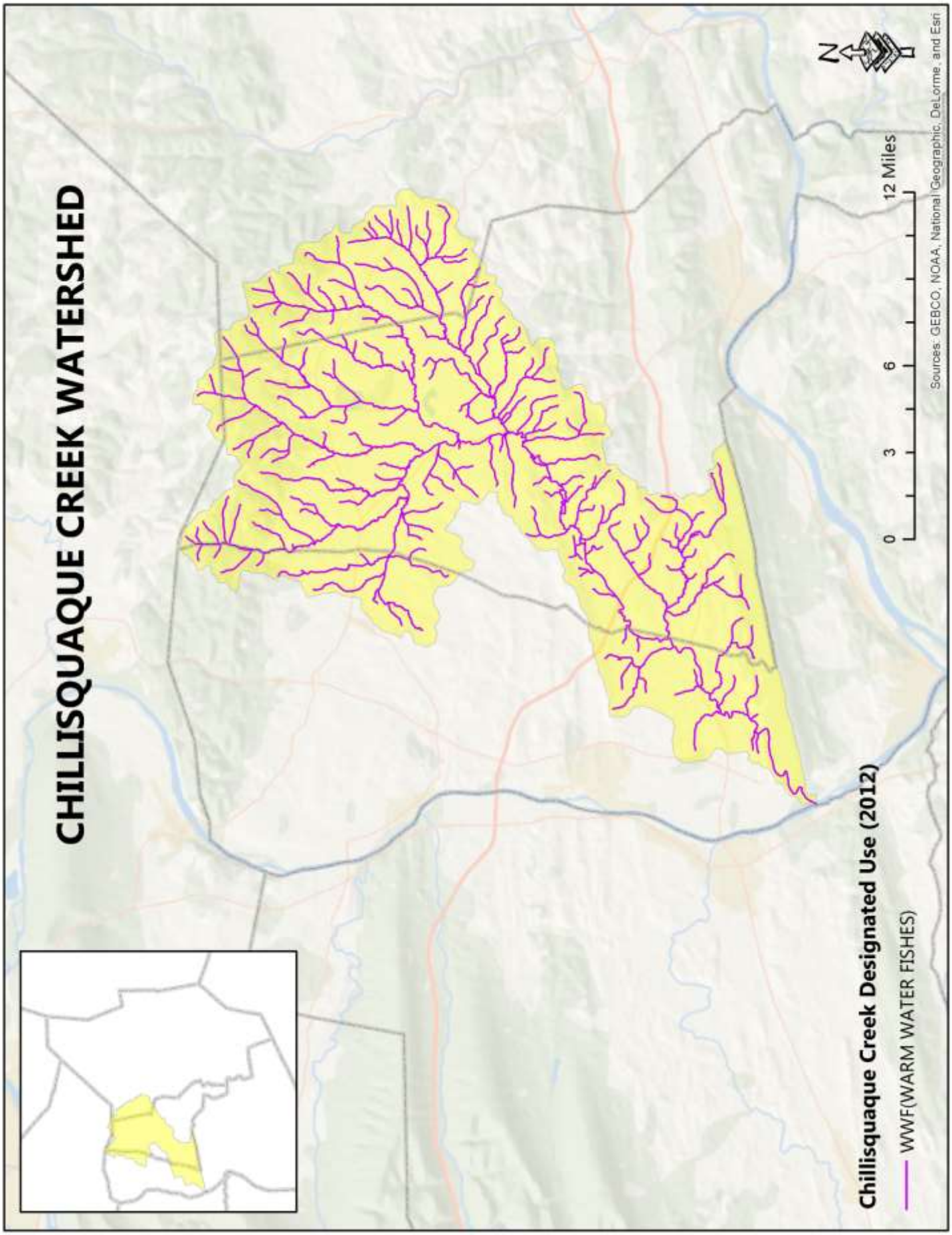

COLUMBIA COUNTY WATERSHEDS
Columbia County TMDL Streams (2013)
TMDL Streams
0
5
10
20 Miles
N
Copyright: ©2012 Esri, DeLorme, NAVTEQ, Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri
Copyright: ©2012 Esri, DeLorme, NAVTEQ

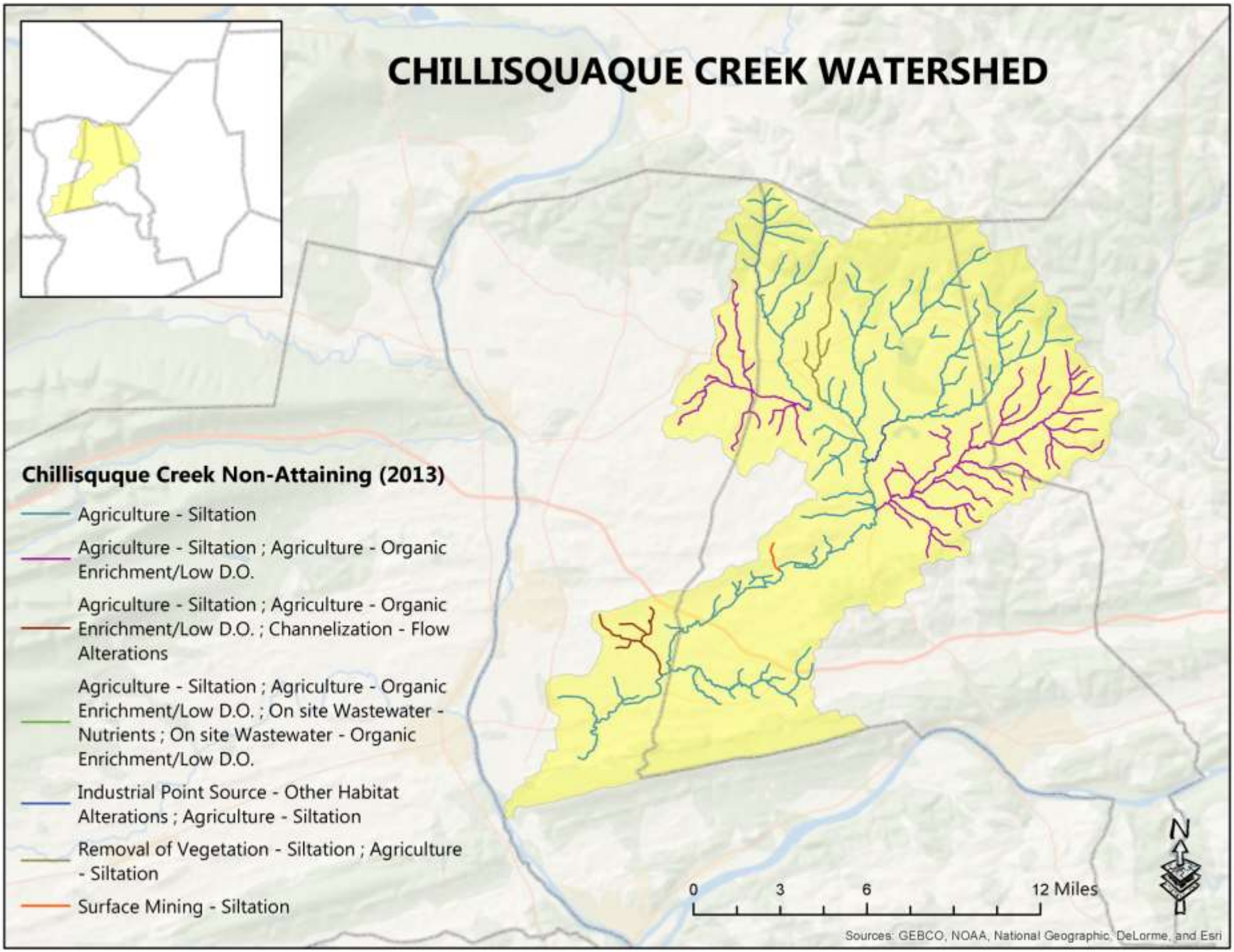

BRIAR CREEK WATERSHED
N
0
1.5
3
6 Miles
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri
Briar Creek Designated Use (2012)
CWF(COLD WATER FISHES)

