

Sleepy Creek 319 Semi-annual and Final report

April 1 – September 30, 2011

Sleepy Creek 319 Project

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Project Location

In 2006, Sleepy Creek Watershed was placed on the WV 2006 303(d) list because of violations of the fecal coliform bacteria water quality standard. The fecal coliform TMDL for Sleepy Creek was completed in 2007. Within the watershed two streams have a TMDL. These streams are Sleepy Creek and Indian Run (WVP-9-G). Both Sleepy Creek and Indian Run are impaired “relative to numeric water quality criteria for fecal coliform bacteria.” TMDL, 2007. In 2008, the Sleepy Creek Project Team started a 5-year TMDL project to reduce fecal coliform levels through implementation of residential, urban and agricultural BMP’s. Sleepy Creek (WVP-9, TMDL SWS 9001 – 9063) watershed is located in Morgan County, West Virginia (87%) and Fredrick County, Virginia (13%) that flows 42 miles north into the Potomac River. Sleepy Creek Watershed makes up 93,000 acres. The watershed ends at the Potomac River at approximately N39°40’ latitude and W78°05’ longitude.

Implementation Highlights

The Sleepy Creek Project Proposal for fecal coliform impairment was finalized in December 2007. West Virginia Conservation Agency (WVCA) and Morgan County Health Department administers the residential components of the project, WVCA administers the agricultural component and the whole Sleepy Creek Project Team administers the urban component of the project. During 2009-2011 a total of 43 septic systems have been upgraded, 69 septic systems have been pumped.

On Saturday, September 24, 27 Volunteers and members of the Sleepy Creek Watershed Association planted 200 trees on Washington Homeopathy property in the Morgan County Business Park. Participants represented the Berkeley Springs Lions Club, Morgan County Master Gardeners, the Berkeley Springs High School Leo Club, the Eastern Panhandle Conservation District, SCWA and local residents. The tree planting project will help slow storm water pollution into Sleepy Creek and its tributaries. Chesapeake Bay Forester Herb Peddicord provided instruction to the 35 participants on correct tree planting techniques.



Before and After Tree Planting



*Thank You, to all the
volunteers who made the
tree planting a great
success!*

Sleepy Creek 319 Semi-annual report on nonpoint source pollution elimination activities

The 319 Grant provided \$20,000 for the porous or permeable paving of a 5,000 sq. ft. parking lot. The project team partnered with Mountain View Solar located at U.S. 522 Business Park. All of the permeable materials allow precipitation to percolate through areas that would traditionally be impervious. This project is an innovative technique to control storm water runoff and slow pollution into tributaries of Sleepy Creek. Because the stormwater that runs off paved or impermeable surfaces picks up dirt and debris as well as pesticides, fertilizers, oil, antifreeze and other contaminants, it can be a major cause of pollution in streams and waterways. When rain falls on these surfaces, it is not filtered through plants, gravel and soil and results in excess runoff which cannot be absorbed into the ground. The excess travels into lakes and streams and eventually into the Chesapeake Bay.

In June 2011, the SC Project Team installed 3,267 feet of “Turf Cell,” an open cell concrete block type material weighing up to 60 lbs. each. After installation, the block was filled with small stone, which was compacted in the cell openings. Another 1,000 sq. ft. overflow lot was covered with “Geo Block 2,” a recycled plastic open grid which is interlocked and filled with 70% stone and 30% soil. The grid has open cells in which grass can grow. The third portion of the demo site was a 1,000 sq. ft. parking area using “Geo Pave” units which hold stone in place through a herringbone cell pattern with a mesh bottom.

The demonstration areas will have signs identifying the products used in the project to aid builders and homeowners who may wish to install porous paving.



Sleepy Creek 319 Incremental Project
Urban Stormwater Management Project
and
Urban Tree Planting



Legend

-  sleepy creek and tributaries
-  Morgan County Roads
-  Urban Stormwater Management Project
-  Urban Tree Planting Project

0 270 540 1,080 Feet



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The West Virginia Conservation Agency and the Eastern Panhandle Conservation District are well into the 3rd year of the Agriculture Enhancement Program. The purpose of the program is to increase farm productivity by conserving soil and making wise use of agricultural resources and improving water quality by offering technical and cost-share assistance as an incentive to implement best management practices. One of the farms that signed up for the 2011 program is in the Sleepy Creek Watershed and requested streambank fencing. This site is home of a summer camp for city kids and teaches 10 home schooled children in Berkeley Springs. They focus on environmental education. The children are going to pre and post stream monitor this site before construction. EPCD cost shared on 1,290 feet of goat/horse fence with a 35 foot buffer.



