Final Public Meeting for the Development of a Water Quality Clean Up Plan

Pigg River, Poplar Branch, Fryingpan Creek and Beaverdam Creek watersheds

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Why are we here today?

- Too much sediment present in the waterways across 4 different watersheds: Pigg River, Poplar Branch, Fryingpan Creek, and Beaverdam Creek

- For tonight's meeting
  - Overview of VA's Water Quality Process
  - Present draft Clean Up Plan
  - Next Steps/ Q&A

Acknowledgements

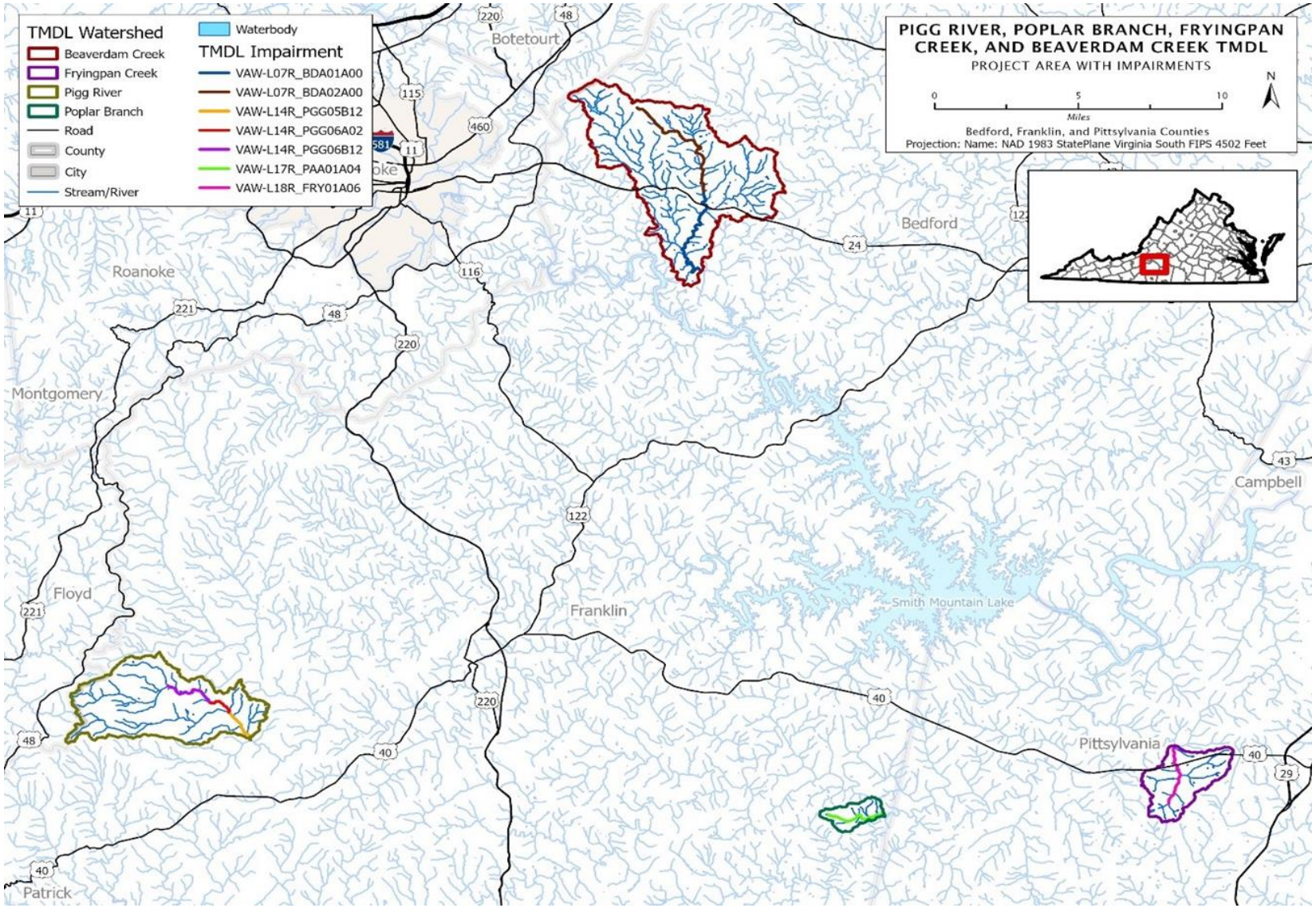
- Blue Ridge Soil and Water Conservation District
- Peaks of Otter Soil and Water Conservation District
- Pittsylvania Soil and Water Conservation District
- Natural Resources Conservation Service
- Franklin County
- Department of Forestry
- Virginia Department of Health
- Virginia Department of Environmental Quality, Central Office
- … & so many more!

