Loudoun Wildlife Conservancy
aulland@loudounwildlife.org

Loudoun Watershed Watch
info@loudounwatershedwatch.org

April 25, 2023

Meighan Wisswell
VA Dept. of Environmental Quality
P.O. Box 1105
Richmond, VA. 23218

Sent via E-mail: citizenwater@deq.virginia.gov

Subject: Citizen Nomination for Stream Monitoring

Dear Meighan Wisswell:

Loudoun Wildlife Conservancy and Loudoun Watershed Watch are pleased to provide several nominations for additional stream monitoring locations to be considered for inclusion in DEQ's Water Quality Monitoring plan for calendar year 2024. This year we met virtually as a committee and selected 5 candidate sites. We used a comprehensive interactive map with stream monitoring data and stream impairments, past stream monitoring nominations, and past DEQ stream monitoring plans.

The map includes past stream monitoring results by:

- Citizen stream monitoring groups
- VADEQ
- Other organizations

The map is available to the public at https://tinyurl.com/jwrz3bj4

The scoring matrix includes five criteria for nominations as follows. On January 10, 2022 and January 24, 2023, several committee members from Loudoun Wildlife Conservancy and Loudoun Watershed Watch met and determined scores and made the final nomination list.

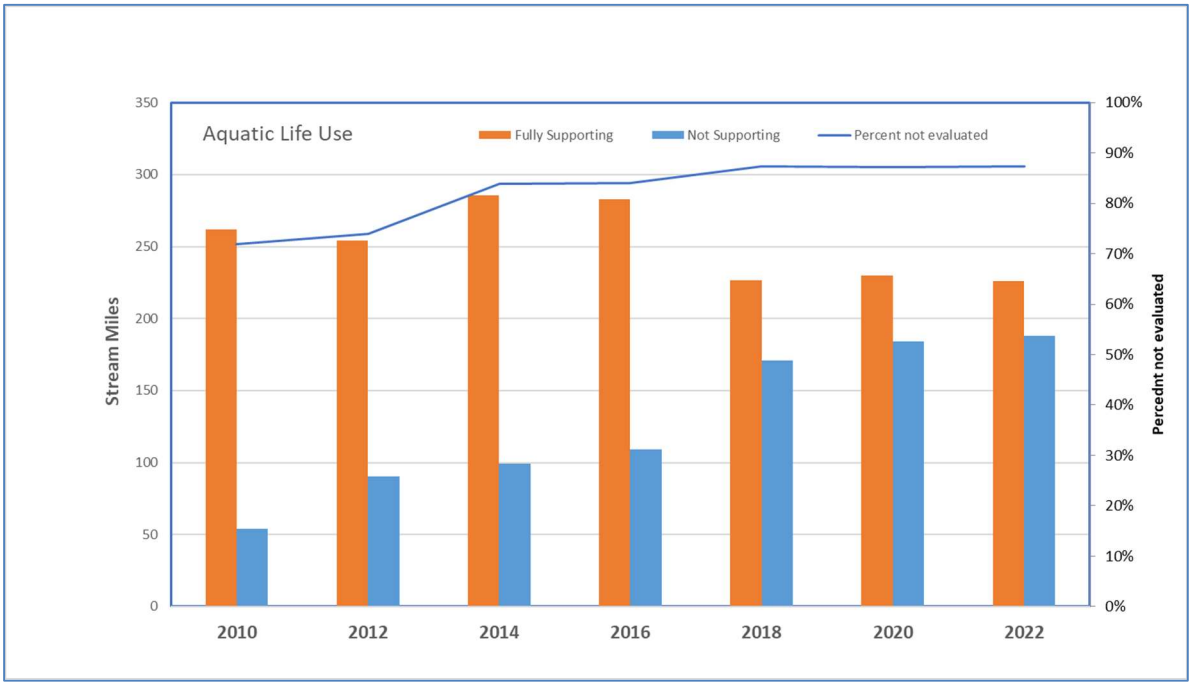
Review and prioritize stream selection criteria - scale 0-3, low to high

ID	Criteria to Consider for DEQ Nomination	Importance (group input) Scale: 0-3	Total	Final Weight (avg)
A	Easy access to the stream site for public events to engage, educate, and raise awareness			
B	Proximity to LWC stream monitors (short drive, central location)			
C	Historic benthic VASOS Stream scores available			
D	Potential for habitat restoration (e.g., location conducive to plantings, riparian buffers)			
E	Currently Impaired for Aquatic Life			
F	Risk of future impairment based on site knowledge (e.g., development plans)			
G	Meets DEQ Nomination Criteria: 1-The nomination shows a need for DEQ sampling 2-Budget and staff availability 3-No recent DEQ sampling has occurred 4-Safe access for staff 5-Sampling is meant to assess water quality			

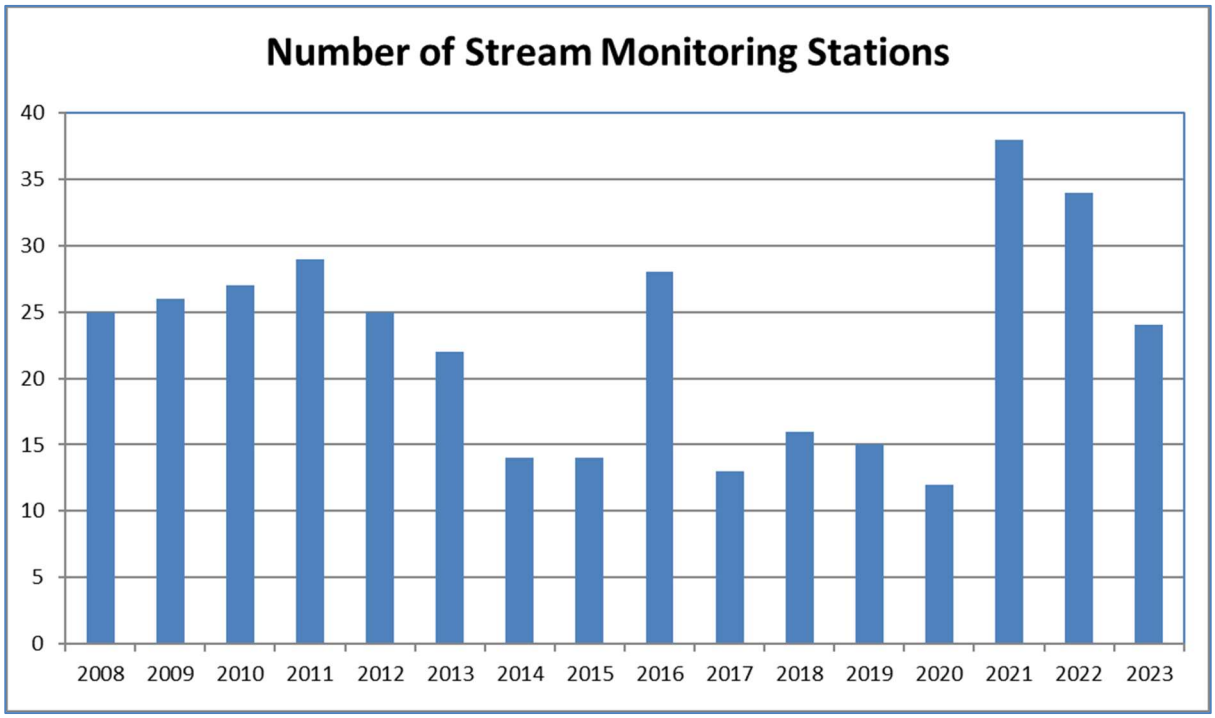
Final Scores of Streams Nominated for DEQ Monitoring	
1	Tuscarora Creek - at W&OD trail, Leesburg – Final Weighted Score: 39
2	Goose Creek – Riverside Parkway, Leesburg - Final Weighted Score: 34
3	Broad Run - in Willowsford, Aldie - Final Weighted Score: 37
4	Sweet Run - Final Weighted Score: 28
5	Piney Run - Final Weighted Score: 31

This year we are re-nominating 3 sites from our submission in 2022 and have added two more sites in north west corner of Loudoun County in the Piney Run watershed. The detailed rating scores are provided in the Appendix.

We understand that only a limited percentage of the stream miles in Loudoun County have been assessed for aquatic life use through benthic monitoring of the macroinvertebrate community in the streams. The percentage changed from 30% to about 13% when DEQ changed to a higher density of streams. We understand that VA DEQ began stream monitoring in Loudoun County in 1994.



