MINUTES

McClure River IP

Meeting with SWCD

WHEN: **August 20, 2019: 3:00-4:00 Lonesome Pine Soil and Water Conservation District (SWCD) Meeting**

WHERE: **Lonesome Pine SWCD Office, Clintwood, VA**

ATTENDEES:

- Landon Johnson- Lonesome Pine Soil and Water Conservation District
- Karen Kline- Biological Systems Engineering (BSE), Virginia Tech.
- Department of Environmental Quality (DEQ)
    - Stephanie Kreps – NPS Coordinator – SW Regional Office
    - Davis Nichols –TMDL Coordinator – SW Regional Office

Meeting purpose: To continue the discussion from the first public meeting to get feedback on data, estimates and proposed best management practices (BMP).

Working Group Meeting

WHEN: **August 20, 2019: 5:00-6:30pm Working Group Meeting**

WHERE: **McClure River Kiwanis Building, McClure, VA**

ATTENDEES:

- Karen Kline- Biological Systems Engineering (BSE), Virginia Tech.
- David Yates- Dickenson County Board of Supervisors
- Perry Moore- McClure River Kiwanis
- Debra Moore- McClure River Kiwanis
- Ron Phillips- Dickenson County Public Service Authority (PSA)
- Brian Stanley- Virginia Department of Health (VDH)
- Glenn Graham- Lonesome Pine Soil and Water Conservation District Board
- Savannah Hay- Department of Mines, Mineral and Energy
- John Stanley- Lonesome Pine Soil and Water Conservation District Board
- Department of Environmental Quality (DEQ)
    - Stephanie Kreps – NPS Coordinator – SW Regional Office
    - Davis Nichols –TMDL Coordinator – SW Regional Office

Meeting purpose: To continue the discussion from the first public meeting to get feedback on data, estimates and proposed best management practices (BMP).

Meeting goal: Make necessary edits to the proposed data, estimates and proposed BMPs so that BSE has enough information to draft the Implementation Plan (also known as a Water Quality Improvement Plan or Clean Up Plan).

Stephanie Kreps (DEQ) gave a brief introduction of the meeting purpose. The same handout was provided at each meeting (see Appendix I).

Karen Kline (BSE, VT) walked through the handout and led the discussion.

Feedback included:

- Stage 1 and Stage 2 should each be 5 years
- Recommend focusing on human sources of bacteria and that Option 2 (Table 3) of the proposed reductions is more realistic.
- The SWCD office has received a lot of Virginia Agriculture Cost-Share (VACS) funding this year and if this continues, it won't be necessary to apply for the 319 cost-share program for agriculture BMPs since they'll be busy with spending the VACS funding. As a result, partnerships or hiring someone who can focus on reporting and implementation of non-agriculture BMPs will be necessary.
- It was recommended to refer to the SW Virginia Regional Wastewater study for residential septic priority projects and cost estimates even though these figures are dated (from 2005).
- The figures in Table 4 are correct.
- For Table 5, Agricultural Statistics:
    - The statistics in this table pretty much represents what's going on in the McClure watershed, except: There are some farms that are not reporting their acreage (especially since tobacco left the area) and some farms have been divided into smaller tracts so that explains the decrease in reporting of total acres; the total number of cattle has decreased slightly but have bigger herds; there's been a noticeable increase in sheep in the county so the total number of sheep should be higher (it was said that there's six sheep to one cow in the region and that there are probably more bear than sheep).
- For Table 6, Potential BMPs:
    - This list of BMPs looks good
    - Check to see if risers and outlet filters are included in the residential septic BMP cost-share. If not, recommend that they be included. Both of these practices promote routine maintenance and protect the drainfield.
    - Pet Waste BMPs could be installed at Kiwanis Park but otherwise, no other public spaces they could be installed. Kennel design could be considered to trap waste (what have other communities done?).
    - Recommend combining pet waste education with septic waste education.
    - Planting trees (FR-1) probably won't work since there are already so many trees and farmers are more likely to cut them down to make room.
    - The animal waste control facility (WP-4) is most effective if a farmer has >30 head of cattle.
    - Technical Assistance needs to be for at least 1 FTE but may consider 1.5 to cover reporting and if both residential septic and Ag BMPs are being implemented at the same time.
    - A BMP to consider for reducing sedimentation is driveway repairs. There's a lot of sediment that runs into the streams from eroded driveways.
    - No need for cropland BMPs since is cropland is negligible in this watershed.
- For Table 7, Estimated failing septic systems and straight pipes:
    - Need to change wording of 'On Public Sewer' in the table to 'Connected to Permitted System' since homes are connected to smaller systems (only public sewer is in Trammel for 55 homes).
    - Double check the estimate of homes (20) connected to permitted systems in McClure River from Roaring Fork to Buffalo Creek.