Virginia's Water Quality Process

We are here

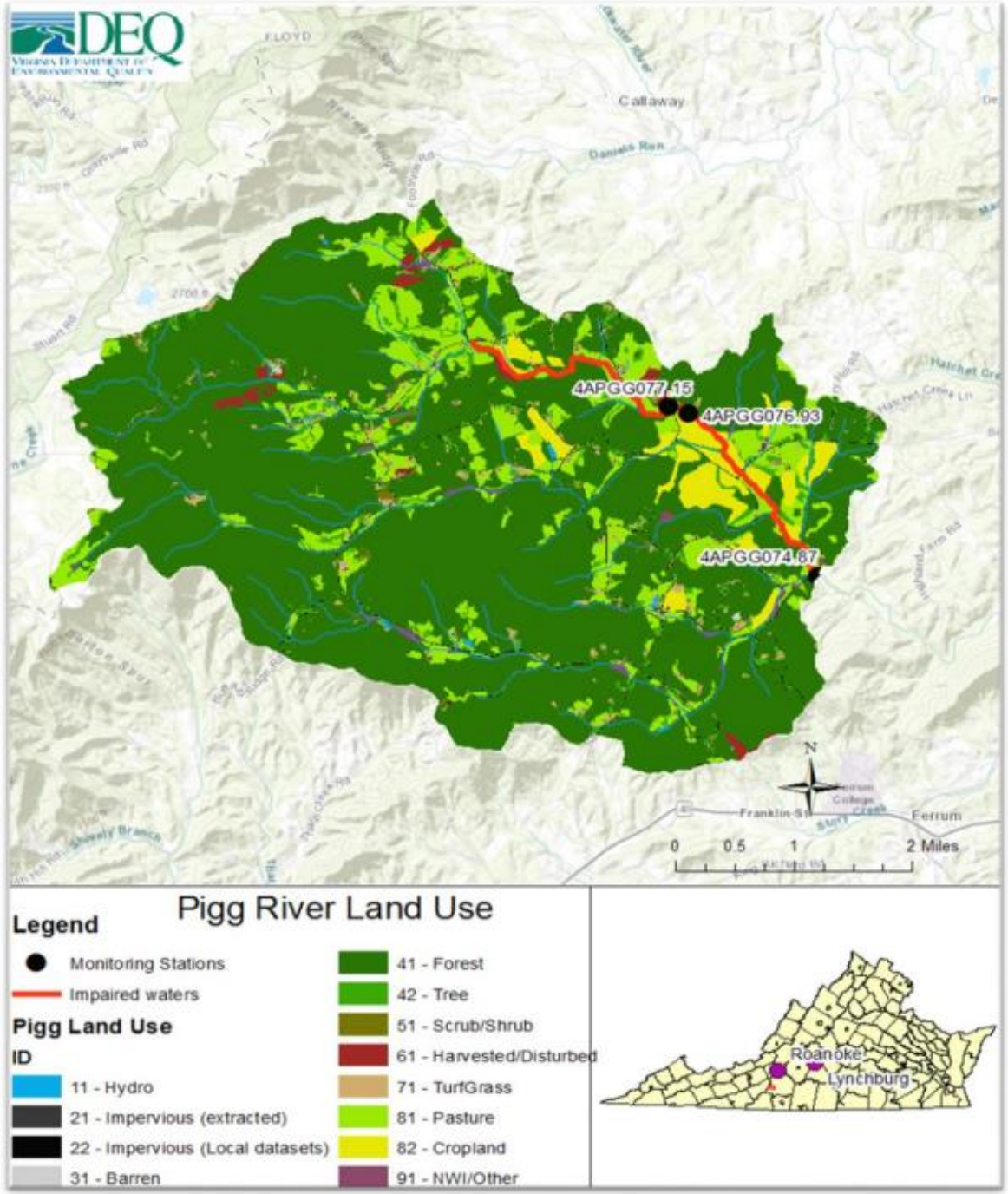
Impaired Stream Segments

Impaired Streams	Initial Listing Year (Benthic)
Beaverdam Creek	2010
Fryingpan Creek	2006
Pigg River	2012
Poplar Branch	2008



From the 2022 TMDL study:
Pigg River Land Use

		Pigg River	
Land use type	Land use description	Area (acres)	Percent land use
Water	Drainage networks and basins	14.61	0.10%
Impervious	Extracted and External- high percentage of constructed materials	193.46	1.34%
Barren	Areas with little or no vegetation	6.62	0.05%
Forest	Areas with tree cover of natural or semi-natural woody vegetation	10745.34	74.55%
Tree	Areas with tree cover of natural or semi-natural woody vegetation that does not encompass an acre	605.23	4.20%
Turf Grass	Primarily grasses	281.57	1.95%
Harvested/Disturbed	Areas of forest clear-cut, temporary clearing of vegetation, and other dynamically changing land cover due to land use activities as defined by the EPA	123.55	0.86%
Shrub	Areas of natural or semi-natural woody vegetation with aerial stems generally less than 6 meters	30.06	0.21%
Pasture	Areas of grasses, legumes, or grass-legumes planted for livestock grazing	1781.10	12.36%
Cropland	Areas of herbaceous vegetation that has been planted for production of food	554.59	3.85%
NWI/Other	Soil or substrate periodically covered with water	77.72	0.54%



