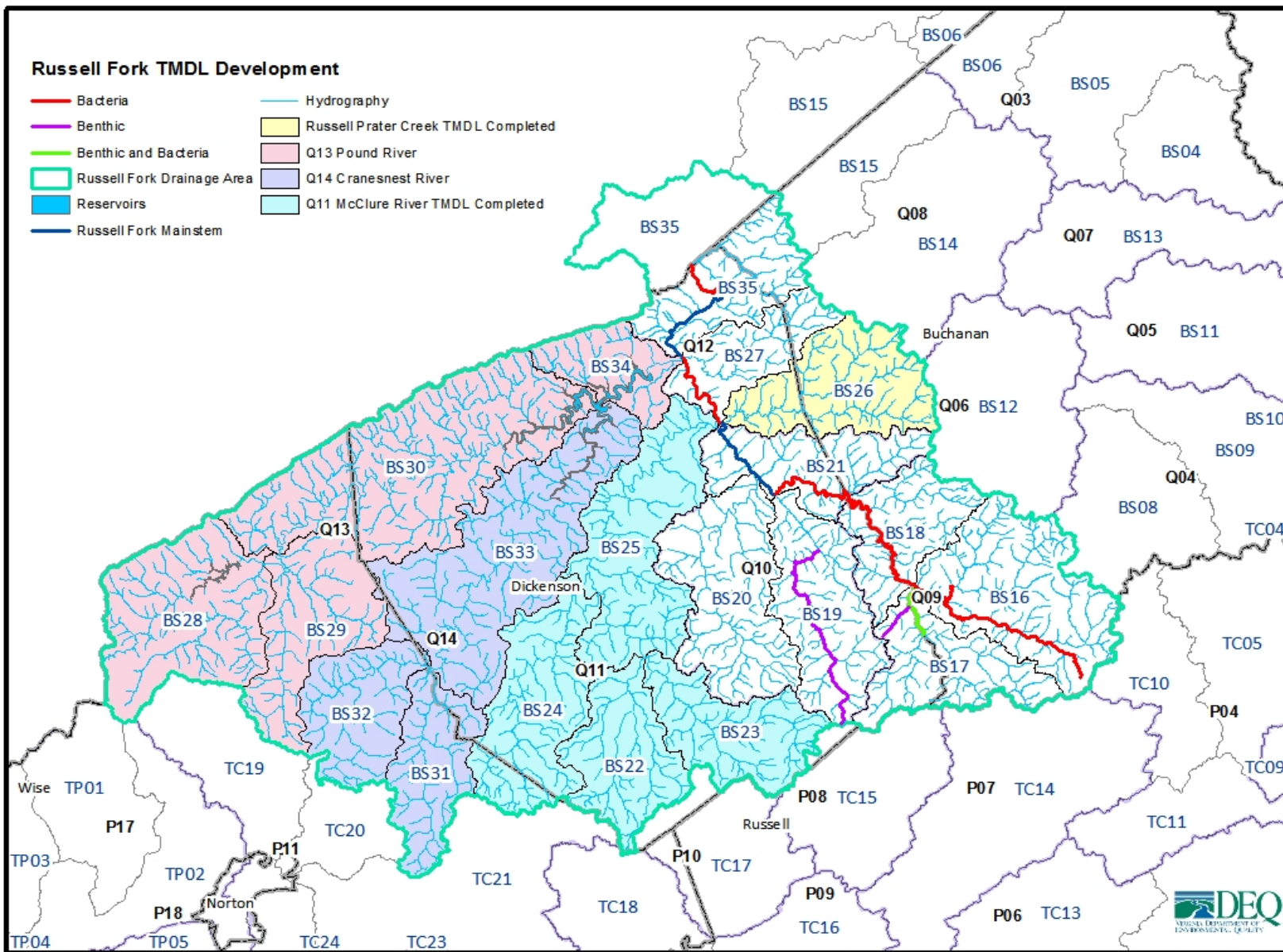


## Scope of Work

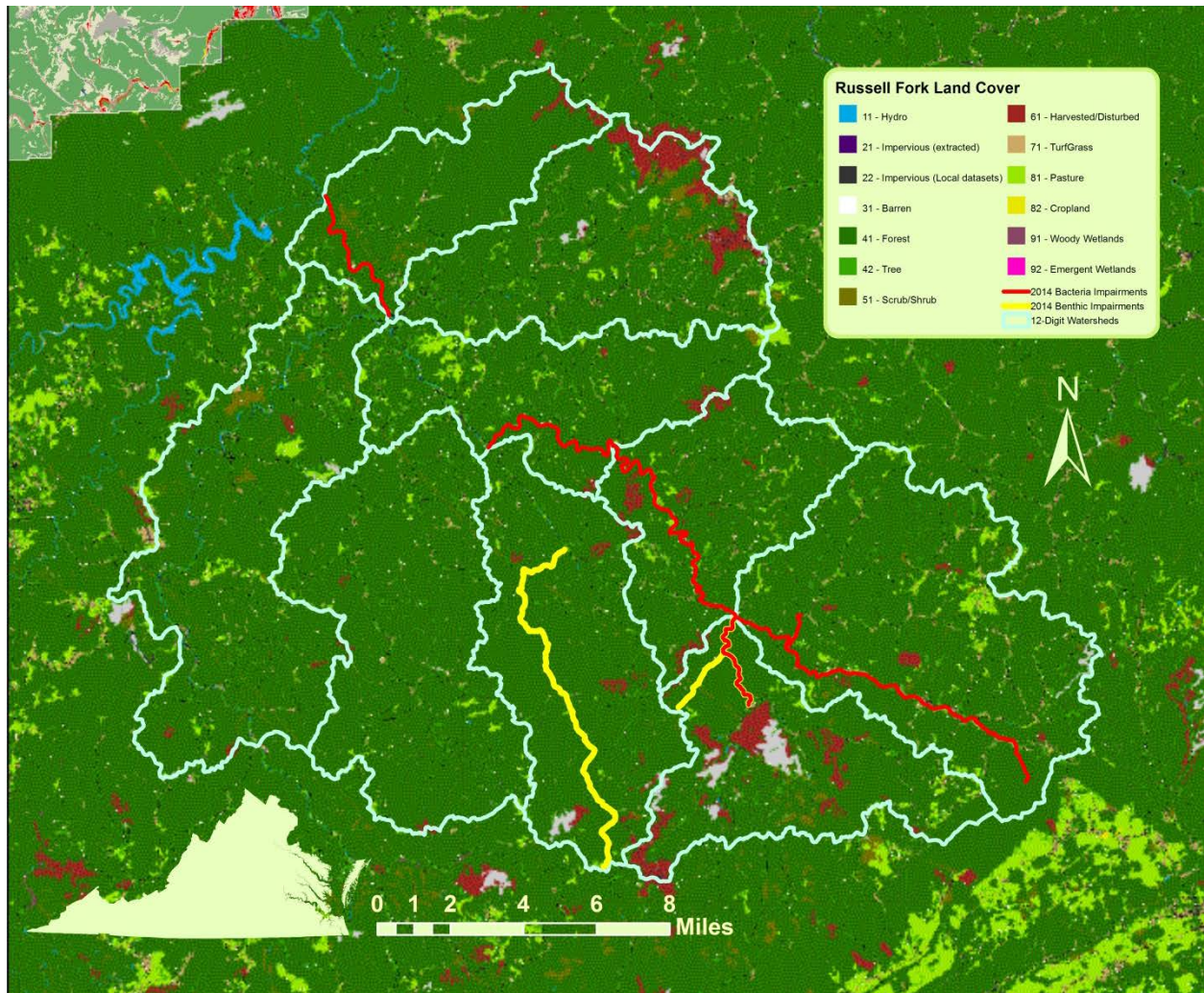
### E.coli and Benthic TMDL Development for the Russell Fork River and Tributaries