    - Estimate that 95% of failing systems will need to be replaced rather than repaired.
    - Estimate that 80% of failing systems replacements will need to be alternative systems rather than conventional systems.
    - It's possible to install small community sewage treatment facilities along the main road (space is a challenge). Trammel could actually connect more homes to their existing system.
- For Table 8, Estimated pasture land and potential fencing
    - Estimates look good but need to estimate costs by length of fence and components because of the unique terrain.
    - Use acreage and number of animals to estimate for water needs.
    - Cross fencing should be included in the costs.
    - Most people don't have enough land to do 50' buffers and more like 10-35'.
    - Not a lot of land for feed structures in this area.
    - Only about a dozen farms in the watershed.
    - The Nature Conservancy allows leases for livestock for this coming year and then will see what happens. About 70% of farmers would be affected and could wipe out agriculture in this area if the leases cease.
- Funding: will need 100% grants/loans to install septic systems. Talk to Debbie Milton at Cumberland Plateau PDC for complete list of potential/existing partners.

The next Working Group meeting will be in January/February 2020 once the draft plan is completed and ready for review. Stephanie Kreps at DEQ Southwest Regional Office will work with BSE to determine a date and send a meeting invite. The final plan is expected to be completed by May 2020.

APPENDIX I

BSE Handout for Group Discussion

TMDL Review:

- Two segments of the McClure River were first listed as impaired in 2006 due to exceedances of the State's water quality standards for bacteria
- Additional segments, including Big Spraddle Branch, Buffalo Creek, and Roaring Fork, were listed between 2008 and 2014 due to exceedances of the *E. coli* water quality standards
- TMDL study completed in 2017, approved by EPA in 2018
- ***E. coli*** TMDL developed with reductions to achieve 50% load reduction (Stage 1), delisting (Stage 2) and the TMDL goal (Stage 3)

Table 1. McClure River load reductions and water quality standards exceedance rates.

Stage	Load Reduction	Exceedance Rate
Current	0%	52%
Stage 1	50%	26%
Delisting Stage 2	75%	9%
TMDL Goal Stage 3	88%	0%

<u>Proposed</u> Reductions for Each Stage:

Table 2. Option 1

Source Reductions	Straight Pipes and Failing Septic Systems	Livestock	Pets	Wildlife
Stage 1	100%	30%	23%	0%
Delisting Goal (Stage 2)	100%	86%	80%	0%
TMDL Goal (Stage 3)	100%	99%	95%	40%

Table 3. Option 2

Source Reductions	Straight Pipes and Failing Septic Systems	Livestock	Pets	Wildlife
Stage 1	82%	45%	40%	0%

Delisting Goal (Stage 2)	100%	86%	80%	0%
TMDL Goal (Stage 3)	100%	99%	95%	40%

Changes since TMDL development:

Table 4. Agricultural best management practices (BMPs) installed in the McClure River watershed since 2013.

BMP Name	BMP Code	Number	Units	Amount
Stream exclusion with grazing land management	SL-6	4		
Extent Installed			linear feet	8,936
Extent Benefitted			acres	101.8

Table 5. Agricultural Statistics (National Agricultural Statistics Service, NASS).

Item	Dickenson County		decrease
	2007	2017	
Farms	170	128	25%
Acres	14,342	11,169	22%
Cattle	1,634	1,060	35%
Sheep	692	474	32%
Goats	449	80	82%
Horses	357	256	28%
Hogs	60	12	80%

Potential BMPs:

Table 6. Bacteria reduction efficiencies and estimated costs for BMPs. Practice codes are listed in parentheses.