To the Left are pictures of the stream fencing and to below the stream crossing done in the Sleepy Creek Watershed:



Table 1: Best Management Practices Complete with Current Funds Spent to Date with Percentage Complete

Best Management Practice	Total Cost	Federal	State	Local	Spent	% Done
5 Alternative Watering Systems	0	0	0	0		
5 Stream Crossing	0	0	0	0		
20 acres of riparian buffer	0	0	0	0		
5,000 ft of Fence	0	0	0	0		
Upgrade/fix failing/Individual Sewer Systems 43 @\$7,500	\$312,500	\$242,500		\$9,900	\$242,887.26	100
Septic checking 25 sites at \$50/site	\$1,250			\$1,250	1,250.00	
50% Coupon for septic pumping 69 @\$250.00	\$25,000	\$12,500		\$12,500	\$7,950.35	69
Administrating Implementation WVCA in-kind	\$66,903		\$66,903			
Health Department Implementation in-kind	\$11,295		\$11,295			
Volunteers HRs in-kind	\$3,500			\$3,500		
Education Outreach 3:1 day at \$1,000 1:2 day at \$7,258.80	\$10,258	\$8,350	\$1,908		\$1,064.85	10
Urban Storm water Management Practices	\$20,000	\$15,000	\$5,000		\$20,000	100
Riparian Buffer Establishment: 5 acres/190 trees per acre @\$10/tree	\$9,500		\$9,500		\$9,509.74	100
Ag BMP's designing and implementation by WVCA staff in-kind	\$4,000		\$4,000			
Monitoring by CI, WVDA and SCWA	\$23,380	\$14,200	\$7,680	\$1,500	\$10,817.65	76
Total:	\$487,586	\$292,550	\$106,286	\$88,750	\$292,229.85	

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Table 2: Fecal coliform bacteria TMDLs for the Sleepy Creek watershed, Dave Montali, WV DEP

PDD Fecal Coliform TMDL - Sleepy Creek Nonpoint Source Load Reductions by State

Sleepy Creek (Inclusive of Indian Run)			
	Baseline LA	LA	LA % Red
West Virginia Component	5.51E+15	5.90E+13	98.9
Virginia Component	2.55E+14	7.27E+12	97.1
Total	5.77E+15	6.62E+13	98.8