Over the years the number of sites has varied in which a site is typically monitored in both the spring and fall as VA DEQ requires that two benthic sampling be conducted to be included in the water quality assessment as shown in this chart.



Based on DEQ's water assessment, we also observe that the number of stream miles in Loudoun County region

continues to increase every 2 years.

In our review of available data, we have worked with DEQ's EDAS Family and Genus MS Access "PROBMON data and constructed six-year data windows of the average SCI scores (https://tinyurl.com/mb6rjt9u). We have examined comprehensive DEQ-approved Loudoun County Stream assessment, conducted in the spring of 2009 (https://loudounwatershedwatch.org/Loudoun_County_Reports/2009_Stream_Assessment_Report_FINAL.PDF). The County data provides a one-time comprehensive coverage at 200 locations.

The goal of our site nominations is to suggest stream reaches that in our opinion are strategic to support identification of both "healthy" and potentially "impaired" (for aquatic life use) segments. Based on the 2009 Loudoun County stream assessment, 78% of the streams are statistically under stress or severe stress and would be designated as impaired, however, even with 200 monitoring events from the spring of 2009, this comprehensive survey does not provide sufficient coverage of all streams in Loudoun as the goal of the study was an overall assessment and was not designed to analyze each and every segment. Furthermore, the sampling was a one-time event and VA DEQ requires at least two events during the sampling window of the assessment cycle.

Regarding bacteria monitoring, we are not nominating any additional sites as we recognize that there is a high probability (80-90 percent) that streams within Loudoun County if sufficiently monitored would probably fail to meet the recreational use criteria established by VA DEQ.

Loudoun Wildlife Conservancy uses the Virginia Save Our Streams (VA SOS) protocol for biological monitoring of stream health, so our data is accepted by DEQ as Level 2 data. Our stream monitoring program coordinator is both a VA SOS certified monitor and certified trainer.

Loudoun Wildlife currently monitors 19 stream sites around the county – over triple the number of sites we monitored in 2019. Loudoun Wildlife currently has 20 VA SOS certified monitors on our Stream Team, with 1 more person in training for certification.

Loudoun Wildlife became a partner organization of the Izaak Walton League of America's Salt Watch program in 2021. Since first collecting baseline data in the fall of 2021, we have collected over 200 sodium chloride data points at 50 stream sites.

Loudoun Wildlife secured a grant to conduct biological and bacterial water quality sampling in the Lucketts area in 2022. We collected and analyzed over 250 E. coli samples from a segment of Clarks Run to the north of Lucketts and on a segment of an unnamed tributary of Limestone Branch between Stumptown Rd and Limestone School Rd, as well as two wastewater treatment facilities that empty into those streams. You can see the data from this study by going to https://loudounwildlife.org/2022/03/lucketts-water-quality-monitoring-sites/. We also submitted this data to DEQ as Level 2 data.

We look forward to your response and continued efforts to evaluate stream health in Loudoun County.

Respectfully submitted,

Amy Ulland

This letter and others are posted at
https://loudounwatershedwatch.org/subitem6_3.html

Site 1: Tuscarora Creek - W&OD

REQUEST TO INCLUDE A WATER SEGMENT IN DEQ'S ANNUAL MONITORING PLAN

Name: Amy Ulland **Date:** 4/18/2023

Mailing Address: PO Box 1892

City: Leesburg **State:** VA **Zip:** 20177

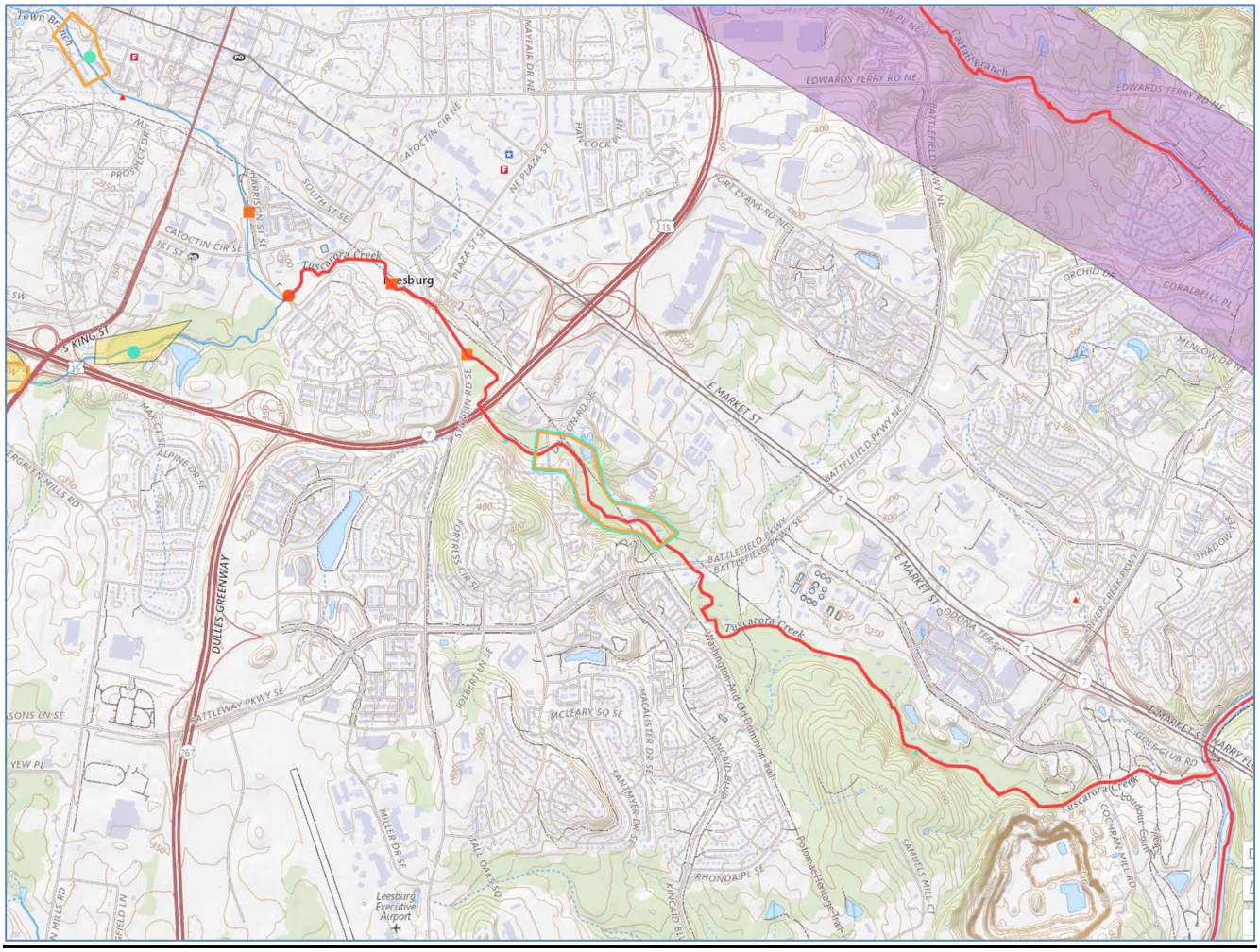
E-mail address: aulland@loudounwildlife.org