Control Measures	% Effective-ness	Source	Units	Cost / Unit
Residential Wastewater Practices				
Septic Tank Pump-out (RB-1)	5%	1	system	$350
Connection to Public Sewer (RB-2)	100%	2	system	$11,000
Septic Tank System Repair (RB-3, RB3R)	100%	2	system	$4,500
Septic Tank System Installation/Replacement (RB-4, RB-4P)	100%	2	system	$10,000
Alternative On-site Waste Treatment System (RB-5)	100%	2	system	$24,000

Pet Waste Removal Practices				
Pet Waste Disposal Station (PW-1)	75%	1	number	$500
Pet Waste Digester (PW-2)	100%	2	number	$100
Pet Waste Education	50%	1	program	$5,000
Livestock Waste Reduction Practices				
Small Scale Manure Composting for Equine Operation – Static System (EM-1T)	26%	3	tons treated	$85
Small Scale Manure Composting for Equine Operation – Aerated System (EM-1AT)	28%	3	tons treated	$185
Afforestation of Erodible Crop and Pasture Land (FR-1)	Land Use Change	1	acres	$560
Small Acreage Grazing System – Equine (SL-6AT)	40%	3	acres	$250
Stream Exclusion with Grazing Land Management (SL-6N, SL-6W)	100%	2	system	$30,000
Pasture Management – Cattle (SL-9, SL-10T)	50%	1	acres	$100
Permanent Vegetative Cover on Critical Areas (SL-11)	75%	1	acres	$2,550
Water Control Structure (WP-1)	70%	3	acres treated	$140
Stream Protection (WP-2N, WP-2W)	100%	2	system	$15,000
Animal Waste Control Facility (WP-4)	40%	3	system	$150,000
Roof Runoff Management (WQ-12)	40%	3	system	$20,000
Technical Assistance				
Technical Assistance - Full Time Equivalents (FTEs)	One FTE for stages 1, 2 and 3 (x years)		years	$60,000

1 - VADEQ. 2017. Guidance Manual for Total Maximum Daily Load Implementation Plans

2 - Removal efficiency is defined by the practice

3 – Chesapeake Assessment Scenario Tool – BMP effectiveness values by land use and pollutant (August 2019)

Residential needs assessment:

Table 7. Estimated potential failing septic systems and straight pipe BMPs needed in the McClure River watershed.

Sub-watershed	Total Houses	Permitted Residence	On Public Sewer	Houses with Failing Septic Systems	Houses with Straight Pipes
McClure River from headwaters to Roaring Fork	168	2	55	9	4
Roaring Fork	113	1	-	9	4
McClure River from Roaring Fork to Buffalo Creek	559	3	20	45	22
Buffalo Creek	21	1	-	4	2
McClure River from Buffalo Creek to Big Spraddle Branch	53	1	-	16	8
Big Spraddle Branch	49	-	-	4	2
McClure River from Big Spraddle to Caney Creek	149	-	-	44	22
McClure River from Caney Creek to Road Branch	727	7	-	61	30
McClure River from Road Branch to Russell Fork	483	1	-	40	20
TOTAL	**2,322**	**16**	**75**	**232**	**114**

Considerations –

- would a septic system pump-out program be beneficial?
- % of failing systems needing repair vs. replacement
- % of straight pipe and failing septic system replacements as conventional vs. alternative
- possibility of hooking up to sewer?
- possibility of small community sewage treatment facilities (similar to facility in Nora)?
- possibility of installing pet waste stations, locations?

Agricultural needs assessment:

Table 8. Estimated pasture land and potential fencing in McClure River watershed using the 2016 Virginia Land Cover Dataset.