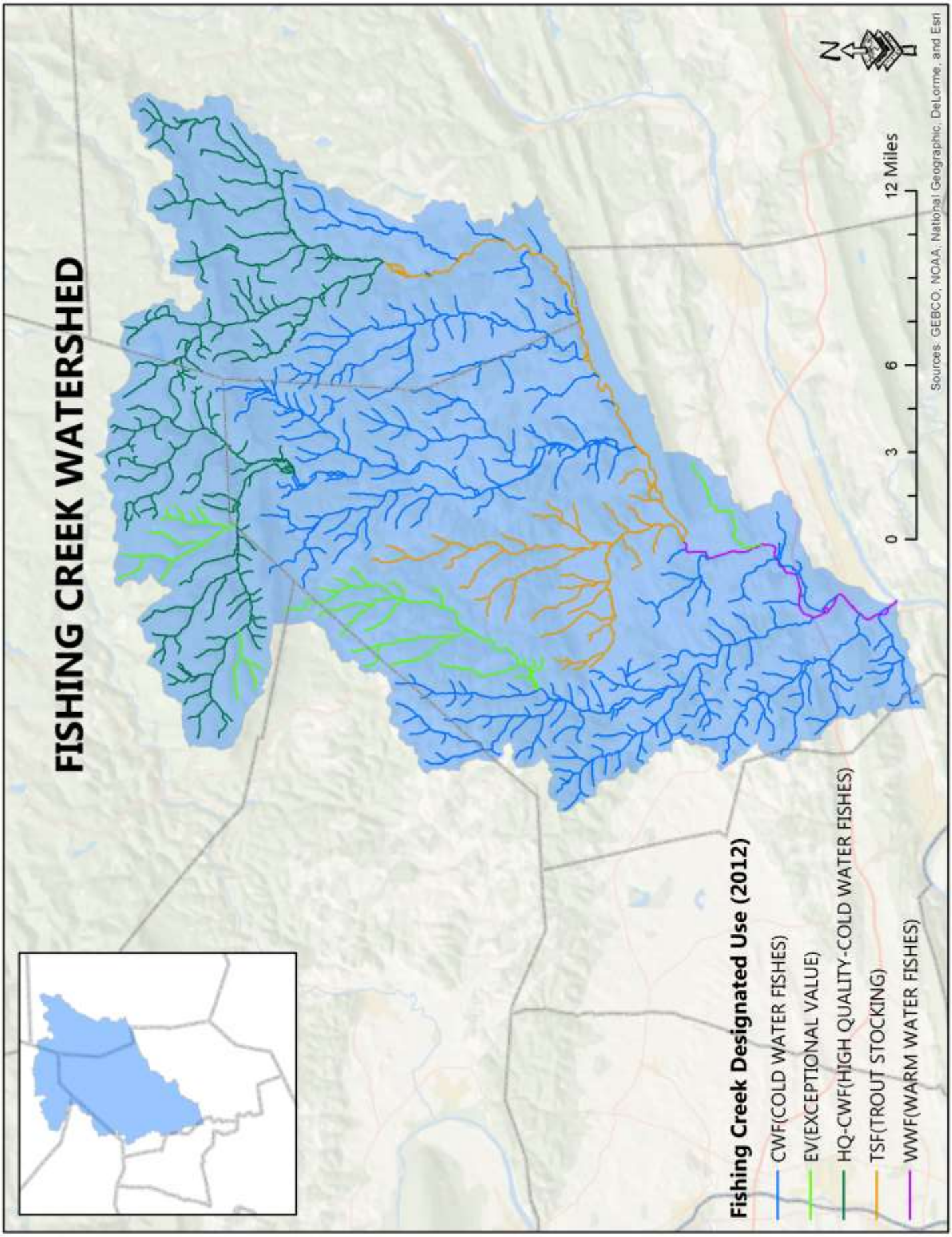

BRIAR CREEK WATERSHED
Briar Creek Non-Attaining (2013)
Upstream Impoundment - Organic
Enrichment/Low D.O. ; Upstream
Impoundment - Thermal Modifications
0
1.5
3
6 Miles
N
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri

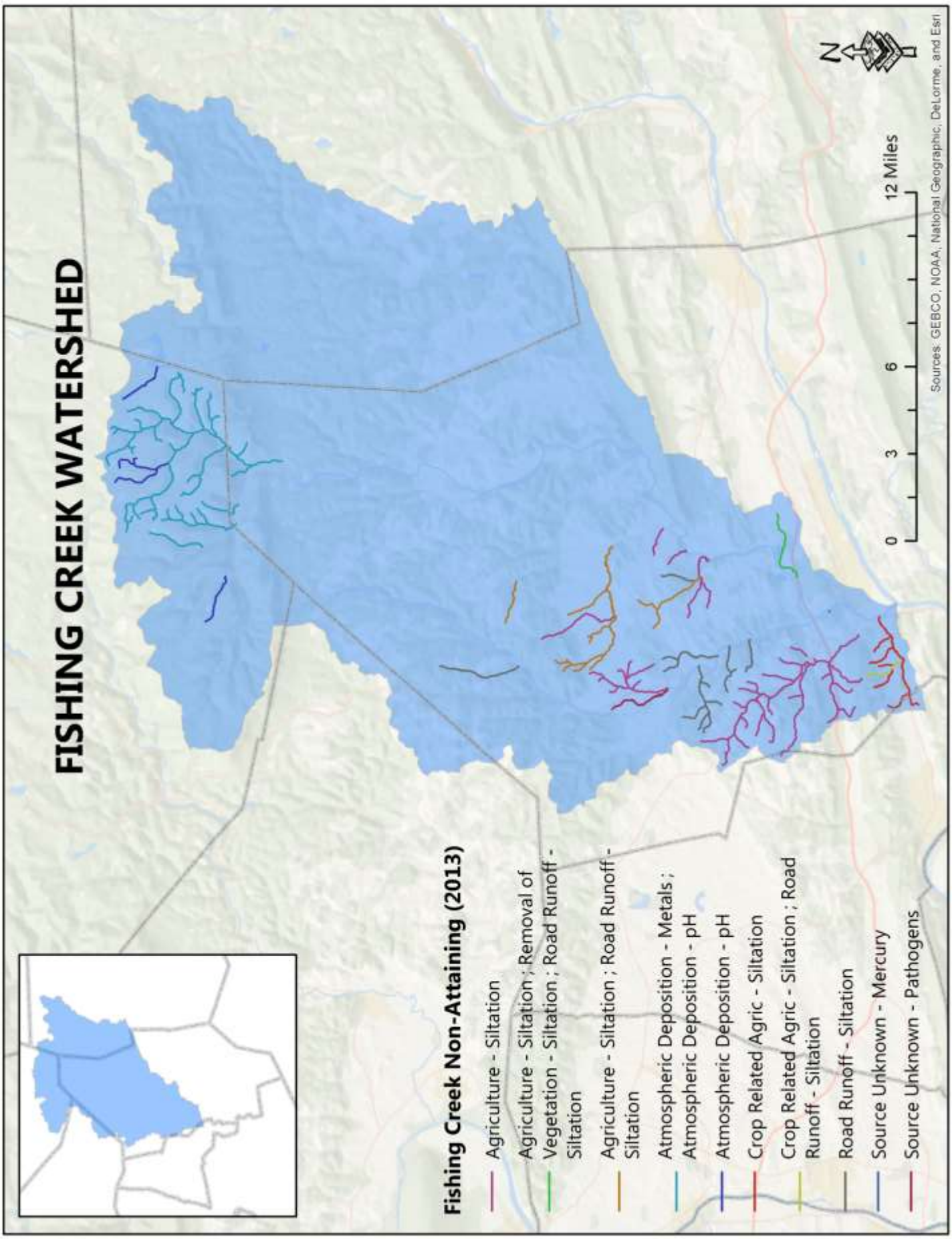

CATAWISSA CREEK WATERSHED
N
0
3
6
12 Miles
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri
Catawissa Creek Designated Use (2012)
CWF(COLD WATER FISHES)
HQ-CWF(HIGH QUALITY-COLD WATER FISHES)
TSF(TROUT STOCKING)


CATAWISSA CREEK WATERSHED
Catawissa Creek Non-Attaining (2013)
Abandoned Mine Drainage - Metals
Abandoned Mine Drainage - pH
Agriculture - Siltation
Atmospheric Deposition - pH
0
3
6
12 Miles
N
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri