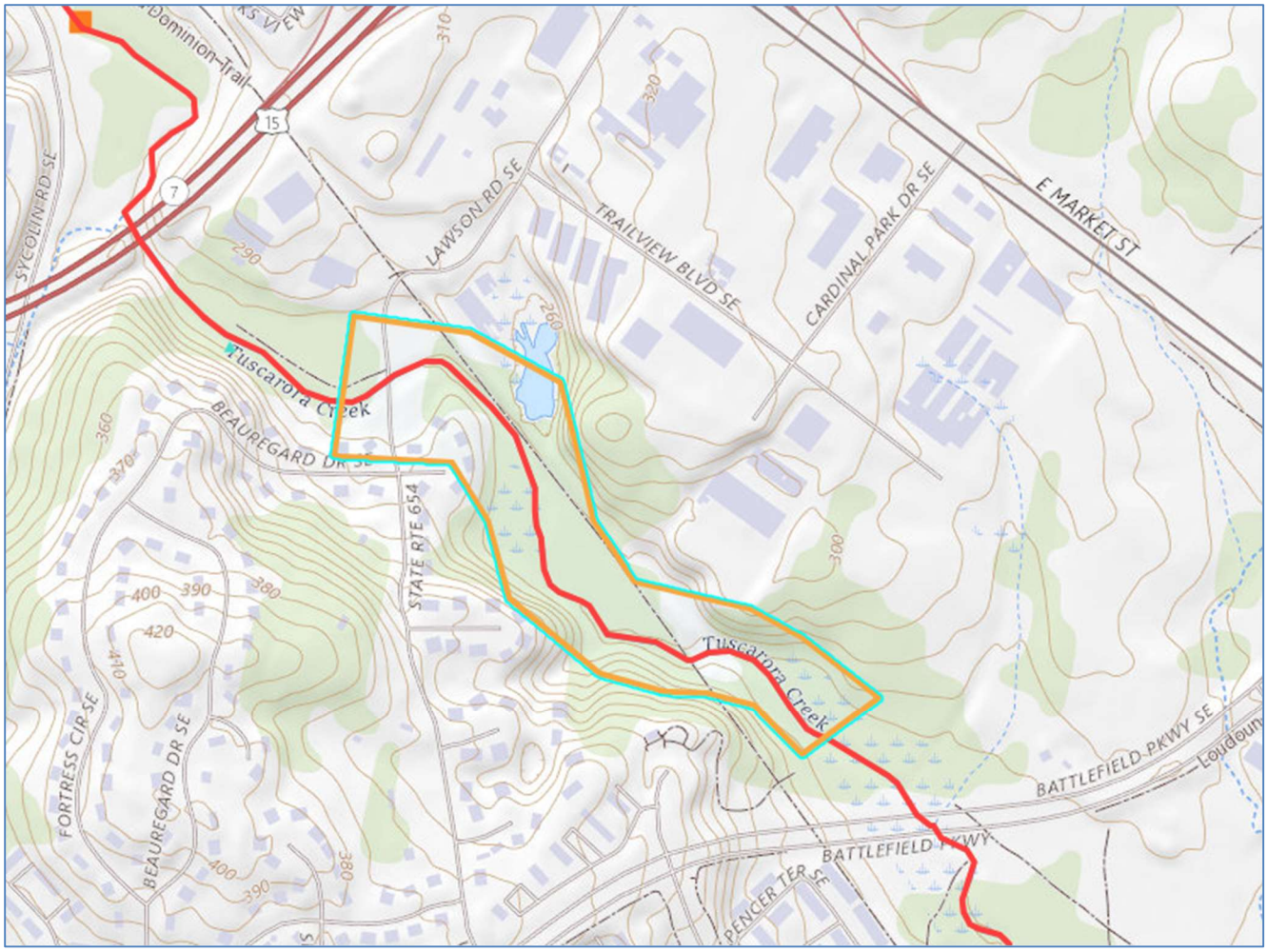
Home telephone: _____ **Business telephone:** (571) 293-1696

(1) Name of the water body or water bodies proposed for monitoring:

Tuscarora Creek - W&OD

(2) Site maps





(3) Monitoring objective.

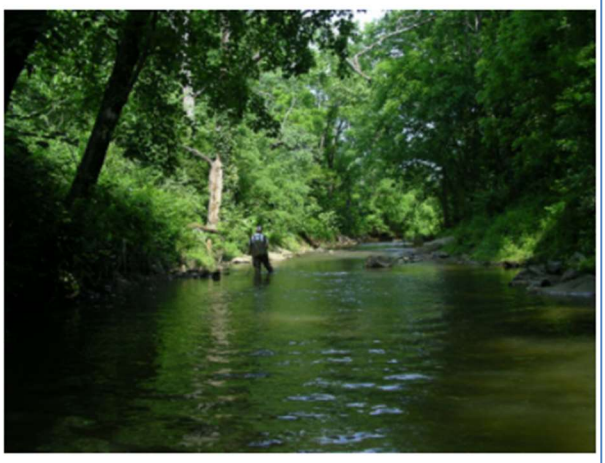
The site is subject to development pressures within and just outside of the Town of Leesburg. The site is accessible to public via WO&D Trail. This is a critical reach that needs further aquatic life use monitoring.

(4) Water quality data are integrated into map application.

Just upstream habitat is suboptimal. The reach is not supporting aquatic life use and recreational use.

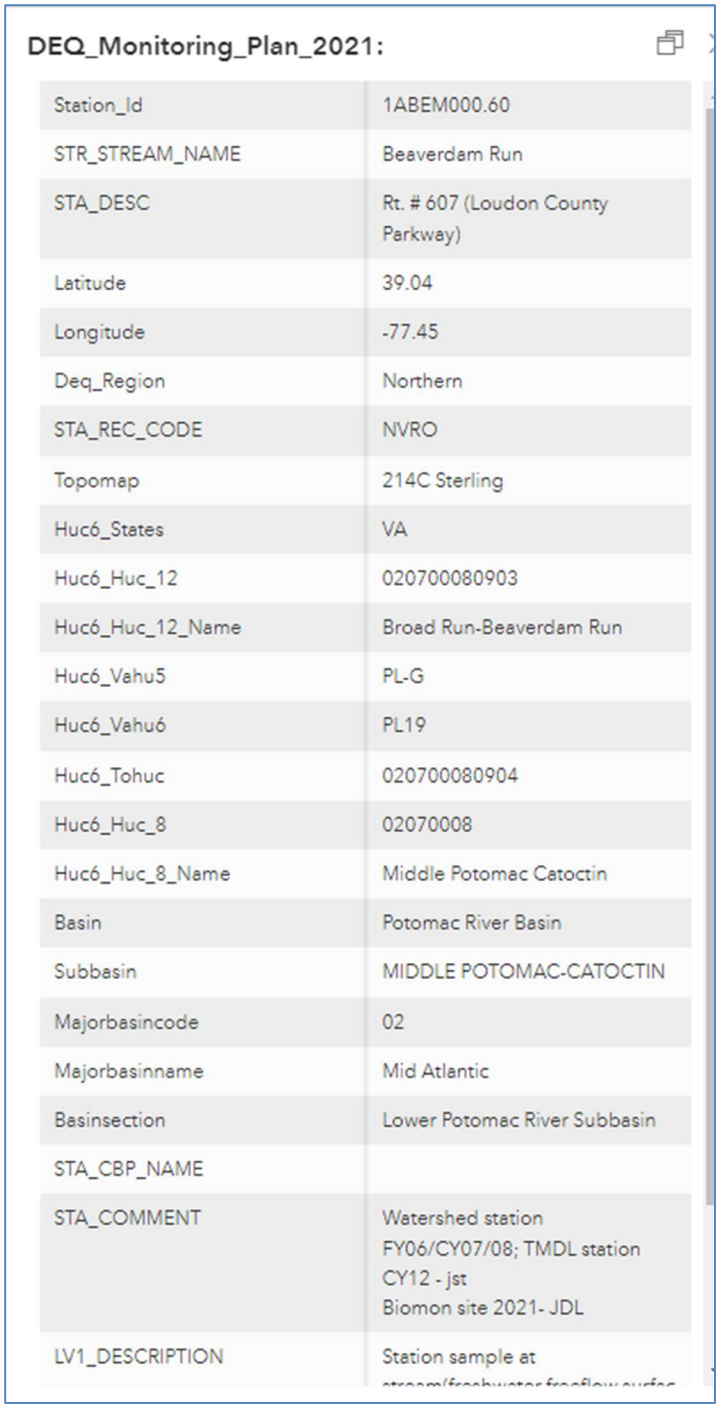
Loudoun County 2009 Habitat: LOGC-207-H-2009

RBP_Rating	Suboptimal
Grad_Total	142
Comments	Looks very turbid. Very buggy.
DO	8.80
ph	7.82
Temp_C	18.10



Impaired_2020_Rivers_Not_Supporting_Recreation: Tuscarora Creek

ID305B	VAN-A08R_TUS01A00
MILES	2.80
CYCLE	2020
WATER_NAME	Tuscarora Creek
LOCATION	Segment begins at the boundary for the PWS designation area, approximately 0.1 rivermile downstream from the Route 15 crossing. and continues downstream until the confluence with Goose Creek.
AU_COMMENT	Class III, Section 8, special stds. PWS. Citizen monitoring station 1aTUS-LWC2-SOS. Historical Note: In 2006, the segment was shortened by 0.95 rivermile to limit the segment to the PWS designation area. The aquatic life use is assessed as impa
IMP_CAUSE	Benthic Macroinvertebrates Bioassessments, Escherichia coli (E. coli)
SOURCE	Grazing in Riparian or Shoreline Zones, Source Unknown, Livestock (Grazing or Feeding Operations), Sewage Discharges in Unsewered Areas
CATEGORY	5D
AQUA_LIFE	Not Supporting
FISH_CONSU	Not Assessed
PWS	Not Assessed
RECREATION	Not Supporting