Sub-watershed	Fencing Installed to Date (linear feet)	Potential Fencing (linear feet)	Pasture (acres)
McClure River from headwaters to Roaring Fork	0	0	70
Roaring Fork	5,322	24	238
McClure River from Roaring Fork to Buffalo Creek	1,400	2,936	928
Buffalo Creek	0	774	12
McClure River from Buffalo Creek to Big Spraddle Branch	0	0	6
Big Spraddle Branch	0	28	40
McClure River from Big Spraddle to Caney Creek	0	0	18
McClure River from Caney Creek to Road Branch	7,686	3,752	987
McClure River from Road Branch to Russell Fork	1,900	3,192	141
TOTAL	**16,308**	**10,706**	**2,440**

Considerations –

- % of farmers willing to apply 10-, 25-, 35-, 50-foot buffers
- possibility of rotational grazing systems?
- possibility of other pasture management practices?

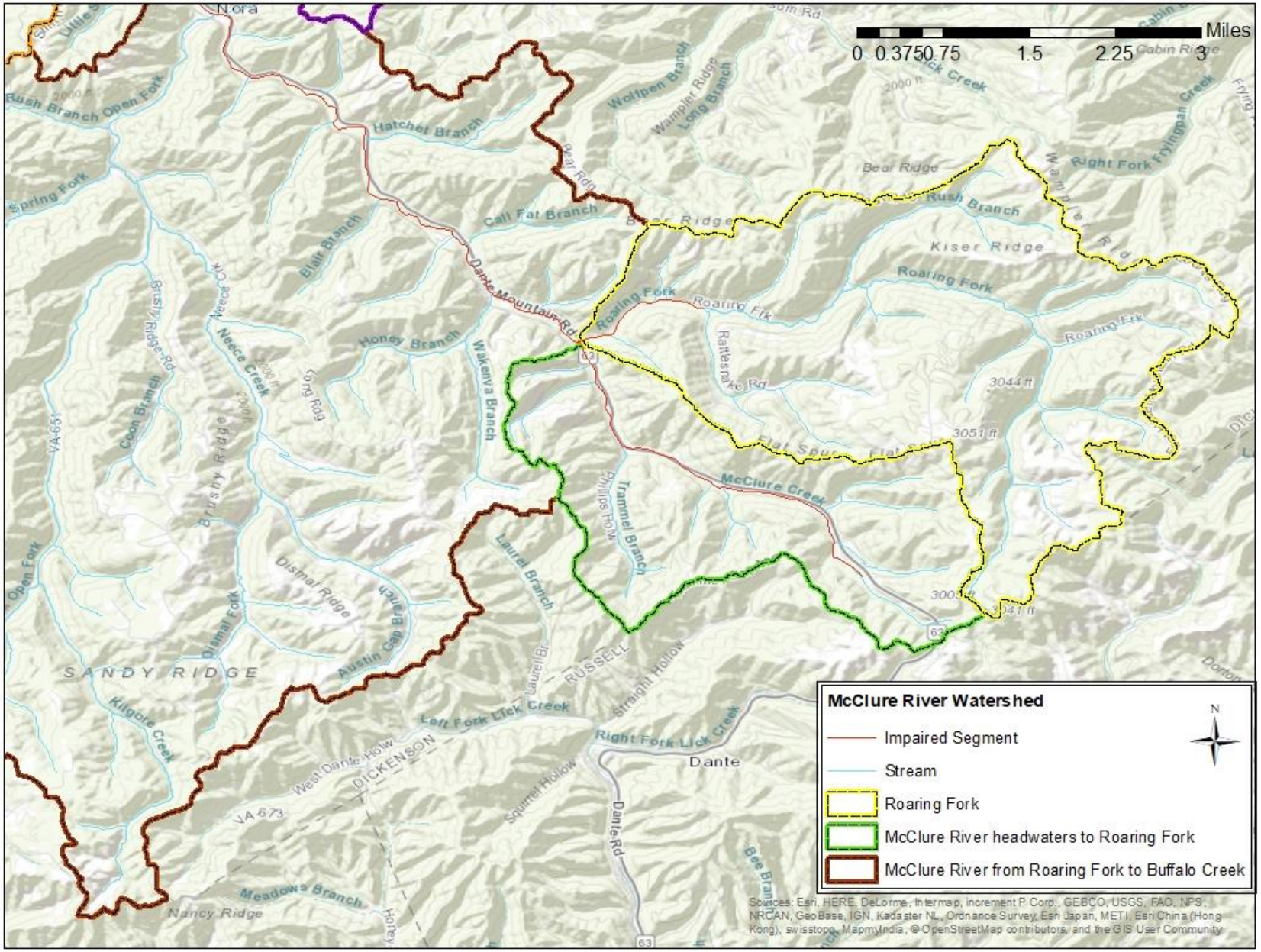

Figure 1. Upper McClure River from headwaters to Buffalo Creek (Nora).