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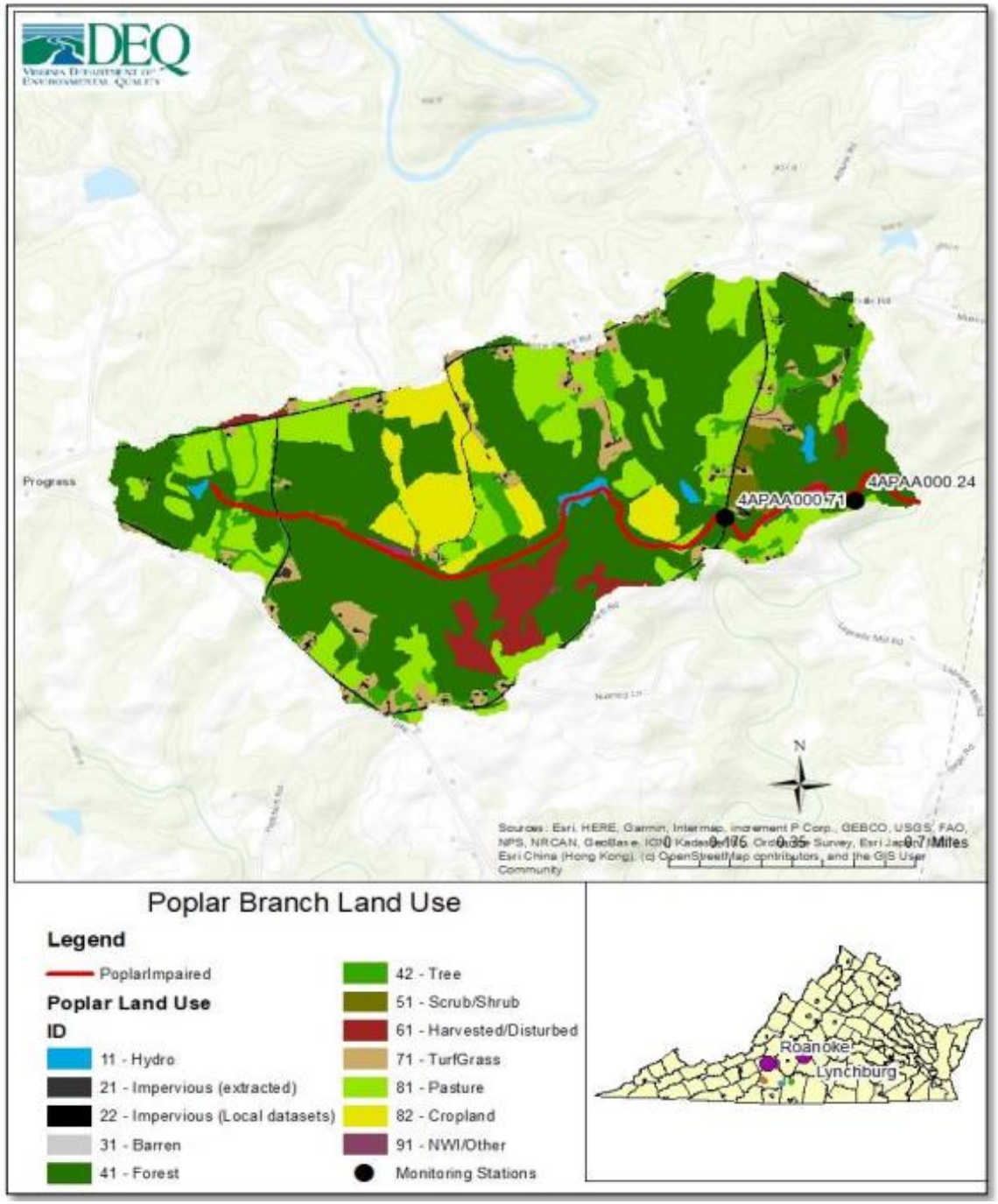
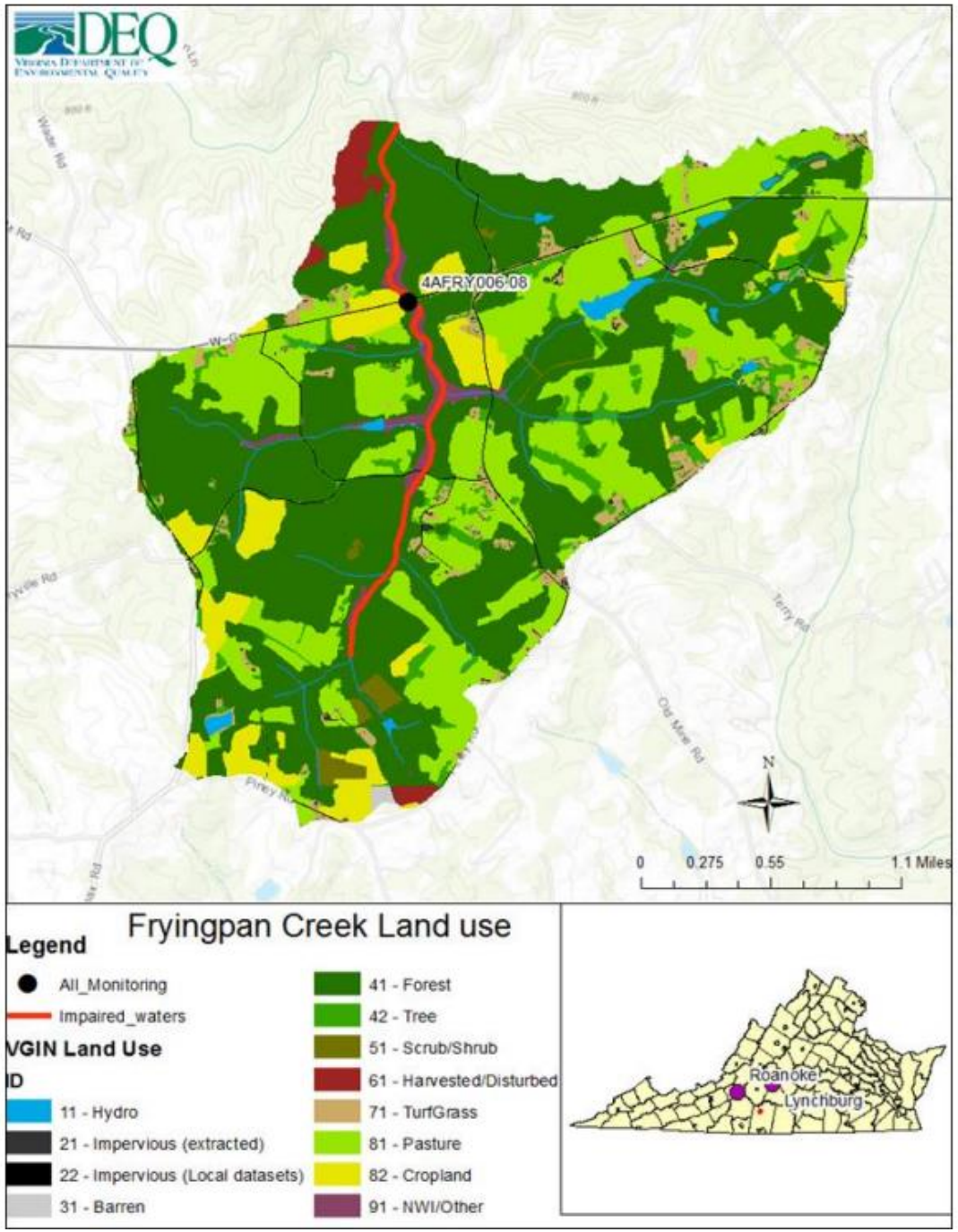
From the 2022 TMDL study:
Poplar Branch Land Use

