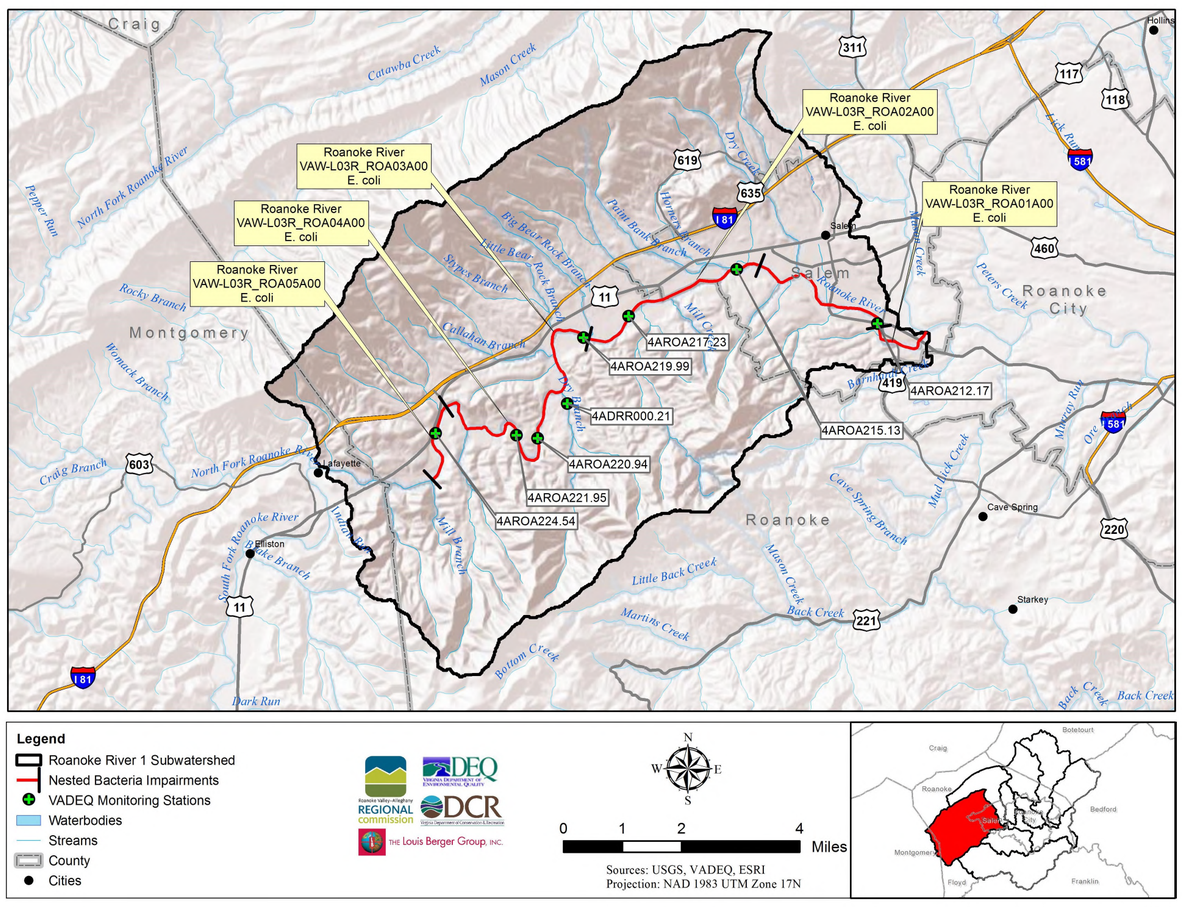
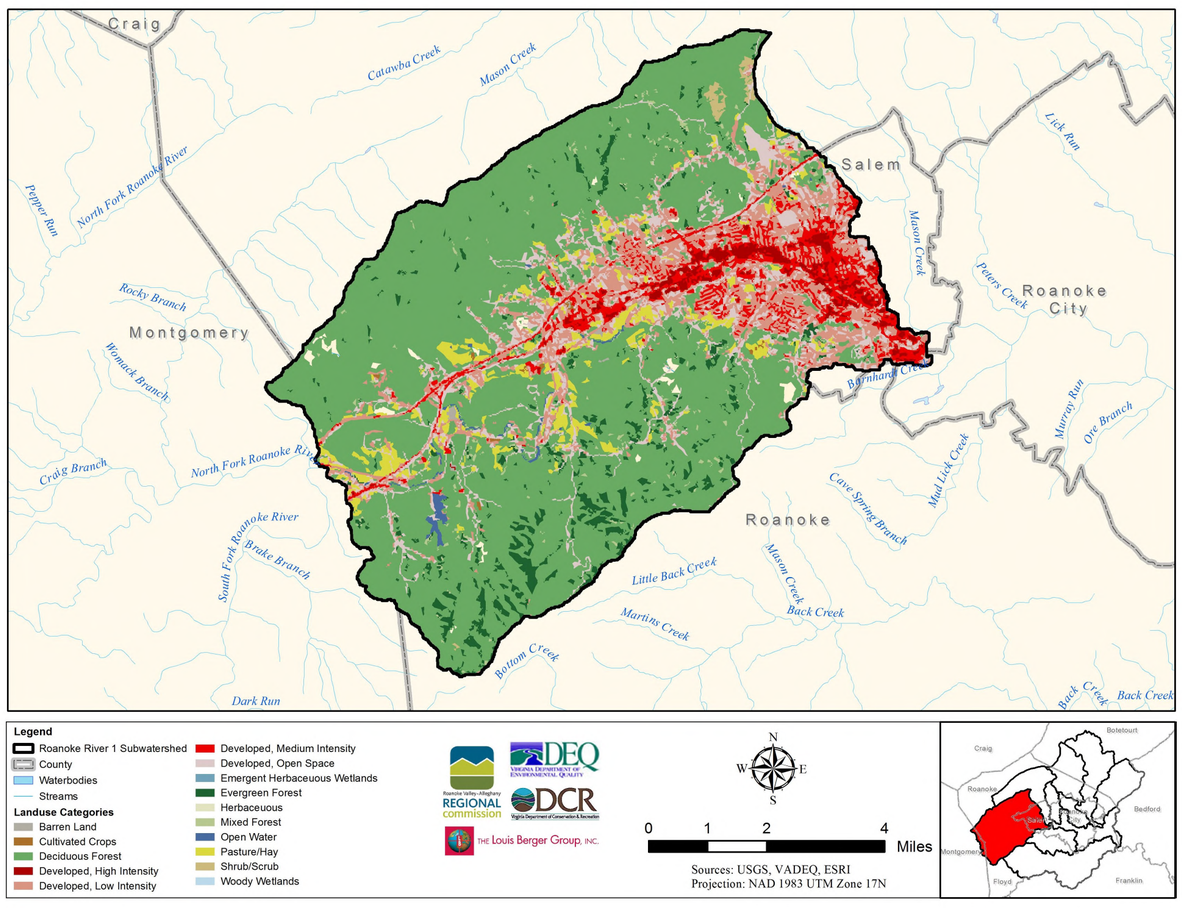
Roanoke River 1 Subwatershed - Bacteria