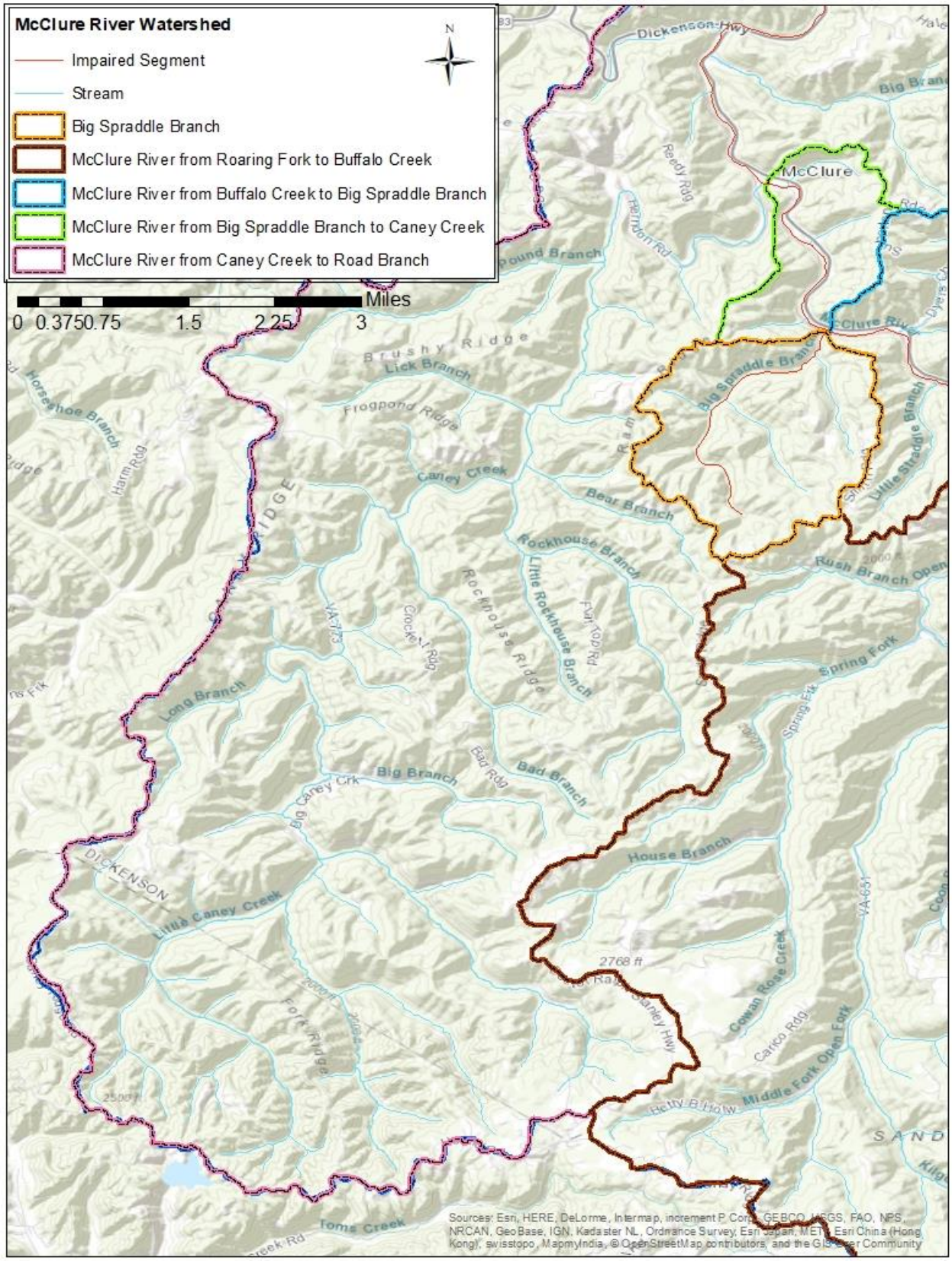

Figure 2. McClure River from Little Straddle Branch to Big Branch, includes Big Straddle Branch and Caney Creek watersheds.