		Poplar Branch	
Land use type	Land use description	**Area (acres)**	**Percent land use**
Water	Drainage networks and basins	**8.88**	0.83%
Impervious	Extracted and External- high percentage of constructed materials	**27.27**	2.56%
Barren	Areas with little or no vegetation	**0**	0
Forest	Areas with tree cover of natural or semi-natural woody vegetation	**565.57**	52.96%
Tree	Areas with tree cover of natural or semi-natural woody vegetation that does not encompass an acre	**65.96**	6.18%
Turf Grass	Primarily grasses	**53.88**	5.04%
Harvested/Disturbed	Areas of forest clear-cut, temporary clearing of vegetation, and other dynamically changing land cover due to land use activities as defined by the EPA	**43.51**	4.07%
Shrub	Areas of natural or semi-natural woody vegetation with aerial stems generally less than 6 meters	**11.80**	1.11%
Pasture	Areas of grasses, legumes, or grass-legumes planted for livestock grazing	**204.36**	19.14%
Cropland	Areas of herbaceous vegetation that has been planted for production of food	**80.43**	7.53%
NWI/Other	Soil or substrate periodically covered with water	**6.34**	0.59%



From the 2022 TMDL study:
Fryingpan Creek Land Use

		Fryingpan Creek	
Land use type	Land use description	Area (acres)	Percent land use
Water	Drainage networks and basins	30.61	0.89%
Impervious	Extracted and External- high percentage of constructed materials	51	1.48%
Barren	Areas with little or no vegetation	5.43	0.16%
Forest	Areas with tree cover of natural or semi-natural woody vegetation	1780.69	51.70%
Tree	Areas with tree cover of natural or semi-natural woody vegetation that does not encompass an acre	170.60	4.95%
Turf Grass	Primarily grasses	121.01	3.51%
Harvested/Disturbed	Areas of forest clear-cut, temporary clearing of vegetation, and other dynamically changing land cover due to land use activities as defined by the EPA	42.43	1.23%
Shrub	Areas of natural or semi-natural woody vegetation with aerial stems generally less than 6 meters	32.78	0.95%
Pasture	Areas of grasses, legumes, or grass-legumes planted for livestock grazing	911.01	26.45%
Cropland	Areas of herbaceous vegetation that has been planted for production of food	6.87	6.87%
NWI/Other	Soil or substrate periodically covered with water	62.21	1.81%



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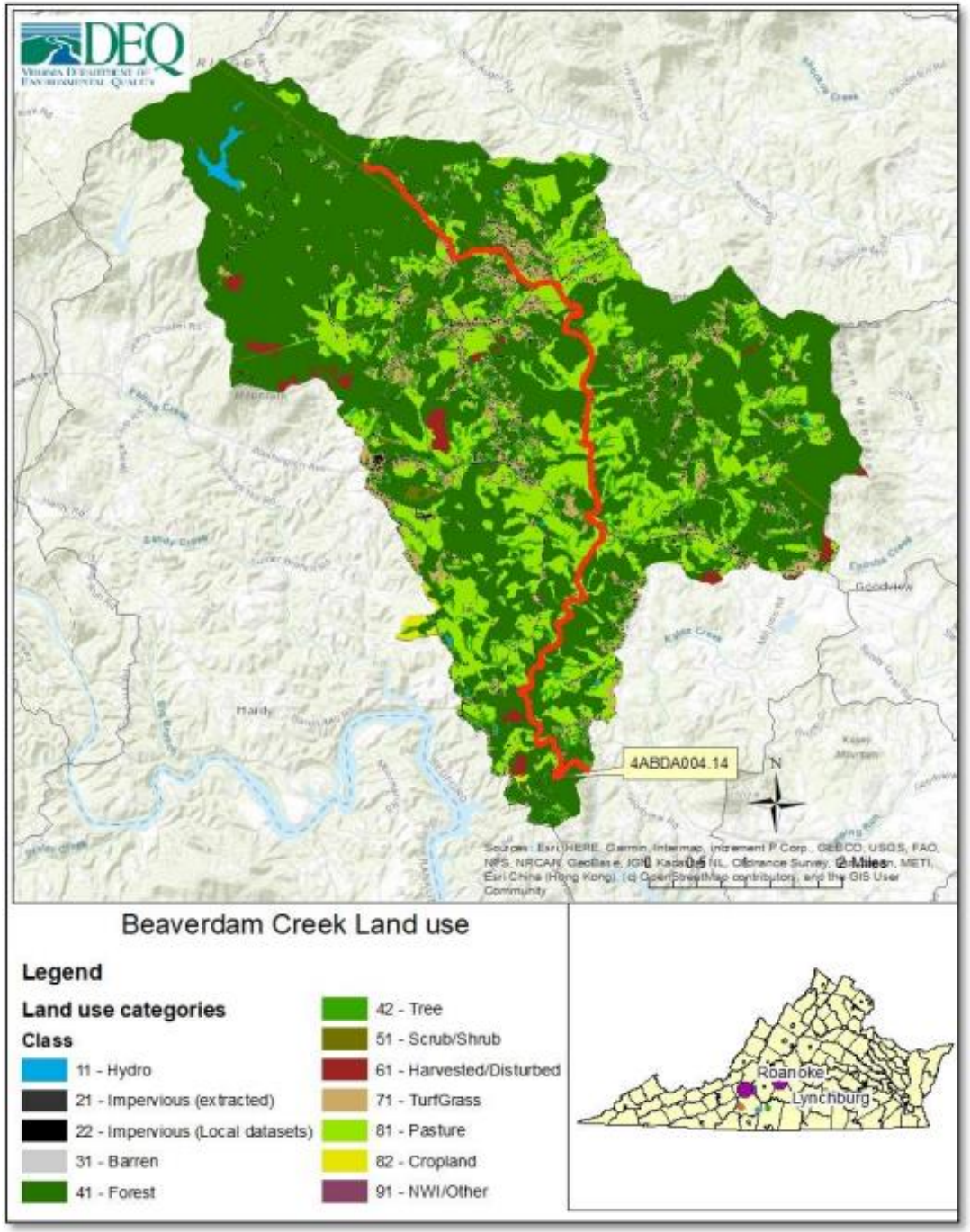
From the 2022 TMDL study:
Beaverdam Creek Land Use