Impairment Summary

Assessment Unit	Stream Name	Length (miles)	Boundaries	Cause
VAW-L03R_ROA01A00	Roanoke River	1.20	Roanoke River mainstem from the Mason Creek mouth upstream to the Rt. 419 Bridge.	Escherichia coli
VAW-L03R_ROA02A00	Roanoke River	2.67	Roanoke River mainstem from the Rt. 419 Bridge upstream to the City of Salem downtown intake on the Roanoke River.	Escherichia coli
VAW-L03R_ROA03A00	Roanoke River	3.42	Roanoke River mainstem from the Salem City WTP downtown intake upstream to the Big Bear Branch mouth on the Roanoke River.	Escherichia coli
VAW-L03R_ROA04A00	Roanoke River	5.60	Roanoke River mainstem from the Big Bear Rock Branch mouth upstream to end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns.	Escherichia coli
VAW-L03R_ROA05A00	Roanoke River	1.40	Roanoke River mainstem from the end of the WQS designated public water supply (PWS) section just downstream of an unnamed tributary at Dixie Caverns upstream to the Roanoke County Spring Hollow Reservoir intake.	Escherichia coli

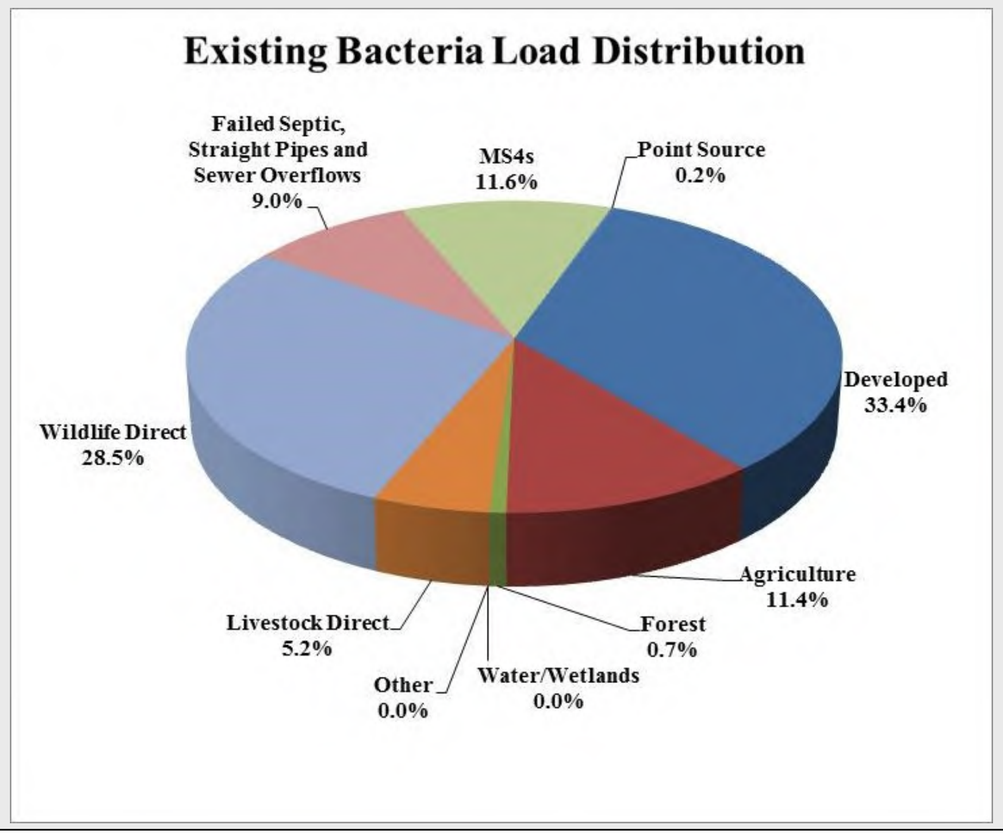
Land Use Distribution (NLCD 2006)

Land Use Category	Area	
	Acres	Percent
Developed	10,608.9	26.3%
Agriculture	1,629.3	4.0%
Forest	27,607.1	68.3%
Water/Wetlands	165.7	0.4%
Other	403.8	1.0%
Total	**40,414.8**	**100.0**

Existing and Allocated Bacteria Loads

Land Use/Source	Total Annual *E. coli* Loads (billion coliform forming units/year)*		Percent Reduction (%)
	Existing Load	Allocation Load	
Land Based Non-point			
Developed	139,959	1,680	98.8%
Agriculture	54,152	650	98.8%
Forest	3,551	43	98.8%
Water/Wetlands	2	2	0.0%
Other	2	<0.1	98.8%
Direct Non-point			
Livestock Direct	24,534	0	100.0%
Wildlife Direct	135,333	44,254	67.3%
Failed Septic, Straight Pipes and Sewer Overflows	42,847	0	100.0%
Point Source	843	843	0.0%
MS4s	73,930	887	98.8%
Total	**475,153**	**48,358**	**89.8%**

*The Existing and Allocated Loads reflect the loads for the entire watershed upstream of the outlet



Existing Best Management Practices Agricultural and Stormwater

Agricultural Best Management Practice	Count	Area Treated	Streamlength Protected (ft)
No Known Agricultural Best Management Practices			

Stormwater Best Management Practice	Count	Reported Area Treated* (acres)
Bioretention	3	No Data
Detention Basin	78	1,390.3
Extended Detention Basin	1	No Data
Manufactured Unit	2	No Data
Porous Pavement	1	No Data
Sediment Basin	1	No Data
Underground Detention Basin	3	11.9
Wet Pond	4	876.8

*Not all Best Management Practices reported area treated

The municipalities are in the process of creating Best Management Practices inventories, so not all Best Management Practices present in the watershed may be reported.

Potential Implementation Actions to Reduce Bacteria

- **Low Impact Development Stormwater Controls**
- **Livestock Exclusion from Streams**
- **Grazing Land Management**
- **Riparian Buffer Creation/Expansion**
- **Septic System Repair/Replacement**
- **Pet Waste Disposal and Education Programs**