DEQ_Monitoring_Plan_2021:

Station_Id	1ABEM000.60
STR_STREAM_NAME	Beaverdam Run
STA_DESC	Rt. # 607 (Loudon County Parkway)
Latitude	39.04
Longitude	-77.45
Deq_Region	Northern
STA_REC_CODE	NVRO
Topomap	214C Sterling
Huc6_States	VA
Huc6_Huc_12	020700080903
Huc6_Huc_12_Name	Broad Run-Beaverdam Run
Huc6_Vahu5	PL-G
Huc6_Vahu6	PL19
Huc6_Tohuc	020700080904
Huc6_Huc_8	02070008
Huc6_Huc_8_Name	Middle Potomac Catoctin
Basin	Potomac River Basin
Subbasin	MIDDLE POTOMAC-CATOCTIN
Majorbasincode	02
Majorbasinname	Mid Atlantic
Basinsection	Lower Potomac River Subbasin
STA_CBP_NAME	
STA_COMMENT	Watershed station FY06/CY07/08; TMDL station CY12 - jst Biomon site 2021- JDL
LV1_DESCRIPTION	Station sample at

Site 2: Goose Creek – Riverside Parkway, Leesburg

REQUEST TO INCLUDE A WATER SEGMENT IN DEQ'S ANNUAL MONITORING PLAN

Name: Amy Ulland **Date:** 4/18/2023

Mailing Address: PO Box 1892

City: Leesburg **State:** VA **Zip:** 20177

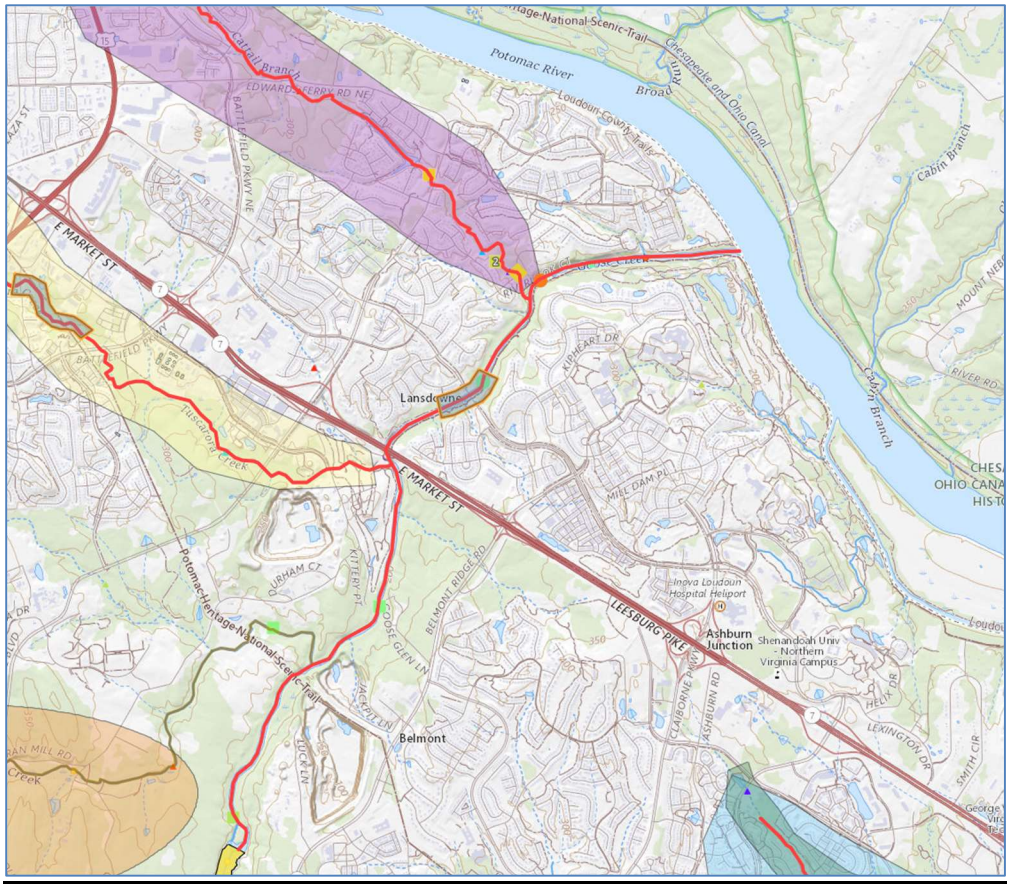
E-mail address: aulland@loudounwildlife.org

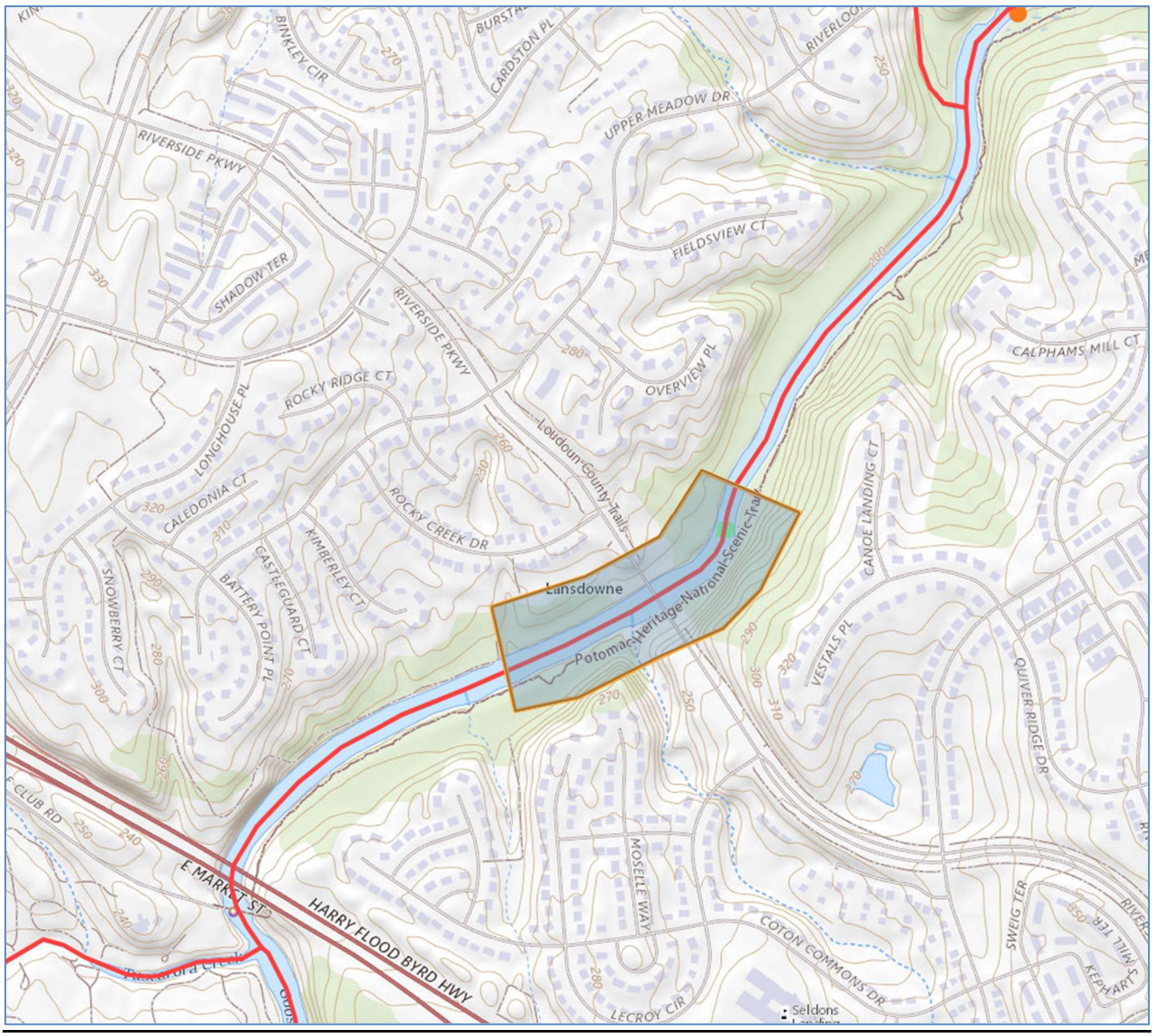
Home telephone: _____ **Business telephone:** (571) 293-1696

(1) Name of the water body or water bodies proposed for monitoring:

Goose Creek – Riverside Parkway, Leesburg

(2) Site maps





(3) Monitoring objective.