CHILLISQUAQUE CREEK WATERSHED
N
0
3
6
12 Miles
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri
Chillisquaque Creek Designated Use (2012)
WWF(WARM WATER FISHES)


CHILLISQUAQUE CREEK WATERSHED
Chillisquque Creek Non-Attaining (2013)
Agriculture - Siltation
Agriculture - Siltation ; Agriculture - Organic Enrichment/Low D.O.
Agriculture - Siltation ; Agriculture - Organic Enrichment/Low D.O. ; Channelization - Flow Alterations
Agriculture - Siltation ; Agriculture - Organic Enrichment/Low D.O. ; On site Wastewater - Nutrients ; On site Wastewater - Organic Enrichment/Low D.O.
Industrial Point Source - Other Habitat Alterations ; Agriculture - Siltation
Removal of Vegetation - Siltation ; Agriculture - Siltation
Surface Mining - Siltation
0
3
6
12 Miles
N
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri


FISHING CREEK WATERSHED
N
0
3
6
12 Miles
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri
Fishing Creek Designated Use (2012)
CWF(COLD WATER FISHES)
EV(EXCEPTIONAL VALUE)
HQ-CWF(HIGH QUALITY-COLD WATER FISHES)
TSF(TROUT STOCKING)
WWF(WARM WATER FISHES)