		Beaverdam Creek	
Land use type	Land use description	Area (acres)	Percent land use
Water	Drainage networks and basins	74.75	0.43%
Impervious	Extracted and External- high percentage of constructed materials	473.22	2.74%
Barren	Areas with little or no vegetation	0	0
Forest	Areas with tree cover of natural or semi-natural woody vegetation	10443.56	60.39%
Tree	Areas with tree cover of natural or semi-natural woody vegetation that does not encompass an acre	1738.75	10.06%
Turf Grass	Primarily grasses	1033.96	5.98%
Harvested/Disturbed	Areas of forest clear-cut, temporary clearing of vegetation, and other dynamically changing land cover due to land use activities as defined by the EPA	191.96	1.11%
Shrub	Areas of natural or semi-natural woody vegetation with aerial stems generally less than 6 meters	89.98	0.52%
Pasture	Areas of grasses, legumes, or grass-legumes planted for livestock grazing	3193.11	18.47%
Cropland	Areas of herbaceous vegetation that has been planted for production of food	48.18	0.28%
NWI/Other	Soil or substrate periodically covered with water	4.70	0.03%



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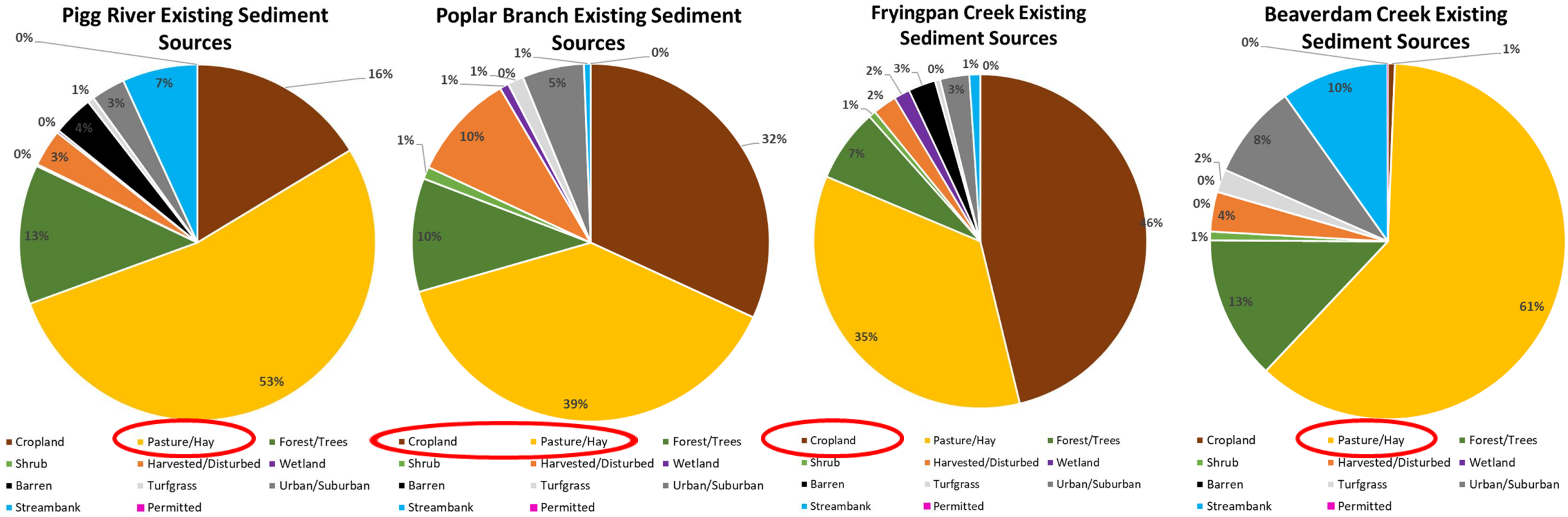

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From the 2022 TMDL study: Sediment Load Reductions

Watershed	Crop, Pasture, Hay (%)	Forest, Trees, Shrubs, Wetland (%)	Developed Pervious and Impervious Areas, Barren, Turfgrass (%)	Streambank Erosion (%)	Permitted Sources (%)
Pigg River	31.5%	0%	31.5%	31.5%	0%
Poplar Branch	56.1%	0%	56.1%	56.1%	0%
Fryingpan Creek	76.1%	0%	76.1%	76.1%	0%
Beaverdam Creek	30.4%	0%	30.4%	30.4%	0%

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What is a Clean Up Plan… aka Implementation Plan (IP)?