The site is near numerous residential developments and downstream of many new and anticipated developments along Goose Creek. There is limited monitoring information in this reach. The site is easily accessed from the southeast corner of road crossing at River Creek Parkway. This is also a state-designated "scenic river".

(4) Water quality data are integrated into map application.

Just upstream habitat is suboptimal. The reach is not supporting aquatic life use and recreational use.

Site 3: Broad Run - Willowsford

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Name: Amy Ulland **Date:** 4/18/2023

Mailing Address: PO Box 1892

City: Leesburg **State:** VA **Zip:** 20177

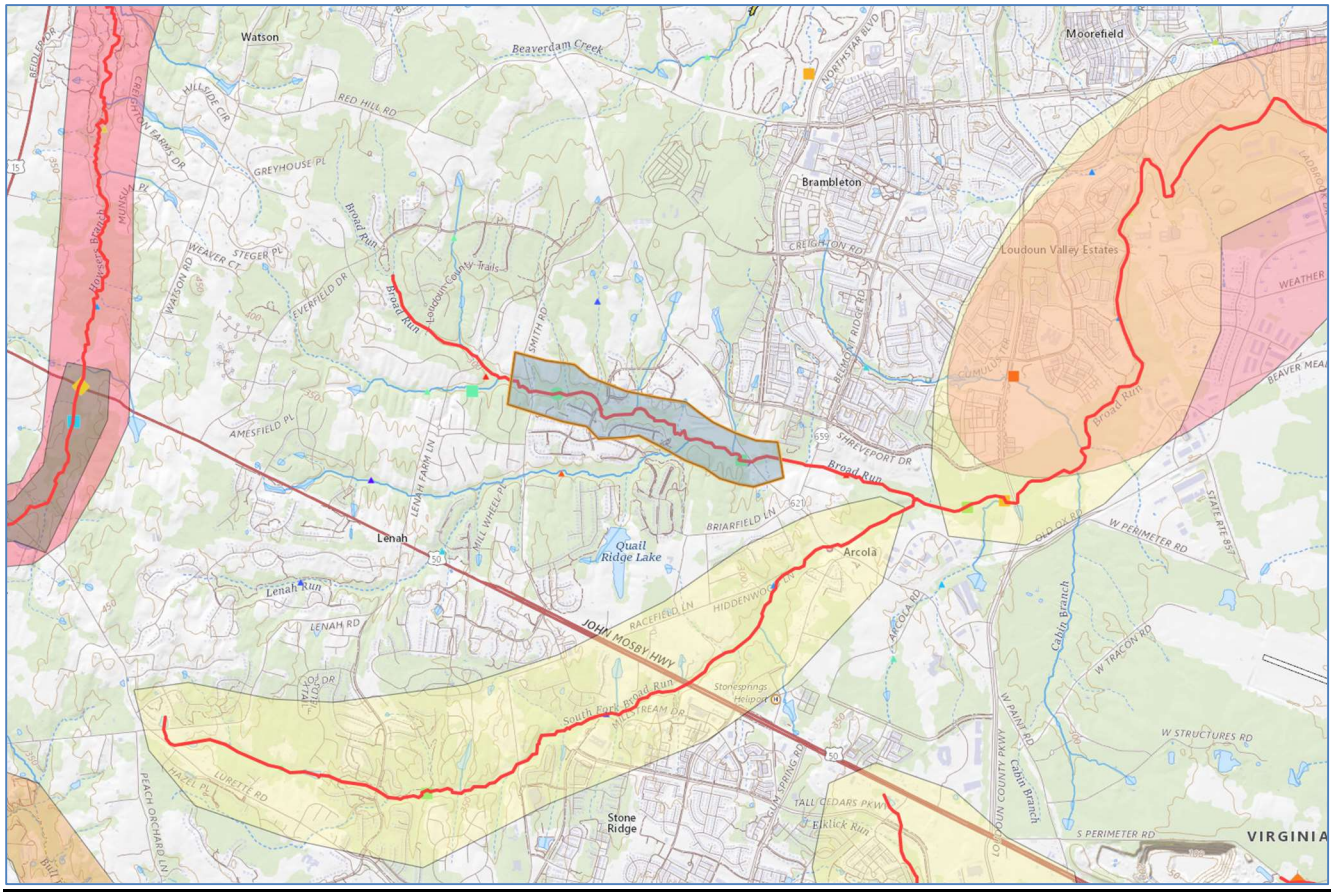
E-mail address: aulland@loudounwildlife.org

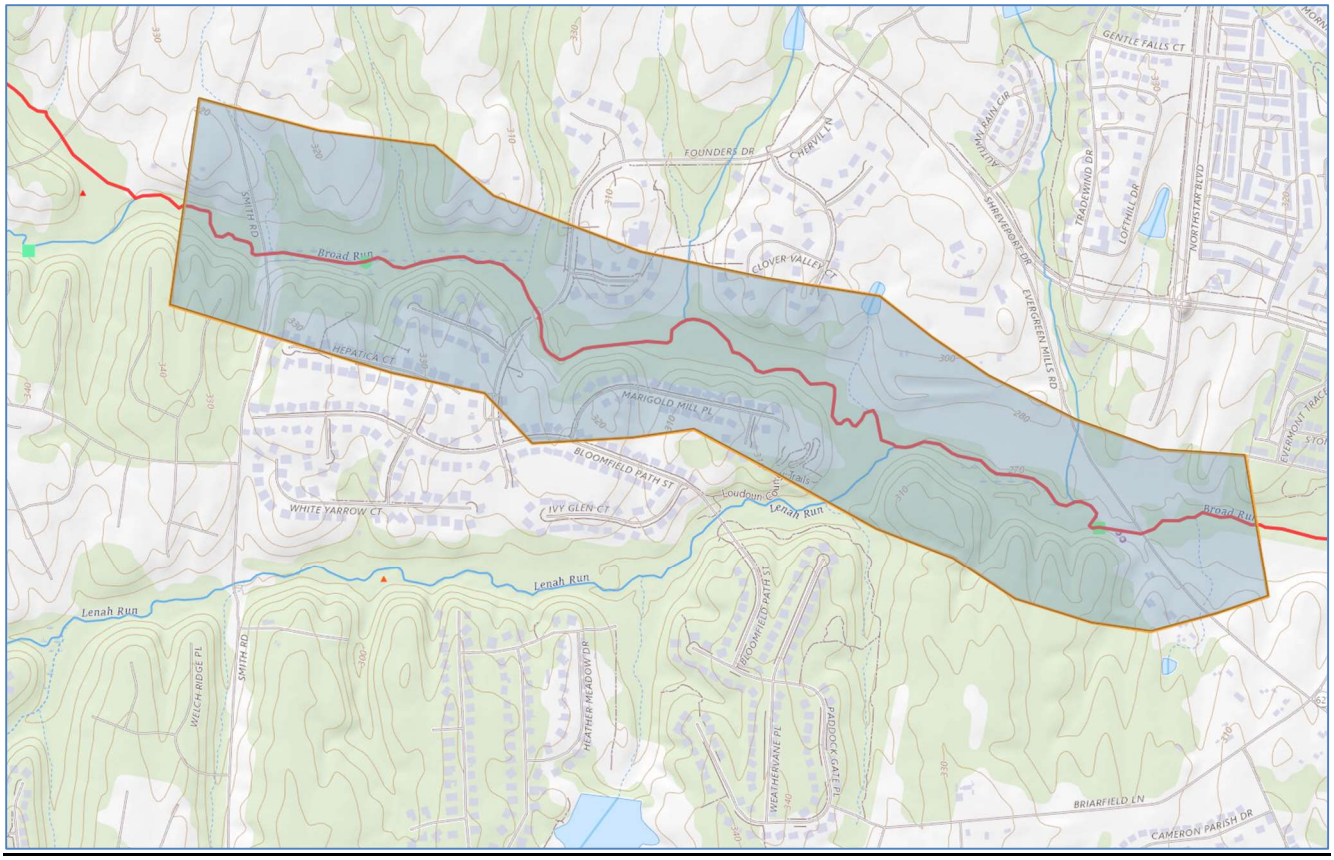
Home telephone: _____ **Business telephone:** (571) 293-1696

(1) Name of the water body or water bodies proposed for monitoring:

Broad Run - Willowsford

(2) Site maps





(3) Monitoring objective.

The site is in an area of rapidly developing residential housing. There is limited stream monitoring in the area.

(4) Water quality data are integrated into map application.

Just upstream habitat is suboptimal. The reach is not supporting aquatic life use and recreational use.