FISHING CREEK WATERSHED
Fishing Creek Non-Attaining (2013)
Agriculture - Siltation
Agriculture - Siltation ; Removal of Vegetation - Siltation ; Road Runoff - Siltation
Agriculture - Siltation ; Road Runoff - Siltation
Atmospheric Deposition - Metals ; Atmospheric Deposition - pH
Atmospheric Deposition - pH
Crop Related Agric - Siltation
Crop Related Agric - Siltation ; Road Runoff - Siltation
Road Runoff - Siltation
Source Unknown - Mercury
Source Unknown - Pathogens
0
3
6
12 Miles
N
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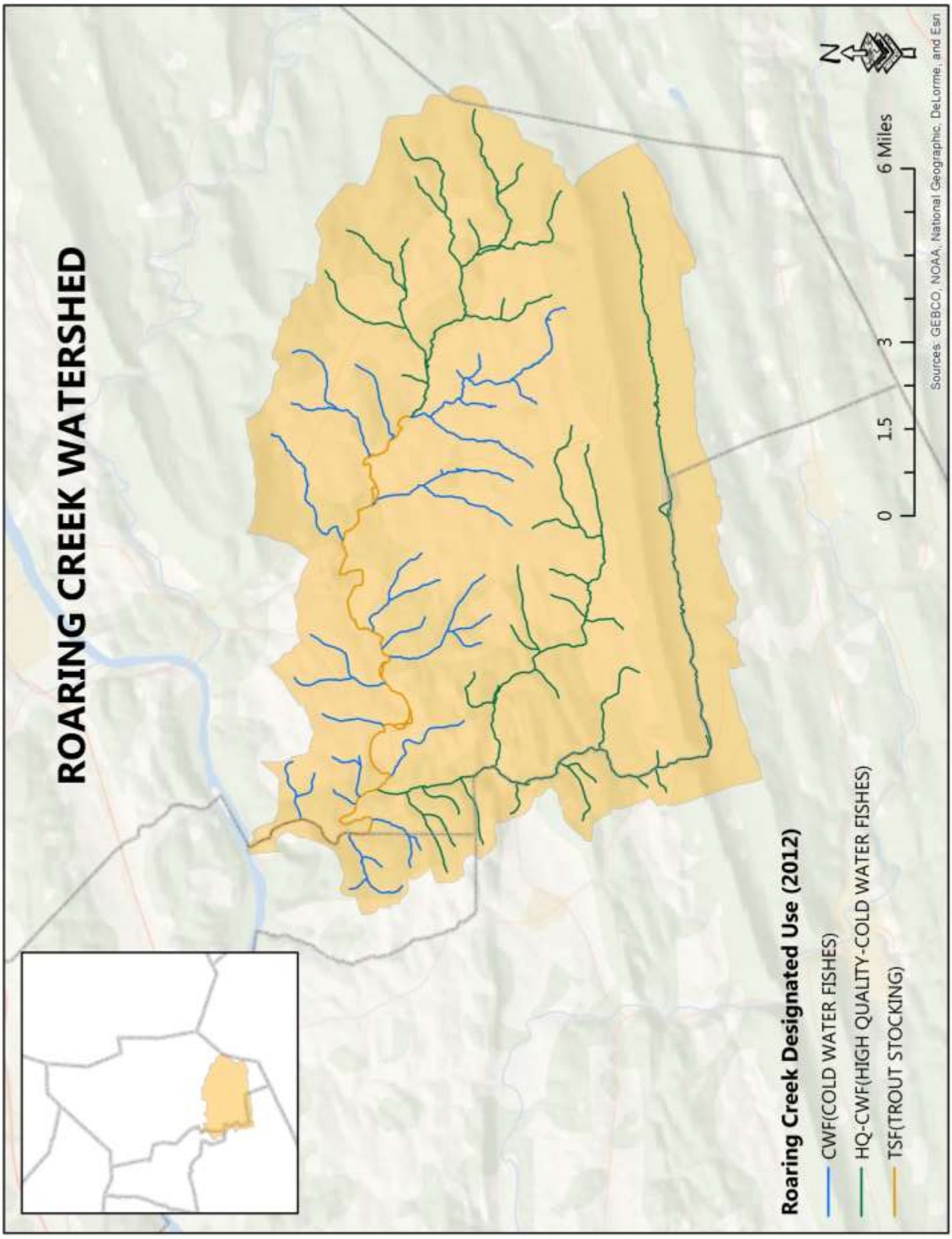
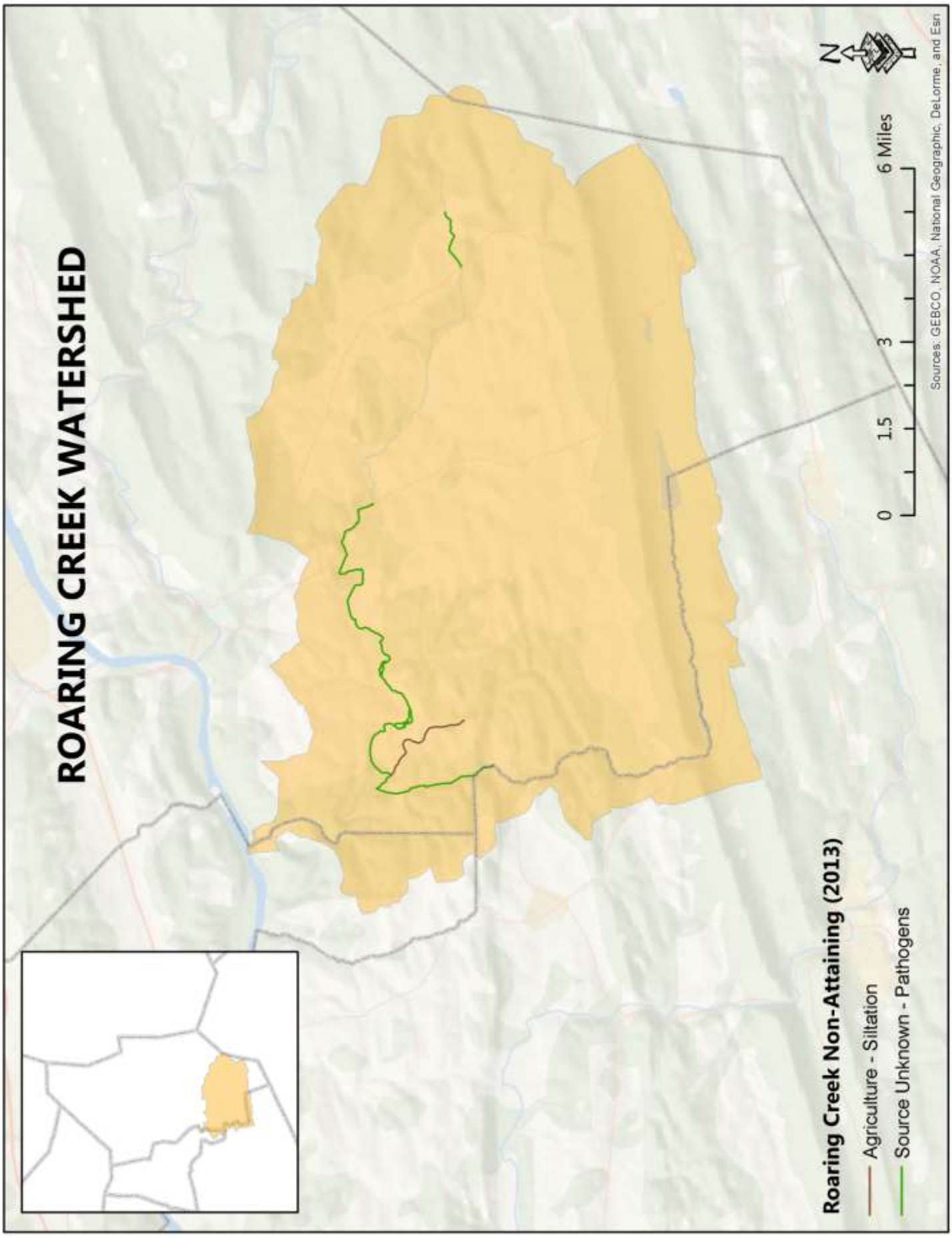
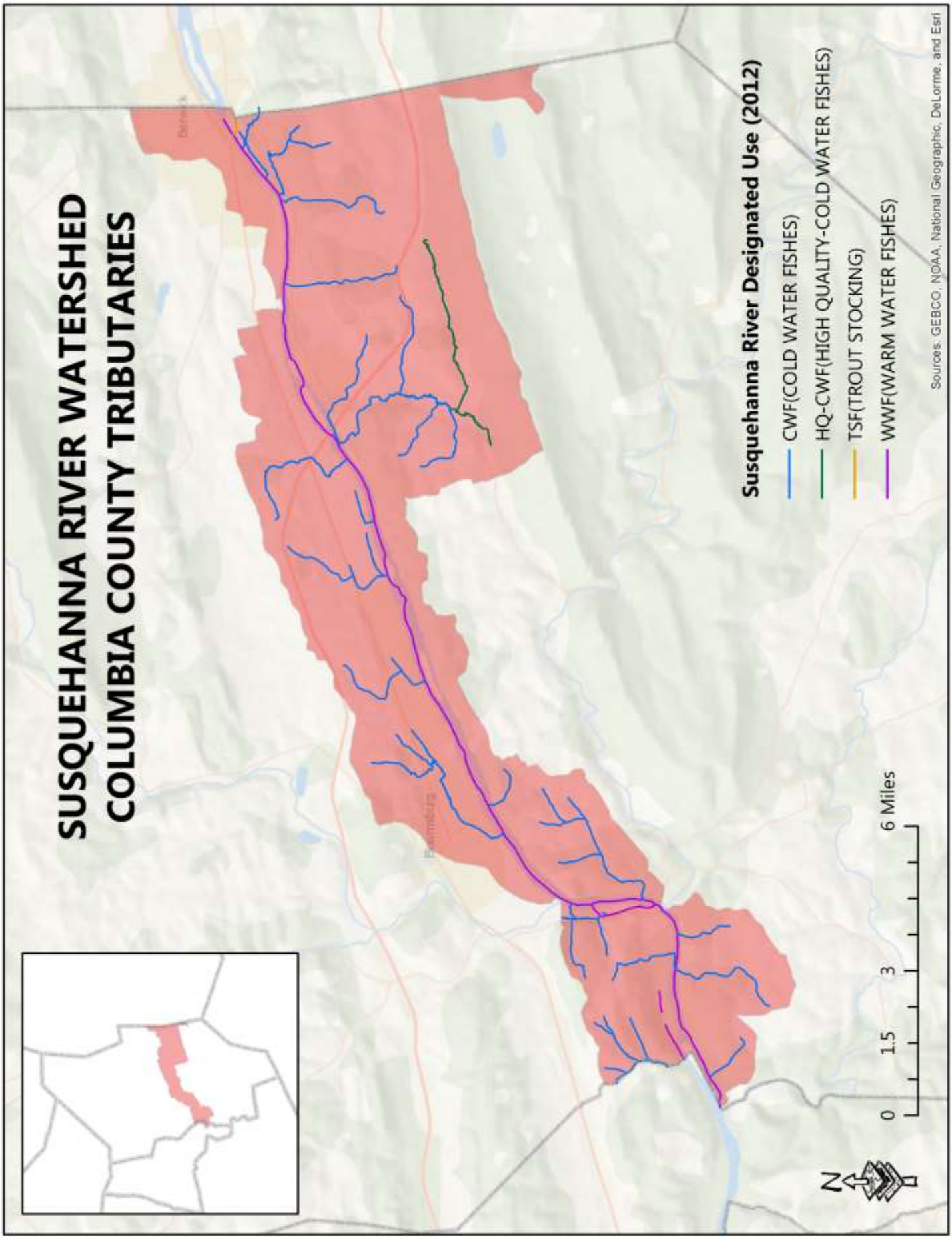
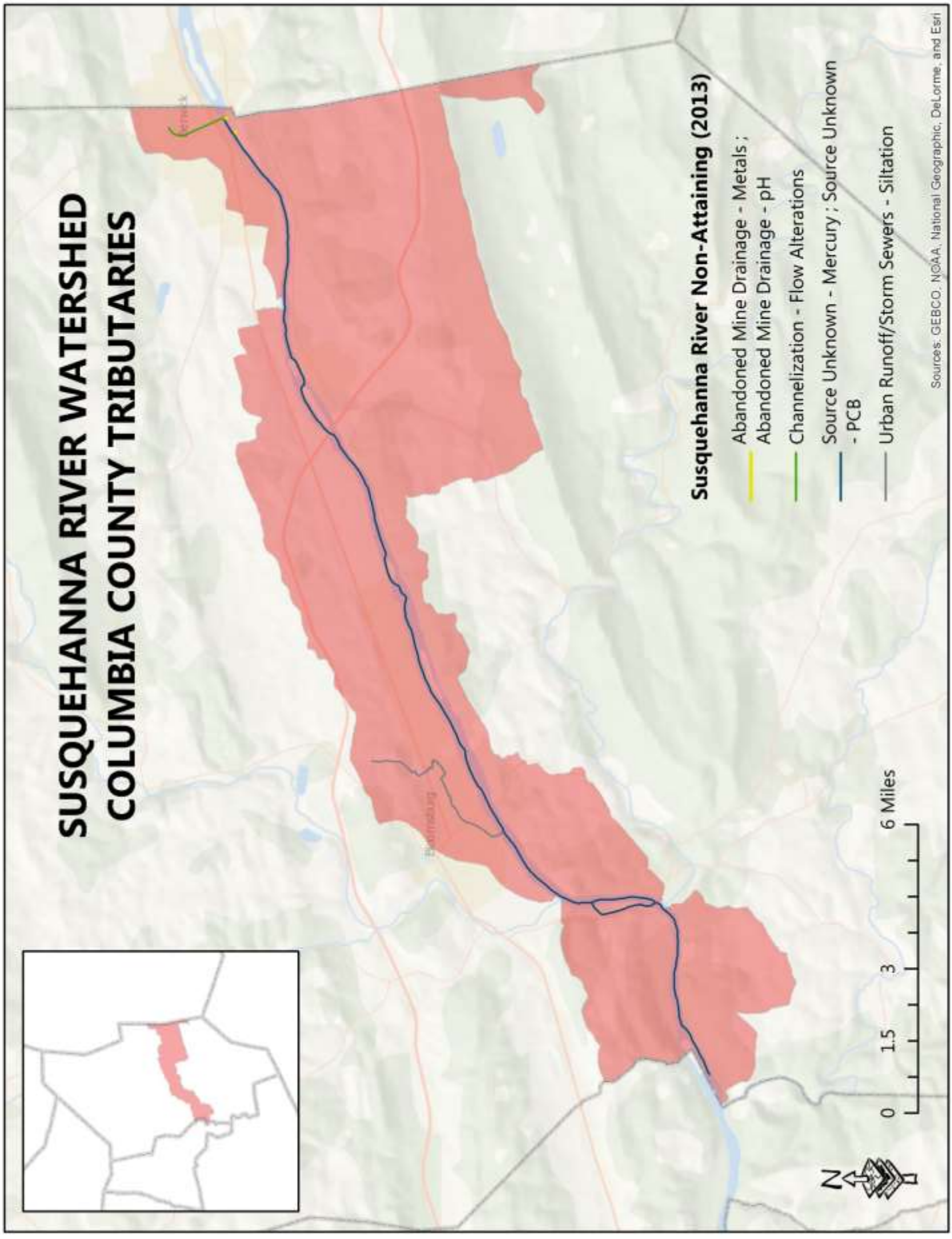

