

## Appendix 1. Project status

Projects	Year	Type	Available	Requested	Spent	Project Balance	Grant Balance	Status	Region
WVDEP NP funds	2011	Nonpoint	\$828,739	\$440,800	\$431,135	\$9,665	\$397,604	Complete	Statewide
WVCA NP funds	2011	Nonpoint		\$276,799	\$274,610	\$2,189	\$122,994	Complete	Statewide
WVDEP Oil & Gas	2011	Nonpoint		\$42,004	\$42,004	\$0	\$80,990	Complete	Statewide
State Fair raingarden	2011	AGO-NP		\$15,000	\$15,000	\$0	\$65,990	Complete	Southern
TMI - AWSM Program	2011	AGO-NP		\$20,000	\$19,989	\$11	\$46,001	Complete	Statewide
FOLG State of the Watershed	2011	AGO-NP		\$3,163	\$3,163	\$0	\$42,838	Complete	Southern
Elk Headwaters plan	2011	AGO-NP		\$2,200		\$2,200	\$42,838	Terminated	
Piney Creek monitoring	2011	AGO-NP		\$5,000	\$5,000	\$0	\$37,838	Complete	Southern
FODC monitoring	2011	AGO-NP		\$10,230	\$10,230	\$0	\$27,608	Complete	Northern
CI riparian restoration	2011	AGO-NP		\$3,000	\$3,000	\$0	\$24,608	Complete	Potomac
FOB State of the Watershed	2011	AGO-NP		\$6,000	\$6,000	\$0	\$18,608	Complete	Northern
FODC Clean Creek Program	2011	AGO-NP		\$15,000	\$15,000	\$0	\$3,608	Complete	Northern
Opequon tree maintenance	2011	AGO-NP		\$2,000	\$2,000	\$0	\$1,608	Complete	Potomac
To Slabcamp	2011	Watershed	\$1,044,382		\$1,608	-\$1,608			
Slabcamp AMD	2011	Watershed		\$274,089	\$290,571	-\$16,482	\$753,811	Complete	Northern
Kitchen Creek II	2011	Watershed		\$49,520	\$49,520	\$0	\$704,291	Complete	Southern
Muddy Creek - Greenbrier	2011	Watershed		\$225,840	\$245,288	-\$19,448	\$459,003	Complete	Southern
Lambert Run Site 7	2011	Watershed		\$384,933	\$384,375	\$558	\$74,628	Complete	Northern
Tuscarora Creek	2011	Watershed		\$55,000	\$43,911	\$11,089	\$30,717	Complete	Potomac
Elk Run	2011	Watershed		\$55,000	\$32,326	\$22,674	-\$1,609	Complete	Potomac
<b>Totals</b>	<b>2011</b>		<b>\$1,873,121</b>					<b>100.0%</b>	
WVDEP NP funds	2012	Nonpoint	\$655,616	\$455,616	\$334,457	\$121,159	\$321,159	Active	Statewide
WVCA NP funds	2012	Nonpoint		\$200,000	\$200,000	\$0	\$121,159	Complete	Statewide
FOLG raingarden	2012	AGO-NP		\$15,000	\$12,023	\$2,977	\$109,136	Complete	Southern
Piney Creek pet waste stations	2012	AGO-NP		\$3,000	\$3,000	\$0	\$106,136	Complete	Southern
FOC implementation guide	2012	AGO-NP		\$20,000	\$19,091	\$909	\$87,045	Complete	Northern
Davis Creek monitoring	2012	AGO-NP		\$3,124	\$3,124	\$0	\$83,921	Complete	Western
FODC Clean Creek Program	2012	AGO-NP		\$17,000	\$8,910	\$8,090	\$75,011	Active	Northern
GWA Fish Hatchery wetland	2012	AGO-NP		\$20,000	\$20,000	\$0	\$55,011	Complete	Southern
FOC sustainability education	2012	AGO-NP		\$20,000		\$20,000	\$55,011	Active	Northern
James River Ag BMPs	2012	Watershed	\$1,071,384	\$214,841	\$214,841	\$0	\$856,543	Complete	Southern
Kitchen Creek III	2012	Watershed		\$70,517	\$24,795	\$45,722	\$831,748	Active	Southern
Milligan Creek Ag BMPs	2012	Watershed		\$123,060	\$123,060	\$0	\$708,688	Complete	Southern
Upper Elk NSD-design	2012	Watershed		\$21,000	\$21,000	\$0	\$687,688	Complete	Western
Upper Elk - Cup Run NSD	2012	Watershed		\$206,880		\$206,880	\$687,688	Active	Western