Site 4: Sweet Run

REQUEST TO INCLUDE A WATER SEGMENT IN DEQ'S ANNUAL MONITORING PLAN

Name: Amy Ulland **Date:** 4/182023

Mailing Address: PO Box 1892

City: Leesburg **State:** VA **Zip:** 20177

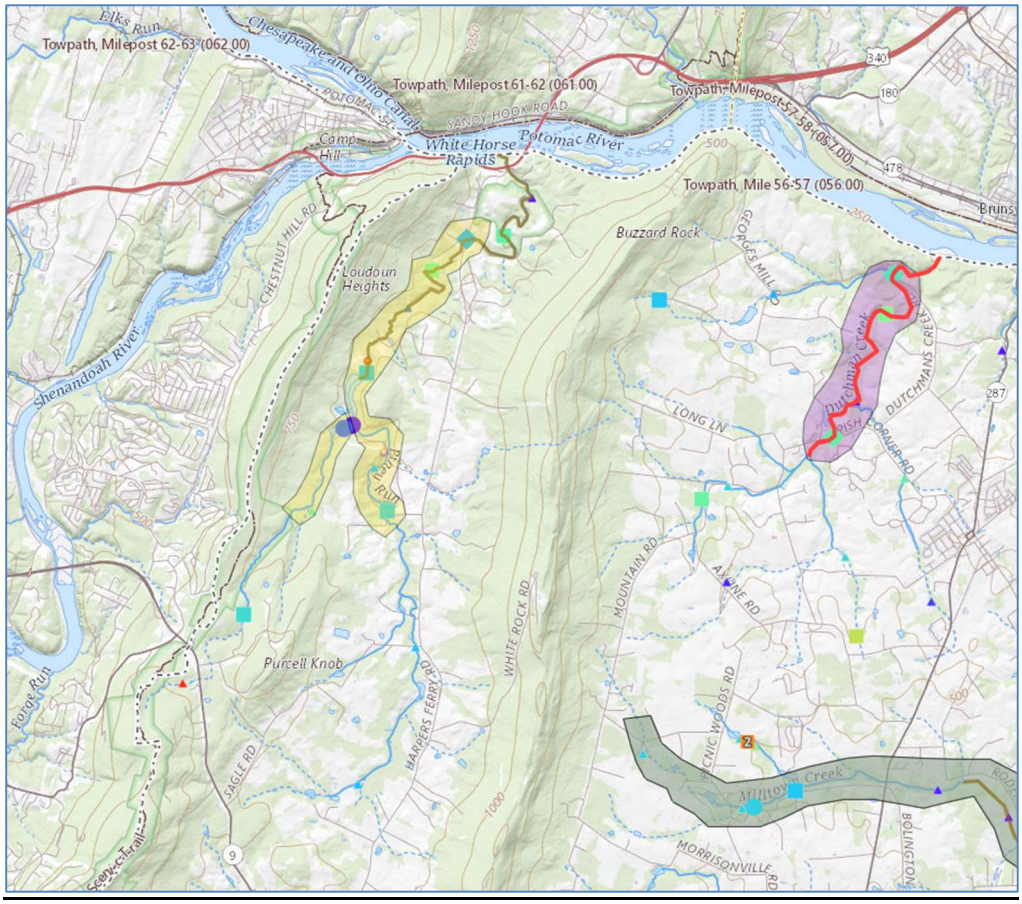
E-mail address: aulland@loudounwildlife.org

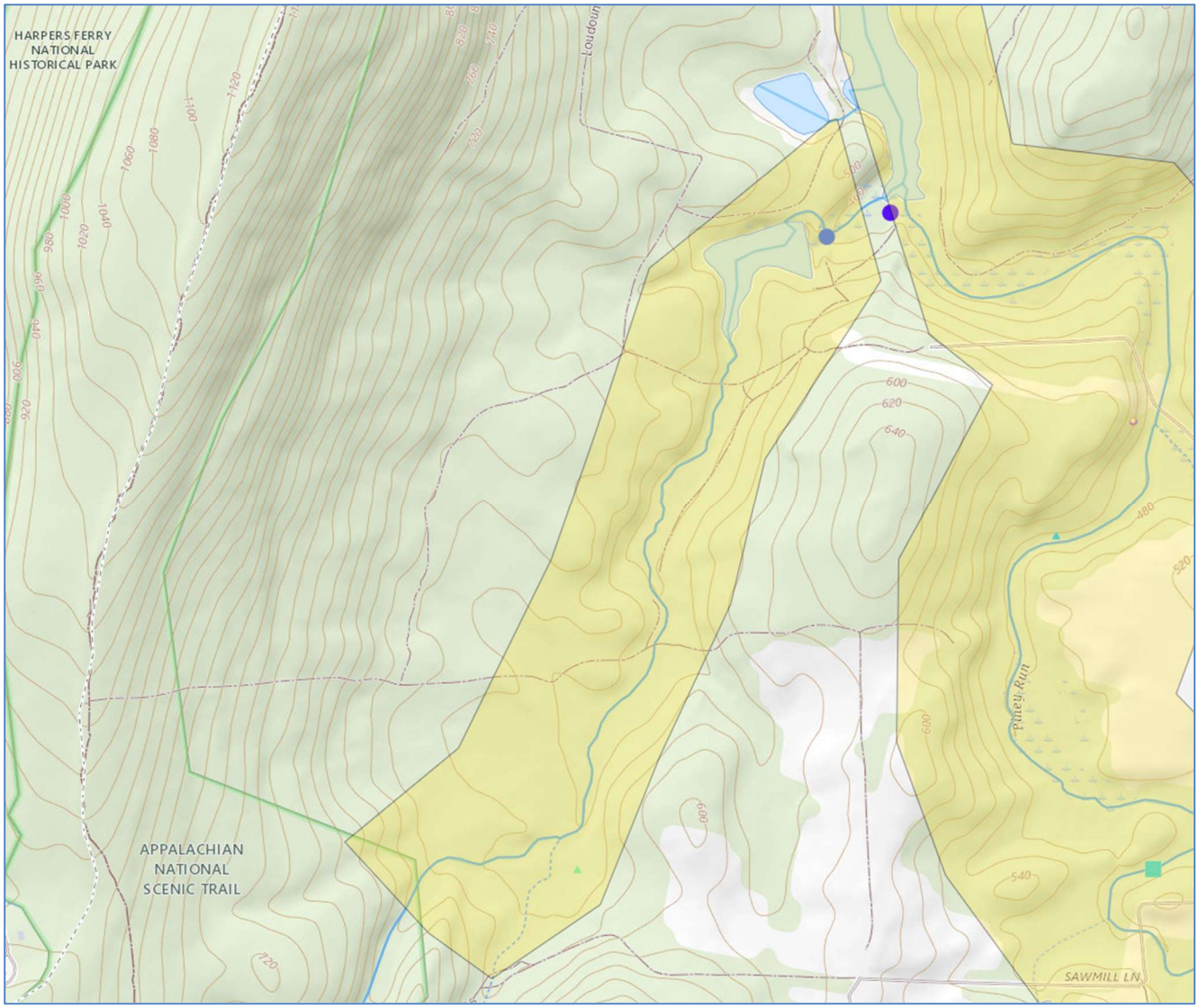
Home telephone: _____ **Business telephone:** (571) 293-1696

(1) Name of the water body or water bodies proposed for monitoring:

Sweet Run

(2) Site maps





(3) Monitoring objective.

The site is in a generally remote area but is also within the newly designated state park. Additional stress from park visitors are anticipated. Background conditions need to be established. See AU notes about need for assessment.

(4) Water quality data are integrated into map application.