ROARING CREEK WATERSHED
Roaring Creek Designated Use (2012)
CWF(COLD WATER FISHES)
HQ-CWF(HIGH QUALITY-COLD WATER FISHES)
TSF(TROUT STOCKING)
0
1.5
3
6 Miles
N
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri


ROARING CREEK WATERSHED
N
0
1.5
3
6 Miles
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri
Roaring Creek Non-Attaining (2013)
Agriculture - Siltation
Source Unknown - Pathogens


SUSQUEHANNA RIVER WATERSHED
COLUMBIA COUNTY TRIBUTARIES
Susquehanna River Designated Use (2012)
CWF(COLD WATER FISHES)
HQ-CWF(HIGH QUALITY-COLD WATER FISHES)
TSF(TROUT STOCKING)
WWF(WARM WATER FISHES)
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri
0
1.5
3
6 Miles
N


SUSQUEHANNA RIVER WATERSHED
COLUMBIA COUNTY TRIBUTARIES
Susquehanna River Non-Attaining (2013)
Abandoned Mine Drainage - Metals ; Abandoned Mine Drainage - pH
Channelization - Flow Alterations
Source Unknown - Mercury ; Source Unknown - PCB
Urban Runoff/Storm Sewers - Siltation
0 1.5 3 6 Miles
N
Sources: GEBCO, NOAA, National Geographic, DeLorme, and Esri

D. GOALS AND OBJECTIVES

Columbia County Chesapeake Bay Tributary Strategy

While each of Columbia County's six main watersheds has its own unique water quality issues and concerns, several concerns continue to be common between each watershed. The focus of the Columbia County Conservation District will be to address these issues and concerns at the source to ensure the most cost effective approach for improving water quality. The common water quality issues and concerns can be grouped into three distinct areas: **Agricultural Concerns, Urban Concerns and Rural Concerns**.

Columbia County Chesapeake Bay Tributary Strategy		**Updated: March 15, 2013**
Agricultural Concerns		
Type(s)	**Strategy(s)**	**Description**
a. Erosion of cropland and pastureland b. Excessive runoff from cropland c. Over application of nutrients d. Runoff from barnyards and feedlots e. Uncontrolled animal access to streams f. Direct discharges to streams	Agricultural Complaint Response Policy	Columbia County Conservation District created an Agricultural Complaint Response Policy in 2013 to meet the requirements outlined in Phase II of the Pennsylvania WIP. See Columbia County Conservation District Agricultural Complaint Response Policy for more information.
	Education and Outreach	All farms in Columbia County will be visited by 2015 as outlined in Phase I of the Pennsylvania WIP. These educational visits will ensure that the agricultural community understands their obligation to meet current compliance regulations.
	Identify Non-Cost Share Best Management Practices (BMPs)	Awaiting DEP coordination. Currently BMPs are tracked by the District using the CAST Tool during farm visits.
	Chapter 102 Agriculture Erosion and Sediment Pollution Control	DEP regulatory requirement for agriculture erosion and sedimentation. Any operation disturbing 5,000 square feet must have a written Agriculture Erosion and Sediment Pollution Control Plan.
	Conservation Planning	NRCS program for assisting farmers to control erosion and sedimentation on their farm. May meet Chapter 102 Agriculture Erosion and Sediment Pollution Control requirement. Funded through EQIP, this strategy opens the door to additional best management practices for many farmers.
	Conservation Tillage/No-Till	Columbia County plants over 23,000 acres of corn, 11,000 acres of soybeans, 7,000 acres of small grains, and 3,500 acres of vegetables. It is estimated that less than half is planted with effective conservation tillage practices.
	Cover Crops	Farmers in Columbia County raise over 3,500 acres of vegetables and 3,500 acres of corn silage each year. Much of this land does not receive any type of cover crop or protection over winter.
	Buffers and Borders	NRCS and Conservation District personnel have noted that many gullies are being formed as a result of water collected in end rows in fields.
	Long Term Warm Season Grasses	The District will promote the planting of long-term warm season grasses as a method of controlling soil erosion and nutrient pollution. Establishing warm season grasses will provide permanent cover in fields, reducing the potential for soil erosion. Also having warm season grasses established reduces the need for nutrients to be applied to these acres, therefore decreasing the potential for nutrient pollution. This strategy will help promote and encourage the implementation of this type of BMP, while still making profitable use of cropland.

Agricultural Concerns Continued	Nutrient Management Planning	Over 300 farming operations in the county have livestock or poultry as part of the farming enterprise. Less than 10% of these farms have approved nutrient management plans and many of the approved plans do not meet current guidance related to phosphorous.
	Chapter 91. Manure Management	DEP regulatory requirement for all agricultural operations that land apply animal manure.
	Barnyard Runoff Controls	Work with partnering agencies to develop best management practices (BMPs) that eliminate direct discharges from barnyards. Seek funding sources to assist with the cost of BMPs.
	'Hot Spot' Targets	There is often one or two critical problems on a farm that everyone agrees needs to be addressed but the landowner cannot receive financial assistance for this without committing to many other less critical problems. Often this results in the problem not being addressed.
	Reexamine Agricultural Impaired Streams	The District will conduct a visual assessment of the current conditions of all agricultural impaired stream segments with in Columbia County. Current conditions impacting these segments will be documented along with any BMPs that have been implemented since the segment was listed as impaired. This will enable the District to target the direct causes of impairment on each stream segment as well as begin the process of removing any segment that is no longer impaired from the impaired list.
Urban Concerns		
Type(s)	**Strategy(s)**	**Description**
a. Excessive peak storm water runoff from impervious areas including; roads, parking lots, roofs and sidewalks creating downstream flooding b. Excess nutrients and chemicals applied to lawn and recreational areas being leached and/or transported with runoff c. Pollutants from streets and other heavy use areas mixing with runoff and entering streams d. Loss of stream floodplains and buffer areas e. Accelerated erosion and increased storm water during the construction phases of land development	Low Impact Development	Work with local and regional planning commissions and agencies to promote environmentally friendly land development including cluster housing, limiting of impervious areas, and protection of stream buffers and critical areas.
	Enforcement of Regulations	Continue to support compliance with environmental regulations by working with DEP to assure that environmental regulations are being considered in the planning process and implemented on the ground.
	Training in Proper Storm Water Techniques	Provide training to all the designers and engineers concerning proper storm water planning and compliance with regulations. Promote the use of soft engineering type practices when feasible to control runoff quality and quantity.
	Conduct Watershed Storm Water Studies	Work with local and state agencies to promote and secure funding for Act 167 storm water planning on a watershed scale.
	Urban Nutrient Management Education	Conduct a public awareness campaign identifying the financial and environmental concerns related to over application of chemicals and nutrients to lawns.
	Address Storm Water/ Water Quality Concerns	Develop a program to promote the routine sweeping of streets in critical areas such as areas near inlets and ditches that empty directly into streams. Work with local municipalities to provide treatment of storm water discharges from all new construction.