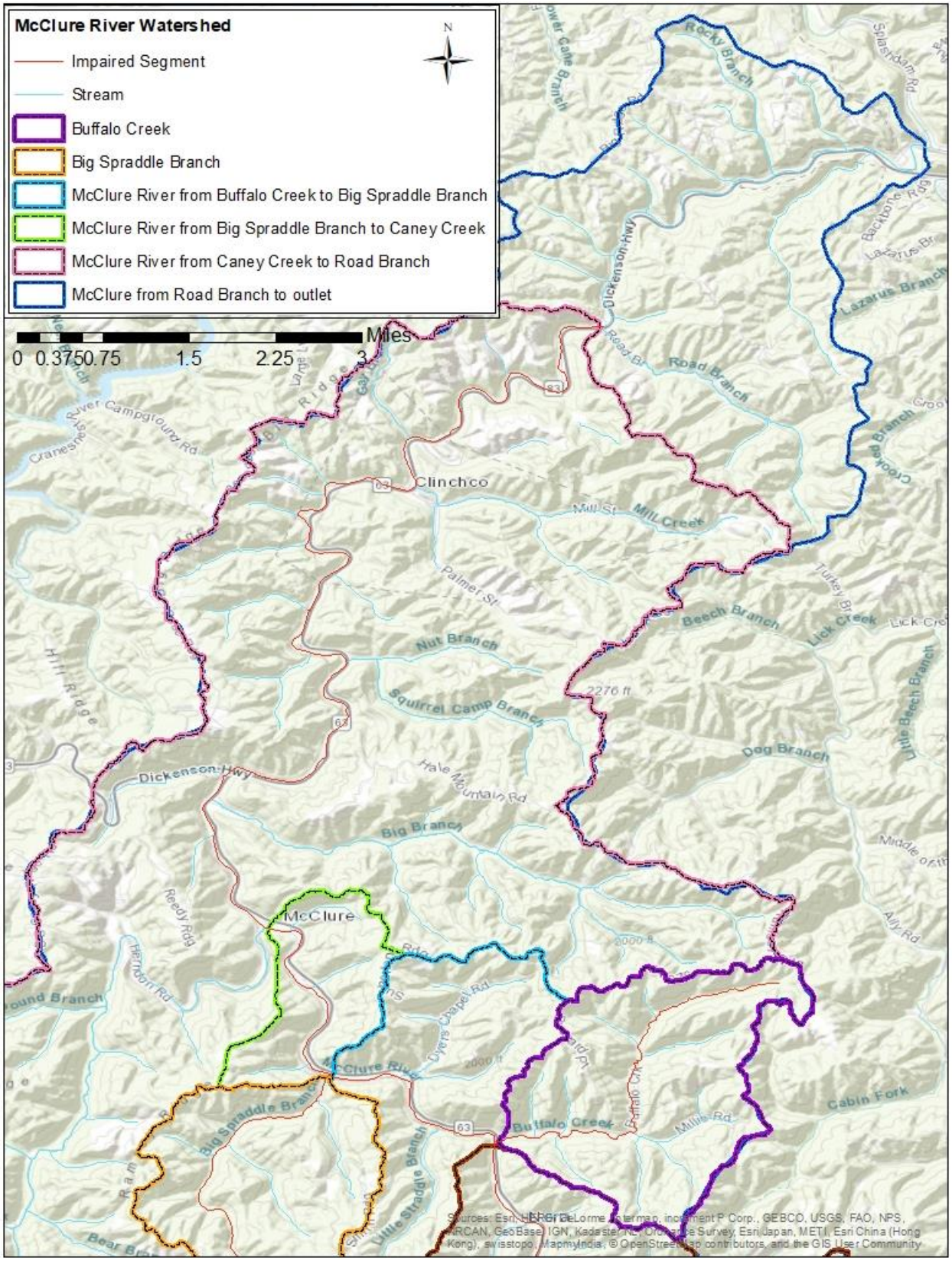

Figure 3. McClure River from Buffalo Creek to the outlet at Russell Fork (Haysi).