- **What**: Actions to improve water quality (BMPs); Outreach Strategies
- **Where**: Watershed Area
- **When**: Timeline for implementation actions
- **Why**: Measureable Goals
- **Who**: Partners, Funding Sources
- **How much**: Costs

Tells us "How" to improve water quality for nonpoint sources

Livestock Exclusion Reductions Needed

Sub-watershed	Fencing needed	Stream exclusion with Narrow Width Buffer Stream Protection Fencing with Narrow Width Buffer SL-6N or WP-2N (10 – 25 ft buffer): 10%		Stream exclusion with Wide Width Buffer (SL-6W) Stream Protection Fencing with Wide Width Buffer (WP-2W) SL-6W, SL-6F, WP-2W or CRSL-6 (35 – 50 ft buffer): 90%	
	feet	feet	systems	feet	systems
Pigg River	16,426	1,643	1	14,783	7
Poplar Branch	450	0	0	450	1
Fryingpan Creek	0	0	0	0	0
Beaverdam Creek	45,409	4,541	2	40,868	20
Total	**62,285**	**6,184**	**3**	**56,101**	**28**

Table 5-4 in the IP. Livestock exclusion needed to achieve reduction of sediment load from livestock direct deposition.
Assumes one exclusion system averages 2,000 linear feet of stream fencing.

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Timeline Example from CEM #2

Pigg River BMP Table from CEM #2

(Years 1-5) (Years 6-10)

BMP Type	Practice	Cost share code	Units	Unit cost	Stage 1		Stage 2		TOTAL	
					Number	Cost	Number	Cost	Number	Cost
Livestock stream Exclusion	Stream Exclusion with Narrow Width Buffer and Grazing Land Management	SL-6N	system (feet)	$60,000	1 (2,000)	$60,000	0	$0	1 (2,000)	$60,000
	Stream Exclusion with Wide Width Buffer and Grazing Land Management	SL-6W, SL-6F		$95,000	4 (8,000)	$380,000	4 (8,000)	$380,000	8	$760,000
	Stream Exclusion with tree planting - CREP	CREP		$100,000	1 (2,000)	$100,000	0	$0	1 (2,000)	$100,000
	Exclusion fence maintenance (10 yrs)	CCI-SE-1, CCI-SL-6N-CCI-SL-6W	feet	$5.50	821	$4,516	821	$4,516	1642	$9,032
	TOTAL ESTIMATED COST					**$544,516**		**$384,516**		**$929,032**

*Assumes one exclusion system averages 2,000 linear feet of stream fencing

Land Based Agricultural BMPs: Afforestation of Pasture

BMP (Cost-share code in parenthesis)	Pigg River	Poplar Branch	Fryingpan Creek	Beaverdam Creek
	Acres (unless otherwise noted)			
Pasture				
Extension of Watering and Grazing Management System (SL-7)	2 systems	2 systems	2 systems	2 systems
Improved Pasture Management (SL-10)	605	63	289	864
Forest Riparian Buffers (DOF-RFFL, FR-3)	12 acres treated	0	20 acres treated	18 acres treated
Afforestation of Erodible Pasture (FR-1)	28	7	48	38
Permanent Vegetative Cover on Critical Areas (SL-11)	0.9	0.2	0.8	1.4
Sediment Retention, Erosion, or Water Control Structure (WP-1)	0	30	219	0

Table 5-5 in the IP. Land based agricultural BMPs needed to achieve sediment reduction goals

Pasture Management

Afforestation of erodible pasture

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Land Based Agricultural BMPs: Afforestation of Hayland

BMP (Cost-share code in parenthesis)	Pigg River	Poplar Branch	Fryingpan Creek	Beaverdam Creek
	Acres (unless otherwise noted)			
Hayland				
Forest Riparian Buffers (DOF-RFFL, FR-3)	29 acres treated	13 acres treated	0	0
Afforestation of Hayland (FR-1)	2	1	0	0

Table 5-5 in the IP. Land based agricultural BMPs needed to achieve sediment reduction goals

Forest Riparian Buffers

Land Based Agricultural BMPs: Afforestation of Cropland

BMP (Cost-share code in parenthesis)	Pigg River	Poplar Branch	Fryingpan Creek	Beaverdam Creek
	Acres (unless otherwise noted)			
Cropland				
Forest Riparian Buffers (FR-3, DOF-RFFL)	0	30 acres treated	0	0
Continuous No Till (SL-15A)	154	28	57	0
Cover Crop (SL-8B, SL-8H, SL-8M)	154	28	57	0
Conversion from High Till to Low Till	0	4	128	0
Long Term Vegetation on Cropland (SL-1)	25	2	2	0

Table 5-5. Land based agricultural BMPs needed to achieve sediment reduction goals

Cover Crops

Continuous no till

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Residential Stormwater BMPs

BMP (Cost-share code in parenthesis)	Units	Pigg River	Poplar Branch	Fryingpan Creek	Beaverdam Creek
Erosion and Sediment Control in Transitional Areas	acres treated	4	0	6	0
Raingardens (RG)	system	1	1	3	1
Forest Riparian Buffers (DOF-RFFL, DOF-RT)	acres treated	0	0	0.1	2

Table 5-6 in the IP. Residential stormwater BMPs needed in the implementation watersheds.