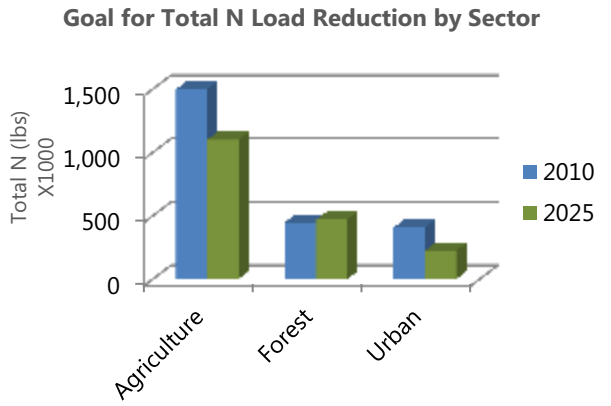
f. Current storm water controls often resulting in extended 'bank full' flow periods resulting in destabilized stream bank g. Lack of ground water recharge due to loss of pervious cover in urban areas h. Urban sprawl resulting in loss of hydrological buffer areas i. Inadequate wastewater treatment	Reexamine Urban Impaired Streams	The District will conduct a visual assessment of the current conditions of all urban impaired stream segments with in Columbia County. Current conditions impacting these segments will be documented along with any BMPs that have been implemented since the segment was listed as impaired. This will enable the District to target the direct causes of impairment on each stream segment as well as begin the process of removing any segment that is no longer impaired from the impaired list.
Rural Concerns		
Type(s)	**Strategy(s)**	**Description**
a. Runoff from dirt and gravel roads b. Acid mine drainage (AMD) c. Acid deposition d. Impacts of recreational activities on waterways e. Lack of public concern and involvement in quality of watersheds f. Unregulated development of sensitive areas g. Sediment and storm water problems resulting from improper forestry practices h. Lack of public concern and involvement in the quality of the watershed i. Unregulated development of sensitive areas j. Loss of water quality and quantity k. Polluted runoff from paved roads including deicing mix l. Lack of TMDLs for rural streams for permitting	Dirt and Gravel Roads Program	Work with cooperating townships to use the Dirt & Gravel Roads program to improve 10 miles of roads that impact 303(d) listed waters and critical areas. Townships involved in the program will also receive training on environmentally sensitive road construction.
	Acid Mine Drainage Systems	Work with Catawissa Creek Restoration Association and partners to maintain and build treatment systems for the acid mine discharges effecting 24 miles of stream in the Catawissa watershed.
	Remediate Acid Deposition Stream Effects	Work with Fishing Creek Watershed Association & partners to assess and treat the acid deposition damage in the East Branch of Fishing Creek.
	TMDL Development	Participate and encourage the development of TMDL's for the county's 303(d) listed streams.
	Educate Local Officials	Participate and encourage the development of TMDL's for the county's 303(d) listed streams.
	Watershed Groups	Facilitate the reformation of Briar Creek Watershed group. Continue involvement and support of Fishing Creek Watershed Association, Catawissa Creek Restoration Association, and Roaring Creek Valley Conservation Association.
	Watershed Issues Awareness	Work with established watershed groups to create watershed issue awareness and promote recreational activities that create a watershed stewardship ethic.
	Sustainable Forestry	Work with the PA DCNR Bureau of Forestry, Sustainable Forestry Institute, and Susquehanna Woodland Owners Association to continue to provide education and assistance to promote sustainable forestry. Continue to promote proper logging through the Chapter 102 and Chapter 105 programs.

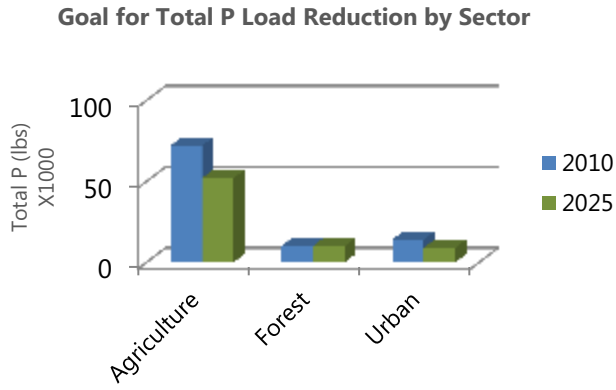
m. Thermal pollution	Act 167 Storm Water Management	Participate in efforts to complete an Act 167 study for the county.
n. Stream bank/ bed erosion o. Loss of farmland to development p. Failing/ poor septic systems q. Low flow dams	Reexamine Rural Impaired Streams	The District will conduct a visual assessment of the current conditions of all impaired stream segments with in Columbia County. Current conditions impacting these segments will be documented along with any BMPs that have been implemented since the segment was listed as impaired. This will enable the District to target the direct causes of impairment on each stream segment as well as begin the process of removing any segment that is no longer impaired from the impaired list.

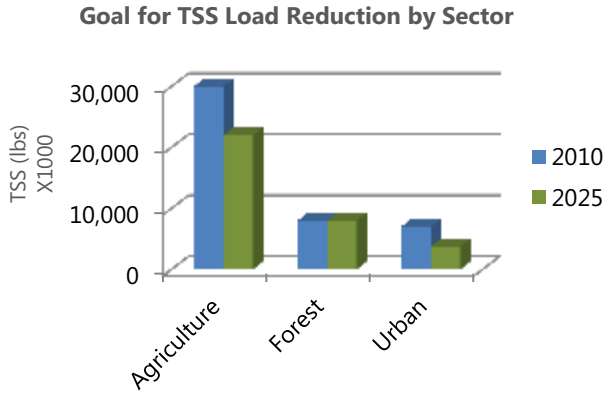
2010-2025 Columbia County Milestones (Pennsylvania WIP Phase II)

The Chesapeake Bay TMDL established regulatory waste load allocations and load allocations for nitrogen, phosphorus and total suspended solids (TSS) based in part on PA's Chesapeake Watershed Implementation Plan (WIP). To facilitate local implementation of necessary reduction actions to meet the allocations, EPA directed the Chesapeake watershed states to sub-divide the reductions by local areas. Pennsylvania chose to sub-divide loads at the county-level, as the EPA Chesapeake Bay watershed model is based in part on county level data. The county planning targets address only those loads that can be reduced by Best Management Practices (BMPs). This includes both regulatory and non-regulatory loads for agriculture, storm water and forest. Wastewater treatment plant reductions are not addressed because they were previously addressed by the 2006 Chesapeake Bay Compliance Strategy.

The County Planning Targets are generated from EPA's Chesapeake Bay Watershed Model input deck generated for the Phase II WIP, and may not reflect actual 2010 conditions or possible 2025 conditions. The targets are for planning purposes only, and do not become regulatory allocations at the county level. The identified Pollution Reduction Actions represent one scenario from the Watershed Model that meets the planning targets. There are other equally valid combinations of actions that could also meet the planning targets.







Columbia County Land Use Distribution	2010 Acres	2025 Acres	% Change
Agriculture			
Conventional Till Row Crops	24,319	7,462	-69%
Conservation Till Row Crops	14,213	25,572	80%
Hay	35,524	37,810	6%
Alfalfa	5,987	5,874	-2%
Pasture	10,925	9,713	-11%
Animal Feeding Operations	98	98	0%
Concentrated Animal Feeding Operations	15	15	0%
Nursery	325	325	0%
Total Agriculture:	91,406	86,869	-5%
Urban			
Pervious Urban Land	21,848	21,500	-2%
Impervious Urban Land	7,343	7,298	-1%
Construction	264	264	0%
Extractive	1,291	1,291	0%
Combined Sewer System	1,391	1,391	0%
Total Urban:	32,137	31,744	-1%
Forest			
Forested Land	186,841	191,771	3%
Total Acreage:	**310,384**	**310,384**	

Columbia County Planning Targets	
Nitrogen Planning Target	**Pounds**
2010 Current Load	2,414,910
2025 Planning Target - 100%	1,865,537
2025 Total Nitrogen Reductions (2010 - 2025)	956,885
Phosphorous Planning Target	
2010 Current Load	96,806
2025 Planning Target - 100%	72,590
2025 Total Phosphorous Reductions (2010 - 2025)	31,903
Total Suspended Solids (TSS) Planning Target	
2010 Current Load	43,231,933
2025 Planning Target - 100%	33,530,129
2025 TSS Reductions (2010 - 2025)	15,400,702