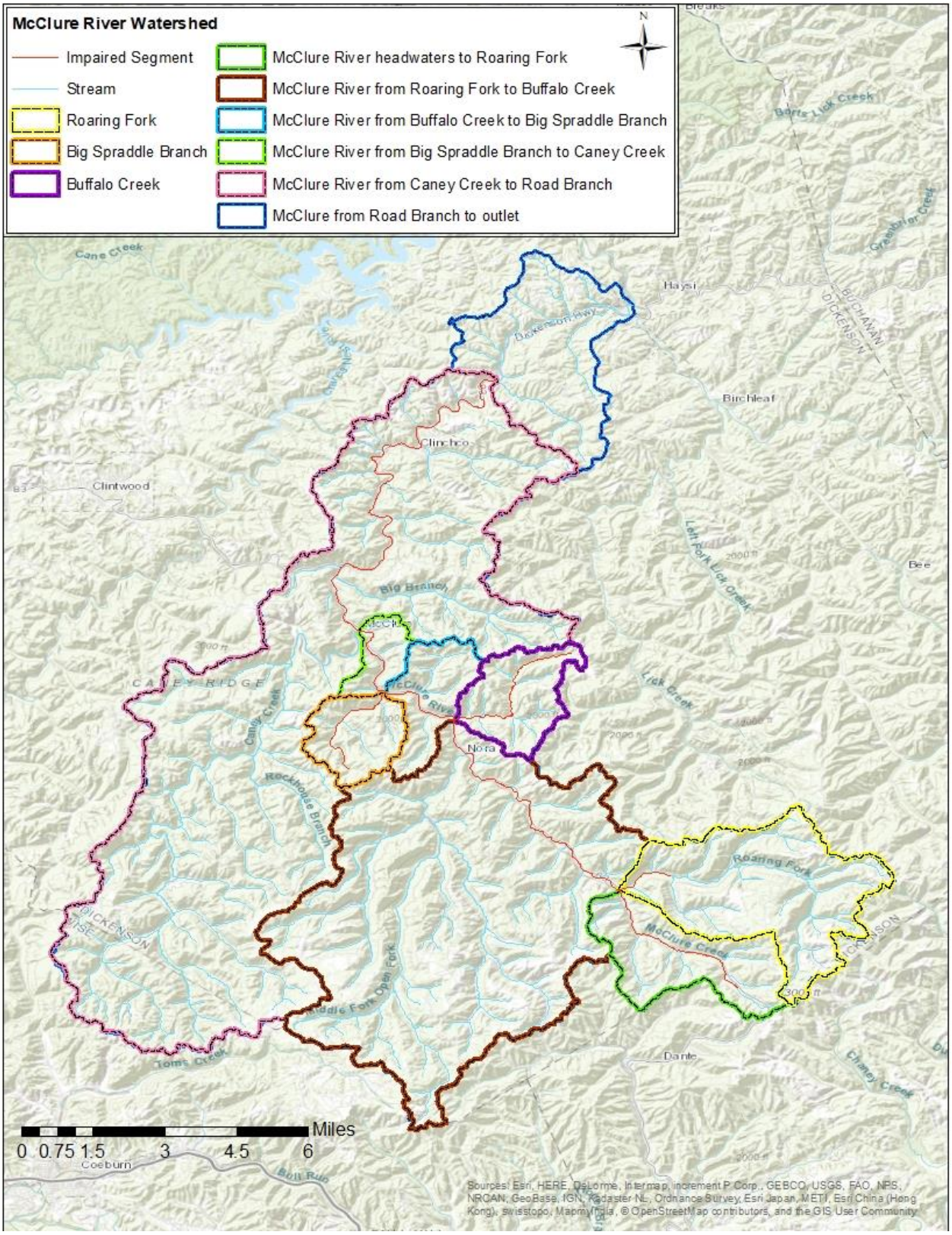

Figure 4 McClure River watershed.