**Table.1** Impaired segments from VADEQ's 2014 303(d)/305(b) impaired waters list addressed in this TMDL.

Stream Name	County	NWBD	Assessment Unit ID	Cause Group Code	Impairment	Cycle First Listed	Stream Miles
Russell Fork River	Buchanan & Dickenson	BS18	VAS-Q09R_RSS01A00	Q09R-01-BAC	Bacteria	2010	7.05 miles
Russell Fork Headwaters	Buchanan	BS16	VAS-Q09R_RSS02A00	Q09R-01-BAC	Bacteria	2004	9.30 miles
Russell Fork River	Dickenson	BS21	VAS-Q10R_RSS01A00	Q09R-01-BAC	Bacteria	2010	4.35 miles
Russell Fork River	Dickenson	BS27	VAS-Q12R_RSS03A02	Q09R-01-BAC	Bacteria	2012	3.82 miles
Russell Fork River	Dickenson	BS 35	VAS-Q12R_RSS02A04	Q09R-01-BAC	Bacteria	2006	2.25 miles
Hurricane Creek	Buchanan	BS16	VAS-Q09R_HUR01A02	Q09-01-BAC	Bacteria	2010	0.86 miles
Indian Creek	Buchanan & Dickenson	BS17	VAS-Q09R_IND01A10	Q09R-01-BAC	Bacteria	2010	2.70 miles
				Q09R-01-BEN	Benthic	2012	
Sullivan Branch	Dickenson	BS17	VAS-Q09R_SLV01A08	Q09R-02-BEN	Benthic	2008	1.63 miles
Fryingpan Creek	Dickenson	BS19	VAS-Q10R_FRY02A04	Q10R-01-BEN	Benthic	2012	9.70 miles
Three additional watersheds are included that flow directly into the main stem upstream of impairments.							



**Figure 1.** Recreational Use and Aquatic Life Use impairments in the Russell Fork watershed.



**Figure 2.** Land use in the Russell Fork watershed.

**Deliverables:**

Benthic Impairments for Russell Fork: Sullivan Branch, Indian Creek, and Fryingpan Creek

- **Data Inventory:** memorandum summarizing existing data to be used.
- **Stressor Analysis:** analysis of most probable stressors.
- **Watershed Characterization:** tables and figures showing monitoring locations, soil characterization, land use, permitted sources, etc.
- **Environmental Monitoring Analysis:** memorandum describing analysis of water quality parameters and benthic community.
- **Draft Report:** draft report describing watershed and most probable stressors to aquatic community.
- **Final Report:** report with DEQ and public comments addressed.

Bacteria Impairments for Russell Fork: Russell Fork, Hurricane Creek, and Indian Creek

- **Data Inventory (combined with inventory memorandum above):** summary of water quality, land use, soils, etc. from available data sources.
- **Watershed Characterization:** memorandum describing watershed characteristics and permitted sources outlined in data inventory.
  - Include a watershed tour with DEQ.
- **Source Assessment:** memorandum addressing potential sources and data used to identify these sources.
- **Watershed modeling:** memorandum describing the approach, calibration, and validation of the model.
- **Draft Report:** elicit comments from DEQ on Draft TMDL report.
- **TMDL Final Report:** make necessary changes to report based on comments received.

**Table 2.** Project Tasks and Timeline

<b>Task</b>	<b>Responsible Party</b>	<b>Target Date</b>
Contract Development with Contractor	DEQ and Cumberland Plateau PDC	January – February 2018
Contract Begins		March 2017
1 <sup>st</sup> Public Meeting	Meeting led by DEQ Regional Office (RO) but contractor in attendance for model specific questions.	
Stressor Analysis	Contractor performs stressor analyses for benthic impairments and develop draft chapter to be reviewed by DEQ.	
Calibration Memo	Contractor prepares memorandum and revises based on DEQ comments.	
1 <sup>st</sup> TAC Meeting	Contractor presents model calibration and validation; DEQ RO develops agenda, facilitates meeting, and moderates follow up discussion; TAC makes recommendations for adjusting model inputs (i.e. land use estimates).	
Model Revisions	Contractor incorporates TAC and DEQ revisions and runs additional scenarios (if needed).	
Reduction Scenarios	Prepared by contractor and reviewed by DEQ.	
2 <sup>nd</sup> TAC Meeting	Contractor presents reduction scenarios and most probable stressors and answers questions; DEQ develops agenda and facilitates meeting.	
Final TMDL	Contractor produces final document; DEQ reviews and approves document.	
Final Public Meeting	DEQ presents project summary; contractor presents model methods and allocation scenarios; DEQ presents next steps forward and IP process.	
Contract Completed		