Bio Retention (Rain Garden)

Forest Riparian Buffer

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Streambank Stabilization BMPs

BMP (Cost-share codes in parentheses)	Pigg River	Poplar Branch	Fryingpan Creek	Beaverdam Creek
	Linear Feet			
Streambank Stabilization (WP-2A)	650	0	35	1,210

Table 5-7 in the IP. Streambank stabilization needed in the watersheds.

Streambank Stabilization

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Forest Harvesting BMPs

BMP (Cost-share codes in parentheses)	Pigg River	Poplar Branch	Fryingpan Creek	Beaverdam Creek
	Acres			
Woodland Erosion Stabilization (FR-4)	53	21	22	95

Table 5-8 in the IP. Forest harvesting BMPs needed in the watersheds.

Woodland Erosion Stabilization

Overall Summary- All Watersheds

BMP Application	Pigg River	Poplar Branch	Fryingpan Creek	Beaverdam Creek	Total
Agricultural	$1,039,931	$359,512	$1,107,473	$2,346,119	**$4,853,035**
Residential	$5,000	$3,000	$12,175	$6,500	**$26,675**
Streambank restoration	$487,500	$0	$26,250	$907,500	**$1,421,250**
Forest harvesting	$6,890	$2,730	$2,860	$12,350	**$24,830**
Total Estimated Cost	**$1,539,321**	**$365,242**	**$1,148,758**	**$3,272,469**	**$6,325,790**

Table 6-5. Total BMP costs for watersheds

***Note: 319(h) funding is one of many sources of funding that may help cover the total costs**

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Timeline

BMP Application	Cost by Stage		Total
	Stage 1 (Years 1 - 5)	Stage 2 (Years 6 - 10)	
Agricultural	$2,218,240	$2,634,795	$4,853,035
Residential	$8,425	$18,250	$26,675
Streambank restoration	$1,421,250	$0	$1,421,250
Forest harvesting	$9,880	$14,950	$24,830
Total Estimated Cost	$3,657,795	$2,667,995	$6,325,790

Table 6-6. Staged BMP implementation costs for the watersheds.

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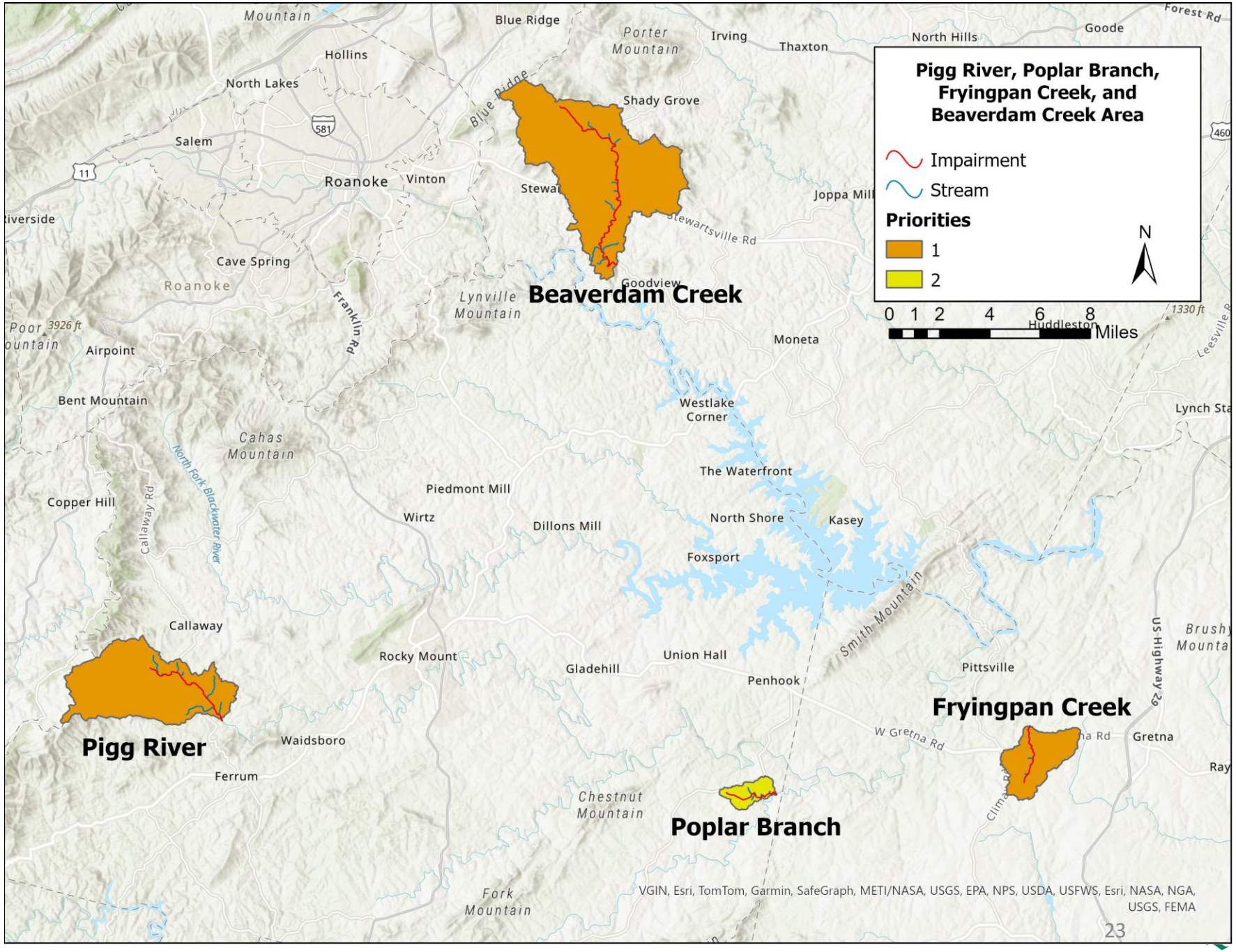
Priority Areas