Columbia County Pollution Reduction Actions		2010	2025	% Change
Agriculture BMPs	**Units**			
Animal Waste Management Systems	Systems	42	79	**88%**
Barnyard Runoff Controls	Acres	0	75	**100%**
Carbon Sequestration/Alternative Crops	Acres	702	3,457	**392%**
Conservation Plans	Acres	56,781	82,054	**45%**
Conservation Tillage	Acres	14,213	25,572	**80%**
Continuous No-Till	Acres	1,690	448	**-73%**
Cover Crops	Acres	5,821	21,472	**269%**
Forest Buffers	Acres	3,390	5,184	**53%**
Grass Buffers	Acres	66	1,401	**2023%**
Manure Injection	Acres	0	849	**100%**
Mortality Composters	Units	0.3	1.6	**433%**
Non-Urban Stream Restoration	Feet	6,663	16,827	**153%**
Nutrient Management	Acres	16,112	50,139	**211%**
Off-Stream Watering w/o Fencing	Acres	75	1,448	**1831%**
Pasture Fencing (Stream Access Control)	Acres	34	244	**618%**
Poultry and Swine Phytase	Percent	Poultry 100% Swine 0%	Poultry 100% Swine 99%	Poultry **0%** Swine **99%**
Poultry Litter Injection	Acres	0	212	**100%**
Precision Agriculture	Acres	0	4,819	**100%**
Precision Feeding	Percent	0	75	**100%**
Tree Planting	Acres	1,025	2,262	**121%**
Rotational Grazing	Acres	570	8,206	**1340%**
Wetland Restoration	Acres	114	1,622	**1323%**
Urban/Suburban BMPs				
Dry Detention Ponds	Acres	11,602	755	**-93%**
Dry Extended Detention Ponds	Acres	3,878	755	**-81%**
Erosion and Sediment Control	Acres	279	1,478	**430%**
Filtering Practices	Acres	0	10,259	**100%**
Forest Buffers	Acres	0	357	**100%**
Grass Buffers	Acres	0	182	**100%**
Impervious Surface Reduction	Acres	0	48	**100%**
Infiltration Practices	Acres	8,603	12,371	**44%**
Septic System Hook-ups	Units	353	3,315	**839%**
Street Sweeping	Acres	0	964	**100%**
Tree Planting	Acres	0	31	**100%**
Urban Nutrient Management	Acres	0	6,735	**100%**
Urban Stream Restoration	Feet	0	1,222	**100%**
Wet Ponds and Wetlands	Acres	1,729	3,017	**74%**
Other BMPs				
Abandoned Mine Reclamation	Acres	771	771	**0%**
Dirt and Gravel Road	Feet	55,485	173,322	**212%**
Forest Harvesting Practices	Acres	0	489	**100%**

E. COLUMBIA COUNTY REPORTS

2005 Report

The first Columbia County Chesapeake Bay Tributary Strategy meeting was held November 19, 2005 at the Columbia County Conservation District. In attendance was:

Mary Wagner – Columbia County Conservation District
David Hartman – Penn State Cooperative Extension
Stephanie Singer – Columbia County Conservation District
Scott Singer – Natural Resources Conservation Service
Andy Wodehouse – Chesapeake Bay Foundation
George Hubbard – Farm Service Agency
Joan Sattler – Department of Environmental Protection
Paul Yankovich – Natural Resources Conservation Service
Matt Deihl – Columbia County Conservation District
Barry Travelpiece – Columbia County Conservation District
Shane Kleiner – Nutrient Management Specialist

Discussion at this meeting was focused on conducting initial assessments of all Columbia County watersheds. Each watershed was listed with possible impairments and strategies to address concerns. The 2005 report was the first step to completing the Columbia County Chesapeake Bay Tributary Strategy.

2005 Report for Chesapeake Bay Tributary Strategy	Completed (Date)
Briar Creek Watershed	
Establish a working watershed association.	Completed (2010)
Work to prevent stream bank erosion.	Ongoing
Work with local planning commission and agencies to establish sound land use practices.	Ongoing
Identify the impact from recreational areas on water quality, land use, and pollution concerns.	Ongoing
By 2010, address all agricultural impacts to watershed.	Ongoing (2015)
Identify agricultural land and cropland areas to make sure they are not impacting streams.	Ongoing (2015)
Identify agricultural impacts due to CAOs, CAFOs, and Nutrient Management Program requirements.	Ongoing (2015)
Continue to support the CREP program including riparian buffers along the stream corridor.	Ongoing
Address infiltration and urban storm water concerns within developed areas.	Ongoing
Ensure that proper erosion and sedimentation practices are conducted in timber harvesting areas.	Ongoing
Identify roads causing pollution to streams within the watershed that qualify for Dirt and Gravel Road funding.	Ongoing
Catawissa Creek Watershed	
By 2010, address all agricultural impacts to watershed.	Ongoing (2015)
Identify agricultural land and cropland areas to make sure they are not impacting streams.	Ongoing (2015)
Identify agricultural impacts due to CAOs, CAFOs, and Nutrient Management Program requirements.	Ongoing (2015)
Continue to support the CREP program including riparian buffers along the stream corridor.	Ongoing
Work with local partners on acid mine drainage.	Ongoing
Work with local planning commission and agencies to establish sound land use practices.	Ongoing
Promote Farmland Preservation to local landowners through District and County Farmland Preservation Board.	Ongoing
Identify roads causing pollution to streams within the watershed that qualify for Dirt and Gravel Road funding.	Ongoing
Identify and USDA, DCNR, or State Agency programs that could benefit the watershed.	Ongoing
Chillisquaque Creek Watershed	
Work with DEP on attaining TMDL completion.	Partial (2011)
Identify agricultural impacts due to CAOs, CAFOs, and Nutrient Management Program requirements.	Ongoing (2015)

Work with established watershed association.	Ongoing
Identify agricultural land and cropland areas to make sure they are not impacting streams.	Ongoing (2015)
Control impacts from horse farms.	Ongoing (2015)
Identify roads causing pollution to streams within the watershed that qualify for Dirt and Gravel Road funding.	Ongoing
Continue to support the CREP program including riparian buffers along the stream corridor.	Ongoing
Support marketability of native grasses and co-generation plants.	Ongoing
Fishing Creek Watershed	
Complete an Act 167 Storm Water Management Plan.	Ongoing
Work with DEP on attaining TMDL completion.	Partial (2010, 2012)
By 2010, address all agricultural impacts to watershed.	Ongoing (2015)
Identify agricultural land and cropland areas to make sure they are not impacting streams.	Ongoing (2015)
Identify agricultural impacts due to CAOs, CAFOs, and Nutrient Management Program requirements.	Ongoing (2015)
Continue to support the CREP program including riparian buffers along the stream corridor.	Ongoing
Identify roads causing pollution to streams within the watershed that qualify for Dirt and Gravel Road funding.	Ongoing
Identify the impact from recreational areas on water quality, land use, and pollution concerns.	Ongoing
Identify dams located on streams for potential danger and work with agencies to have dams removed.	Ongoing
Ensure that proper erosion and sedimentation practices are conducted in timber harvesting areas.	Ongoing
Work with local planning commission and agencies to establish sound land use practices.	Ongoing
Work to prevent stream bank erosion.	Ongoing
Roaring Creek Watershed	
Establish a working watershed association.	Completed (2007)
By 2010, address all agricultural impacts to watershed.	Ongoing (2015)
Identify agricultural land and cropland areas to make sure they are not impacting streams.	Ongoing (2015)
Identify agricultural impacts due to CAOs, CAFOs, and Nutrient Management Program requirements.	Ongoing (2015)
Work with local planning commission and agencies to establish sound land use practices.	Ongoing
Promote Farmland Preservation to local landowners through District and County Farmland Preservation Board.	Ongoing
Identify roads causing pollution to streams within the watershed that qualify for Dirt and Gravel Road funding.	Ongoing
Identify and USDA, DCNR, or State Agency programs that could benefit the watershed.	Ongoing
Develop a source water protection plan.	Ongoing
Identify impact of campgrounds on water quality through sewage and pollution.	Ongoing
Work with DEP on attaining TMDL completion.	Ongoing
Identify the impact from recreational areas on water quality, land use, and pollution concerns.	Ongoing
Susquehanna River Watershed (Columbia County Tributaries)	
Address infiltration and urban storm water concerns in developed areas.	Ongoing
Work with local planning commissions and agencies to establish sound land use practices.	Ongoing
Work to prevent stream bank erosion on land within watershed.	Ongoing
Identify the impact from recreational areas on water quality, land use, and pollution concerns.	Ongoing
Control of nutrients from fertilizers in urban areas and pesticides and herbicides.	Ongoing
Source water protection, monitoring of water usage.	Ongoing

2007 Report

The 2007 Columbia County Chesapeake Bay Tributary Strategy meeting was held on January 23, 2007 at the Columbia County Conservation District. In attendance was:

Mary Wagner – Columbia County Conservation District
Stephanie Singer – Columbia County Conservation District
Barry Travelpiece – Columbia County Conservation District
Cathy Haffner – Columbia County Conservation District
Todd Rush – Columbia County Conservation District
David Hartman – Penn State Extension
George Hubbard – Farm Services Agency
Paul Yankovich – Natural Resources Conservation Service
Robert Hollenbach – Pennsylvania Department of Environmental Protection
Ryan Koch – Pocono Northeast Resource Conservation and Development Council

During the 2007 meeting, erosion and nutrient pollution reduction on agricultural operations through the planting of long-term warm season grasses was added to the Columbia County Chesapeake Bay Tributary Strategy. It was decided that this strategy be added as a general method of promoting erosion and nutrient pollution reduction rather than as a specific program to obtain the number of programs and grants available.