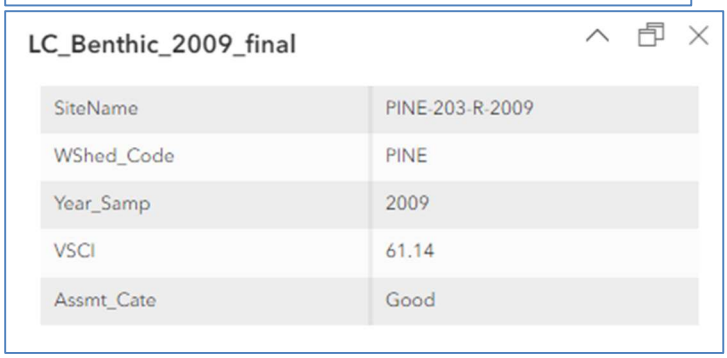
From DEQ Assessor's Summary https://apps.deq.virginia.gov/EDM/

Assessment Unit ID: VAN-A01R_XKT01A04
Miles: 3.83

Cycle: 2022
Water Name: Unnamed tributary to Piney Run
EPA HMW Report Link: Click Here.
Location: Segment begins at the headwaters of an unnamed tributary to Piney Run (streamcode XKT) and continues downstream until the confluence with Piney Run.
AU Comments: No data exist for this segment for the 2022 assessment period. This segment is not assessed. Assessment of the aquatic life use from previous assessments has been carried forward for two reporting cycles; with no new monitoring, the aquatic life use is categorized as not assessed. HISTORICAL NOTES: In 2006, the segment name was changed from VAN-A01R_XDH01A04 to correct for a misnamed streamcode. In 2016, DEQ biological monitoring station 1aXKT000.30, at the Arnold Trail in BRCES (VSCI benthic macroinvertebrate bioassessment = supporting). Citizen biological monitoring station 1aXKT-15-SOS (high probability of adverse conditions, but methodology and/or data quality not approved for assessment determination).
Impairment Causes:
Sources:
AU Category: 3A
Aquatic Life: Not Assessed
Deep Channel: Not Applicable
Deep Water: Not Applicable
Fish Consumption: Not Assessed
Migratory Spawning and Nursery: Not Applicable
Open Water: Not Applicable
Public Water Supply Suitability: Not Applicable
Recreation: Not Assessed
Shellfishing: Not Applicable
Shallow Water Submerged Aquatic Vegetation: Not Applicable
Wildlife: Not Assessed

VASOS_2008_2021

Overall_Average_since_2008	10.00
F2008	11.00
F2009	11.00
F2010	7.00
F2011	
F2012	
F2013	
F2014	
F2015	
F2016	
F2017	
F2018	
F2019	
F2020	
F2021	11.00
Aver_2011_2017	
Avg_2012_2018	
Avg_2013_2019	
Avg_2014_2020	
Avg_2015_2021	11.00
Trending	
Comments	



LC_Benthic_2009_final

SiteName	PINE-203-R-2009
WShed_Code	PINE
Year_Samp	2009
VSCI	61.14
Assmt_Cate	Good

Site 5: Piney Run

REQUEST TO INCLUDE A WATER SEGMENT IN DEQ'S ANNUAL MONITORING PLAN

Name: Amy Ulland **Date:** 4/18/2023

Mailing Address: PO Box 1892

City: Leesburg **State:** VA **Zip:** 20177

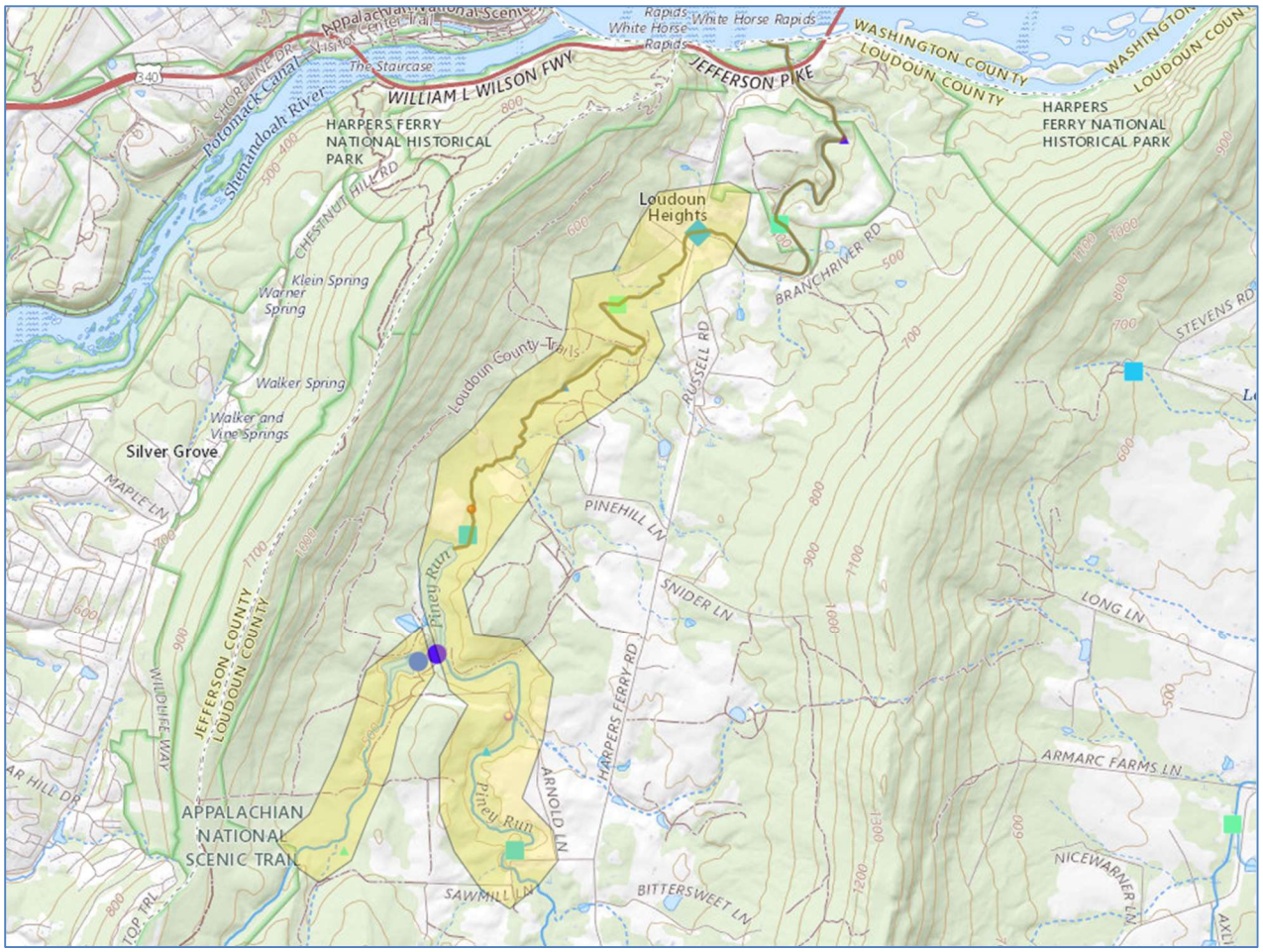
E-mail address: aulland@loudounwildlife.org

Home telephone: _____ **Business telephone:** (571) 293-1696

(1) Name of the water body or water bodies proposed for monitoring:

Piney Run

(2) Site maps



(3) Monitoring objective.

The site is in a generally remote area but is also within the newly designated state park. Additional stress from park visitors are anticipated. Background conditions need to be established. See AU notes about need for assessment.

(4) Water quality data are integrated into map application.

On this reach, recent data from LWC show high quality benthic score.

From DEQ Assessor's Summary from https://apps.deq.virginia.gov/EDM/

Assessment Unit ID: VAN-A01R_PIA02A06
Miles: 5.47
Cycle: 2022
Water Name: Piney Run
EPA HMW Report Link: Click Here.
Location: Segment begins at the headwaters of Piney Run and continues downstream until the beginning of an unnamed pond on Piney Run, around rivermile 4.07.
STATION: DEQ: No data exist for this segment for the 2022 assessment period. This segment is not assessed. Assessment of the aquatic life use from previous assessments has been carried forward for two reporting cycles; with no new monitoring, the aquatic life use is categorized as not assessed. HISTORICAL NOTE: In 2016, DEQ biological monitoring station 1aPIA004.67 at Route 685 (VSCI benthic macroinvertebrate bioassessment = supporting). Citizen monitoring station 1aPIA-1-SOS (low probability of adverse conditions).
Impairment Causes:
Sources:
AU Category: 3A
Aquatic Life: Not Assessed
Deep Channel: Not Applicable
Deep Water: Not Applicable
Fish Consumption: Not Assessed
Migratory Spawning and Nursery: Not Applicable
Open Water: Not Applicable
Public Water Supply Suitability: Not Applicable
Recreation: Not Assessed
Shellfishing: Not Applicable
Shallow Water Submerged Aquatic Vegetation: Not Applicable
Wildlife: Not Assessed

Downstream
Assessment Unit ID: VAN-A01R_PIA01A00
Miles: 3.95
Cycle: 2022
Water Name: Piney Run