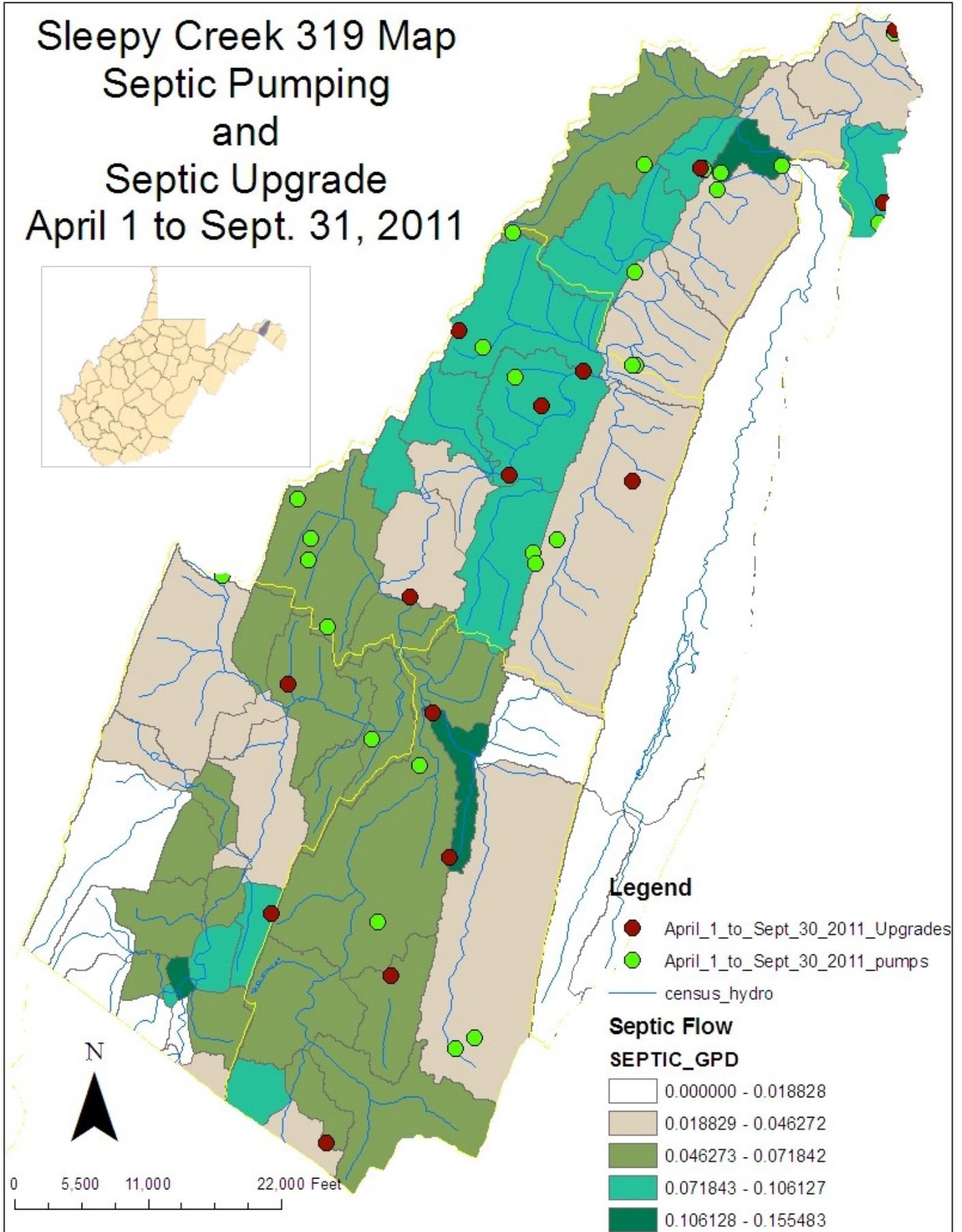
Table 3: Fecal Coliform Reductions for Septic Upgrades to date (April 25, 2011)

Location	# Units	gal/house/day	Conversion	mL/house/day	cfu/100mL	Days of year	Efficiency	cfu Load Reduction
Fully Failing	43	50	3.79E+03	1.89E+05	1.00E+04	365	99.00%	2.94 E+13
Units = number installed or repaired								
gal/house/day = constant used in TMDL, samples show what was used in Potomac DD for fully (50) and seasonally failing (25)								
Efficiency = variable used to predict load reduction usually found in WBP or TMDL.								

Sleepy Creek 319 Map

Septic Pumping and Septic Upgrade

April 1 to Sept. 31, 2011



Sleepy Creek 319 Semi-annual report on nonpoint source pollution elimination activities

Semi-Annual 319 Financial Report			
Project:	Sleepy Creek 319 Incremental		
NPS #:	Phone:	304-263-4376	
Fiscal Year:	Fax:	304-263-4986	
E-mail:	belliott@wvca.us		
Grantee:			
Contact:	Barbara Elliott		
Reporting period:	04/01/11	Sept. 30 2011	
	To	From	
319 Grant Funds Awarded:			
Items for match			Match \$
Landowner money match for upgrade			1005
Landowner inkind match for upgrade			11588.24
Landowner match for septic pumping			3711.3
Paving Project match:			6509.905
9 people x 3 hrs x \$16.65 (cages)			\$449.55
1 person x 4 x \$18.38 (auger holes)			\$73.52
4 people x 2 x \$16.65 (unload trees)			\$133.20
27peoplex3hrsx\$16.65			\$1,348.65
7peoplex 4.5hrsx\$16.65			\$524.48
SCWA stream monitoring			1273.72
AEP stream crossing			1919
AEP stream fencing			7948.53
WVCA Match for Project Manager 1,268.94 hrs)			23323.19
Totals			\$59,808.28
Request for reimbursement(s) during period			Spent \$
Septic Pumping (29 sites)			3346.6
Septic Upgrade (15 sites)			83269.26
Project Signs and Pumping advertisement			\$666.85
Urban Stormwater Paving Project			\$20,000.00
Tree Planting			\$3,851.53
Stream Montioring			\$6,894.51
Totals			\$118,028.75

Please list any businesses used in the project that qualify as
Disadvantaged Business Enterprises (DBE)

DBEs	\$
Totals:	\$0.00