2007 Chesapeake Bay Tributary Strategy Progress to Date

Agricultural Concerns

Year(s)	Type(s)	Strategy(s)	Description	Source
2005-2007	Erosion of cropland and pastureland Excessive runoff from cropland	Conservation Tillage/ No-Till	Program pays a rental payment of $25.00 an acre for two years on enrolled fields committed to no-tilling for four continuous years. The grant award was for $5,000 to enroll 100 acres. Nine producers enrolled a total of 165 acres. $3,250 of leftover BMP money was used to cover the extra acres. A no-till workshop was held in 2006.	DEP Special Projects
2006-2008	Erosion of cropland and pastureland Excessive runoff from cropland	Conservation Tillage/ No-Till	Second grant awarded for $10,470 to enroll 200 acres at the same rental payment and guidelines. There is also money to pay for soil test kits and a no-till workshop. 160 acres have been enrolled to date. A second annual no-till workshop was held in 2007.	DEP Special Projects
2005-2007	Erosion of cropland and pastureland Excessive runoff from cropland	Buffers and Borders	Program pays a rental payment of $25.00 an acre for two years plus a $25.00 establishment payment for replacing end-rows with permanent grass or hay strips. The program will also pay the same rates for vegetative buffers along streams. The buffers / borders must be maintained for five years. The grant award was for $3,000 to establish 40 acres. 12 acres have been established by four producers.	DEP Special Projects
2006-2008	Over application of nutrients	Nutrient Management Planning Preside-Dress Nitrogen Testing	Program offers preside-dress nitrogen testing for enrolled corn acres. Soil test kits and Agronomy Guides are also given to producers. Nutrient balance sheets are developed for enrolled acres. 720 acres of the 2,500 acre goal have been enrolled by 5 producers. The grant award was for $4,645 to purchase 250 soil test kits, 15 Agronomy Guides, a chlorophyll meter and hold a nutrient management workshop.	DEP Special Projects

2006-2008	Erosion of cropland and pastureland Excessive runoff from cropland Over application of nutrients	Nutrient Management Planning	This is a joint grant through the Columbia, Lycoming and Union County Conservation Districts. This grant offers producers a 50% cost share of the per acre fee charged by a CMA. It also covers an enrollment fee up to $25.00 and 50% of the cost of soil testing up to $90.00. The benefits offered to producers through a CMA are; soil testing, pest management, nutrient balancing, record keeping and crop yield monitoring. The grant award was for $20,000 to be spent in the three counties. Lycoming CCD handles the financial aspects of this grant. Approximately 700 acres through five producers have been enrolled in Columbia County.	DEP Special Projects
2006-2008	Erosion of cropland and pastureland Excessive runoff from cropland Runoff from barnyards and feedlots Over application of nutrients	Nutrient Management Planning	$23,850 was awarded to the Columbia, Montour and Northumberland County Conservation Districts to provide education on minimum agriculture erosion and sedimentation and manure management requirements to the Amish and Mennonite community in the Chillisquaque Watershed. 250 "Minimum Compliance Education Packets" have been produced and will be distributed at three winter meetings. Two Amish farmers will be working one on one with the Conservation Districts to implement recommendations from the packets.	Agriculture Communities and Rural Environment (ACRE)
Urban and Rural Concerns				
Year(s)	**Type(s)**	**Strategy(s)**	**Description**	**Source**
2005-2007		Environmental Education	Develop and implement environmental education programs related to the Columbia County Chesapeake Bay Tributary Strategy.	DEP Environmental Education Grant
2006-2008		Water Quality	Groundwater/ Well education- As part of the PSU Extension Master Well Owner program, 20 private wells owners were reached. The wells were tested for total coliform bacteria, *E.coli* bacteria, pH, lead, nitrate-nitrogen, arsenic, & triazine pesticides. The well owners were provided information about their well in regard proper care, maintenance, and possible treatment.	Penn State Extension
2007		Water Quality	Rain barrel Workshops award amount of $2,400	PACD Mini-Grant
2007		Water Quality	Bugs, birds and buffer workshops award amount $1,490	PACD Mini-Grant

2009 Report

The 2009 Columbia County Chesapeake Bay Tributary Strategy meeting was held on August 24, 2009 at the Columbia County Conservation District. In attendance was:

Mary Wagner – Columbia County Conservation District
Stephanie Singer – Columbia County Conservation District
Barry Travelpiece – Columbia County Conservation District
Cathy Haffner – Columbia County Conservation District
Todd Rush – Columbia County Conservation District
Paul Yankovich – Natural Resources Conservation Service
Robert Hollenbach – Pennsylvania Department of Environmental Protection
Ryan Koch – Pocono Northeast Resource Conservation and Development Council

Progress that has been made addressing the strategies currently listed in the Columbia County Chesapeake Bay Tributary Strategy (CBTS) was reviewed by the Columbia County Conservation District Staff. District progress mentioned at the meeting include; Rain Barrel and Native Plant Workshops, Watershed Tours, an Environmental Education Grant, Meaningful Watersheds Grant, the reassessment of Columbia County's dirt and gravel roads, two new watershed groups (RCVCA – Roaring Creek and BCAWS – Briar Creek) have formed, Catawissa Creek acid mine drainage treatment systems have been installed and a reassessment is under way, a Restoration Plan and lime treatment is under way for the East Branch of Fishing Creek, there is also a TMDL for Fishing Creek currently being developed. Progress listed by other agencies included; NRCS has received additional funds for conservation work in the Chesapeake Bay Watershed, Catawissa Borough has completed a Source Water Protection Plan and the Pocono-Northeast RC&D has received a grant to install agriculture BMP's on farms in several watersheds located in Columbia County as well as hosting a Flood Summit.

Open discussion was held among the meeting attendees regarding new strategies to address non-point source pollution and additional impacts to water quality in Columbia County. Two topics were covered that are currently listed in the CBTS. They are: Out-dated septic systems and maintaining existing forest along streams. Because these topics are currently listed in the CBTS they will not need to be added to the updated version. Impacts from increased oil and gas drilling and use of irrigation by farmers were also discussed. No new strategies were offered to address these issues beyond continuing to implement our delegated programs as a means to address any impacts that may arise.

The one new strategy discussed that will be added to the updated CBTS is to reexamine all impaired stream segments with in Columbia County. This will involve a visual assessment of the current conditions of the impaired areas and documenting what BMPs have been implemented since the segment was listed as impaired. This strategy will be listed under each section of the CBTS, Agriculture, Urban and Rural, since impairments are shown in each area of the County. See the updated version of the Columbia County CBTS for the final wording of this strategy.

2013 Report

The 2013 Columbia County Chesapeake Bay Tributary Strategy meeting was held on February 21, 2013 at the Columbia County Conservation District. In attendance was:

Mary Wagner – Columbia County Conservation District
Barry Travelpiece – Columbia County Conservation District
Josh Prosceno – Columbia County Conservation District
Kris Ribble – Natural Resources Conservation Service
Deanna Juart – Farm Services Agency
Dennis LeVan – Farmer/ Director Columbia County Conservation District
Donald Edwards – Farmer/ Director Columbia County Conservation District

During this meeting, progress and successful strategies were discussed. Several items were added to the 2013 Chesapeake Bay Tributary Strategy. Added to the strategy, is the Columbia County Agriculture Complaint Response Policy, Chapter 102 Agriculture Erosion and Sediment Pollution Control, Chapter 91 Manure Management, and Agriculture Outreach and Education. With new guidance from DEP in Phase I and Phase II WIP, the Districts will be play an increasing role in ensuring agriculture operators are in compliance with current regulations. The 2013 Chesapeake Bay Tributary Strategy emphasizes the importance of connecting with the agriculture community through education and outreach.