EPA HMW Report Link: Click Here.
Location: Segment begins at the mouth of an unnamed pond on Piney Run and continues downstream until the confluence with the Potomac River.
AU Comments: STATION: DEQ ambient water quality trend monitoring station 1aPIA001.80 at Route 671. ASSESSMENT SUMMARY: The aquatic life use is considered fully supporting based on conventional parameter data. The recreation use is assessed as impaired based on E. coli data; this impairment is included in the Piney Run bacteria TMDL. No data exist to assess the wildlife and fish consumption uses for the 2022 assessment period; evaluation from the previous assessment will be carried forward. According to Rule 8 of the 2022 Assessment Guidance Manual, Category 2 waters can be carried forward as supporting for only two reporting cycles with no new data. 2022 is the second cycle the assessment is carried forward; the information from the 2018 assessment is as follows: DEQ freshwater probabilistic monitoring station 1aPIA003.51, upstream of Pinehill Lane. The wildlife use is considered fully supporting. There are insufficient data to assess the fish consumption use. HISTORICAL NOTES: This segment was included in Attachment A, Category 1, Part 1 of Virginia's 1998 Part 1A submittal for fecal coliform. In 2012, a 20-year trend analysis was performed on data from station 1aPIA001.80. While no applicable uses were shown to be threatened, the following statistically significant trends were observed: total nitrogen (increasing). In 2012, the E. coli parameter, first listed in 2002, was submitted for delist. It was listed again in 2014. In 2018, a 20-year trend analysis was performed on data from station 1aPIA001.80. The following statistically significant trends were observed: E. coli bacteria (degrading) and nitrogen (improving).
Impairment Causes: Escherichia coli (E. coli)
Sources: Grazing in Riparian or Shoreline Zones, Wastes from Pets, Waterfowl, Wildlife Other than Waterfowl, Livestock (Grazing or Feeding Operations), Sewage Discharges in Unsewered Areas, Runoff from Forest/Grassland/Parkland
AU Category: 4A
Aquatic Life: Fully Supporting
Deep Channel: Not Applicable
Deep Water: Not Applicable
Fish Consumption: Insufficient Information
Migratory Spawning and Nursery: Not Applicable
Open Water: Not Applicable
Public Water Supply Suitability: Not Applicable
Recreation: Not Supporting
Shellfishing: Not Applicable
Shallow Water Submerged Aquatic Vegetation: Not Applicable
Wildlife: Fully Supporting.

VASOS_2008_2021

Overall_Average_since_2008	10.00
F2008	
F2009	9.00
F2010	9.00
F2011	
F2012	
F2013	
F2014	
F2015	
F2016	12.00
F2017	
F2018	
F2019	
F2020	
F2021	
Aver_2011_2017	12.00
Avg_2012_2018	12.00
Avg_2013_2019	12.00
Avg_2014_2020	12.00
Avg_2015_2021	12.00
Trending	
Comments	

LC_Benthic_2009_final

SiteName	PINE-202-R-2009
WShed_Code	PINE
Year_Samp	2009
VSCI	59.35
Assmt_Cate	Good

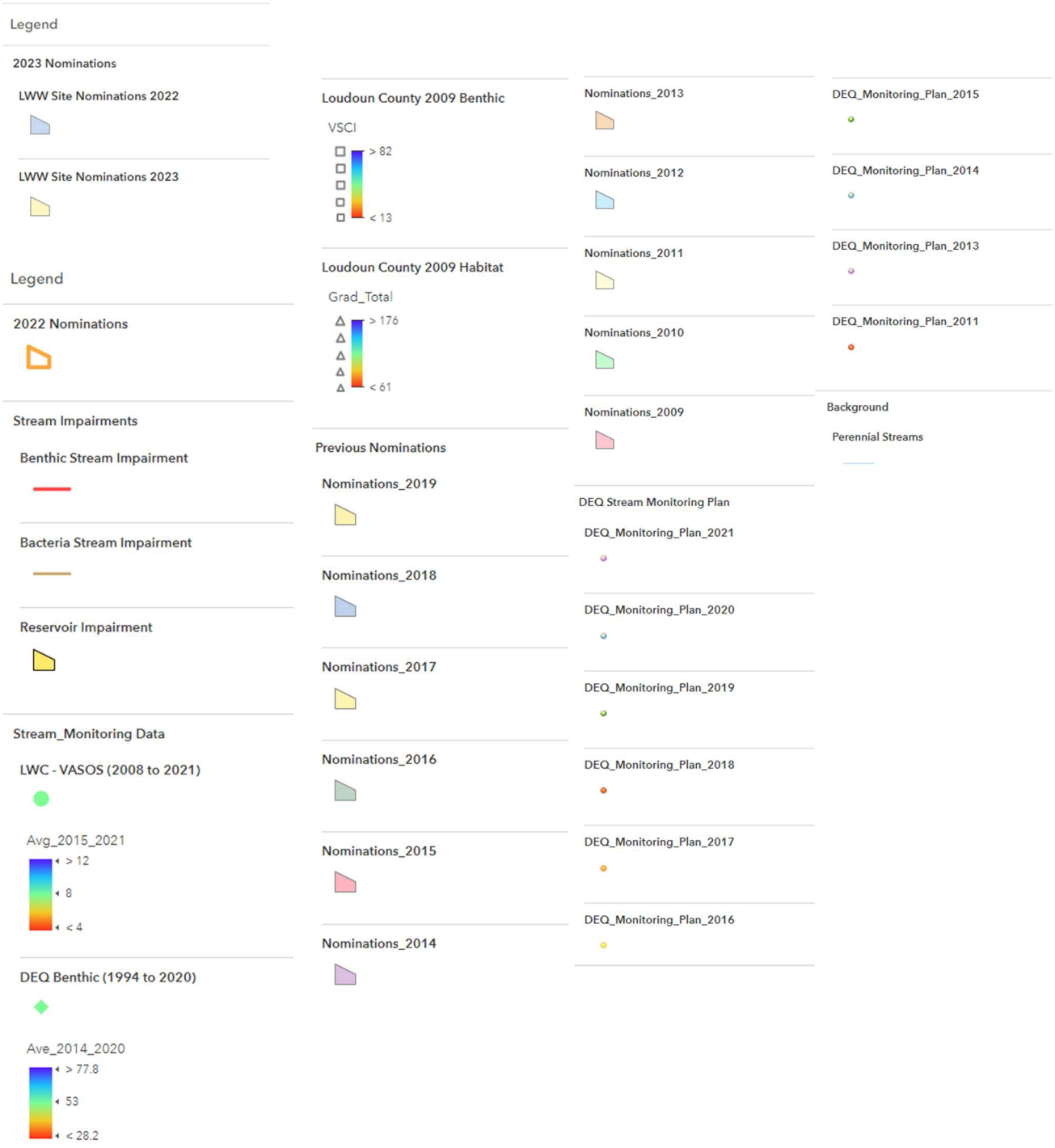
Loudoun County 2009 Habitat: PINE-202-R-2009

AbleSample	Y
AreaSampl	2.00
BankStab_L	9
BankStab_R	9
BankStab_T	18
Beavers	0
BenthicMet	Single Habitat (Riffle)
BenthicSit	Y
Calibrated	AB
ChanAlter	18
ChanFlowSt	16
Comments	
Conduct	0.11
Corbicula	0
Crayfish	0
CurWeather	Clear
CWater_Fis	0
Date_	April 15, 2009
DEQ_Site_D	
DEQ_Site_L	
DEQ_SiteNa	
DO	11.60
DuckGeese	0
Embed	16
Emerg_Macr	0
EpiFSub_Av	17
FID_Habita	143

Appendix A: Detailed Rating Scores

		Weight	Tuscarora Creek Park at WO&D		Goose Creek@ Rivers Pkwy Leesburg		Broad Run @ Willowsford Aldie		Sweet Run		Piney Run	
			Score	Weighted Score		Weighted Score		Weighted Score		Weighted Score		Weighted Score
a	Ease of public access	1	2	2	2	2	2	2	3	3	3	3
b	Central location	1	3	3	3	3	2	2	1	1	1	1
c	Historic benthic scores availability	2.5	3	7.5	1	2.5	1	2.5	1	2.5	2	5
d	Potential for habitat restoration	3	1	3	1	3	3	9	2	6	2	6
e	Currently impaired	3	3	9	3	9	3	9	1	3	1	3
f	Risk of future impairment	2	3	6	3	6	2	4	2	4	2	4
g	Meets DEQ nomination criteria	3	3	9	3	9	3	9	3	9	3	9
	Total Weighted Score			**39.5**		**34.5**		**37.5**		**28.5**		**31**

Appendix B: Map Legend



Appendix C: Bookmarks

(These are shortcut links to the nomination sites)