Priority 1:
- Pigg River
- Fryingpan Creek
- Beaverdam Creek

Priority 2:
- Poplar Branch



Education and Outreach

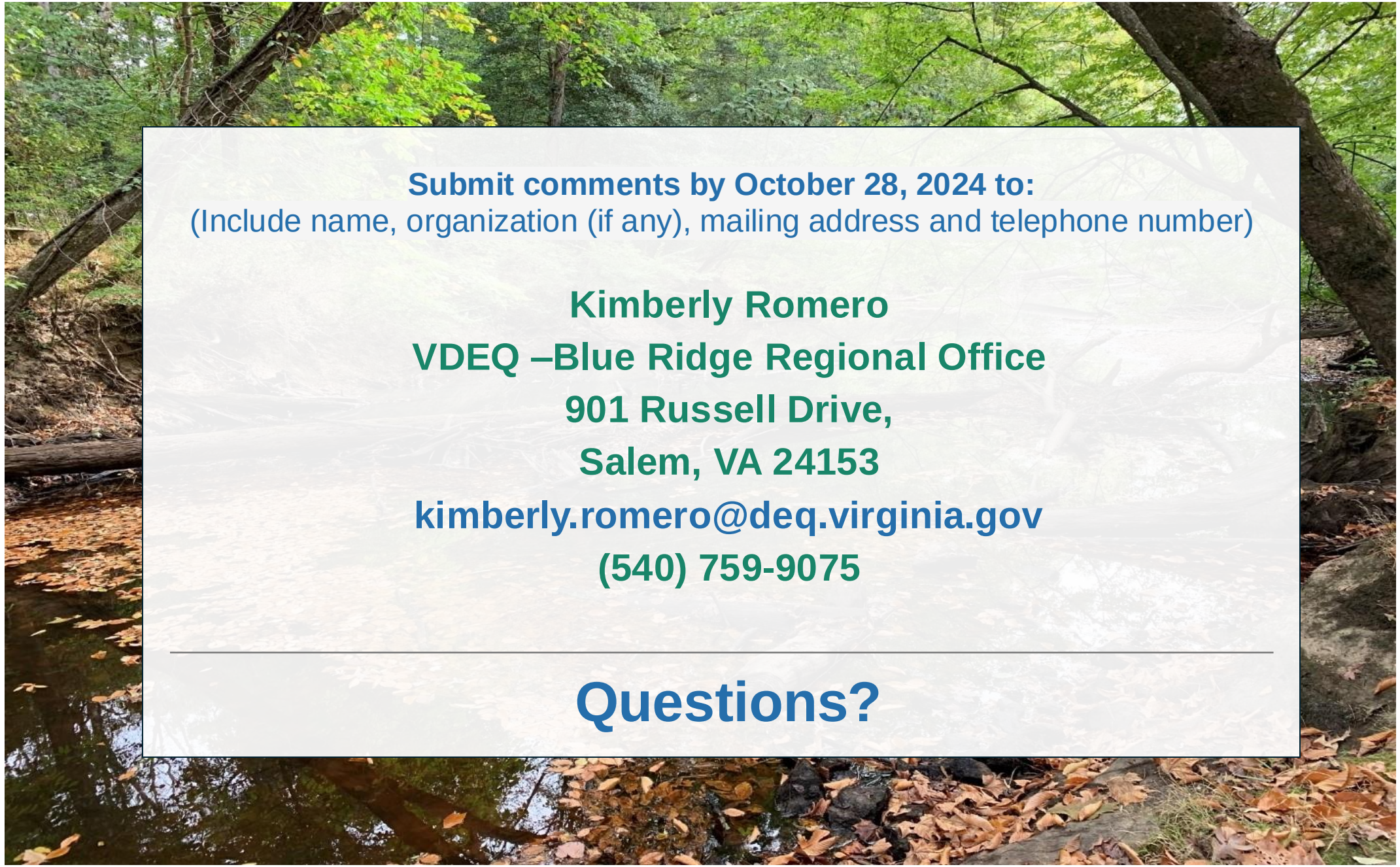
- Contact landowners to raise awareness of cost-share options for agricultural BMPs
- Farm tours and field days
- Social media/newspaper
- Yard signs/mailers/door hangers
- Word of mouth!

How are we going to pay for it?

- EPA 319(h) Nonpoint Source Funds (available through DEQ)
- Virginia Agricultural Best Management Practices Cost-Share (VACS) & Tax Credit
- USDA Programs – CRP/CREP/EQIP
- State Water Quality Improvement Fund (WQIF)
- Clean Water State Revolving Funds (CWSRF)
- DOF- Riparian Forests for Landowners Program
- … and others

Next Steps

	Tentative Date
First Public Meeting	**February 29, 2024** (Public comment period March 1- April 1, 2024)
# 1	April 18, 2024
# 2	June 25, 2024
Final Public Meeting	September 26, 2024 **(Public comment period 30 days after Final Public Meeting)** **September 26, 2024- 11:59 PM October 28, 2024**
EPA Approval	Winter 2024/Spring 2025 Eligible to apply for DEQ 319 funding in 2025, funds will be disbursed to accepted applicants in 2026



Submit comments by October 28, 2024 to:
(Include name, organization (if any), mailing address and telephone number)

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Questions?