Projects	Year	Type	Available	Requested	Spent	Project Balance	Grant Balance	Status	Region
Fayette Square stormwater	2012	Watershed		\$131,420	\$120,051	\$11,369	\$567,637	Complete	Southern
Roaring Creek Mars Portals	2012	Watershed		\$43,967	\$43,967	\$0	\$523,670	Complete	Northern
Lick Run watershed plan	2012	Watershed		\$15,090	\$15,077	\$13	\$508,593	Complete	Northern
Knapp Creek restoration/monitoring	2012	Watershed		\$100,000	\$100,000	\$0	\$408,593	Complete	Southern
West Run Morgantown airport	2012	Watershed		\$145,214		\$145,214	\$408,593	Active	Northern
West Run Morgantown airport	2012	SRF-State		\$409,899	\$178,611	\$231,288		Active	Northern
LF Buckhannon - Swamp Run	2012	SRF-State		\$257,193	\$74,610	\$182,583		Active	Northern
Sovern Run Titchnell Sands	2012	SRF-State		\$202,466	\$156,728	\$45,738		Active	Northern
<b>Totals</b>	<b>2012</b>		<b>\$1,727,000</b>					<b>51.8%</b>	
WVDEP NP funds	2013	Nonpoint	\$605,853	\$405,853	\$275,788	\$130,065	\$330,065	Active	Statewide
WVCA NP funds	2013	Nonpoint		\$190,000	\$150,000	\$40,000	\$180,065	Active	Statewide
EPA watershed plan tracking	2013	Nonpoint		\$10,000		\$10,000	\$180,065	Active	Statewide
Beaver Creek re-engineering	2013	AGO-NP		\$58,250	\$58,250	\$0	\$121,815	Complete	Northern
TMI - AWSM Program	2013	AGO-NP		\$20,000	\$17,293	\$2,707	\$104,522	Active	Statewide
Morris Creek monitoring	2013	AGO-NP		\$4,000	\$2,565	\$1,435	\$101,957	Complete	Western
Hughes River monitoring	2013	AGO-NP		\$3,700	\$1,624	\$2,076	\$100,333	Active	Western
Helios Park - Richwood	2013	AGO-NP		\$34,000		\$34,000	\$100,333	Active	Western
Sleepy Creek II	2013	Watershed	\$1,031,147	\$70,200	\$56,702	\$13,498	\$974,445	Active	Potomac
Knapp Creek - NWQI	2013	Watershed		\$162,662	\$29,289	\$133,373	\$945,156	Active	Southern
Second Creek	2013	Watershed		\$120,500	\$93,959	\$26,541	\$851,197	Active	Southern
Upper Muddy Creek 2.1	2013	Watershed		\$222,709	\$222,709	\$0	\$628,488	Complete	Northern
Roaring Creek Portal 5	2013	Watershed		\$2,427		\$2,427	\$628,488	Terminated	
Ingrand Mine & VH-3	2013	Watershed		\$276,000	\$35,025	\$240,975	\$593,463	Active	Northern
Summerlee Phase 1.2	2013	Watershed		\$29,733	\$29,733	\$0	\$563,730	Complete	Southern
LF Buckhannon - Swamp Run	2013	Watershed		\$146,915		\$146,915	\$563,730	Active	Northern
Wolf Creek stream restoration	2013	SRF-State		\$196,307	\$196,307	\$0		Complete	Southern
Muddy Creek improvements	2013	SRF-State		\$12,504	\$12,504	\$0		Complete	Northern
NF Greens Run railroad refuse	2013	SRF-State		\$111,523	\$107,509	\$4,014		Active	Northern
<b>Totals</b>	<b>2013</b>		<b>\$1,637,000</b>					<b>30.1%</b>	
WVDEP NP funds	2014	Nonpoint	\$747,223	\$483,811	\$324,120	\$159,691	\$423,103	Active	Statewide
WVCA NP funds	2014	Nonpoint		\$200,000	\$86,719	\$113,281	\$336,384	Active	Statewide
EPA watershed plan tracking	2014	Nonpoint		\$10,000	\$10,000	\$0	\$326,384	Complete	Statewide
Lambert watershed plan	2014	Nonpoint		\$56,043		\$56,043	\$326,384	Active	Northern
WV Rivers Coalition monitoring	2014	AGO-NP		\$20,000	\$20,000	\$0	\$306,384	Complete	Statewide
Latta's Stormwater	2014	AGO-NP		\$34,600	\$34,600	\$0	\$271,784	Complete	Western
Groundwork Guyandotte	2014	AGO-NP		\$18,000		\$18,000	\$271,784	Active	Southern

Projects	Year	Type	Available	Requested	Spent	Project Balance	Grant Balance	Status	Region
CVI stream restoration	2014	AGO-NP		\$20,000		\$20,000	\$271,784	Active	Statewide
TMI - AWSM Program	2014	AGO-NP		\$20,000		\$20,000	\$271,784	Active	Statewide
FOB restoration and planning	2014	AGO-NP		\$10,000		\$10,000	\$271,784	Active	Northern
WV Rivers Coalition monitoring	2014	AGO-NP		\$20,000	\$4,046	\$15,954	\$267,738	Active	Statewide
Source water - Fayette Co	2014	AGO-NP		\$10,000		\$10,000	\$267,738	Active	Southern
Sovern England AMD	2014	Watershed	\$1,002,899	\$252,368		\$252,368	\$1,002,899	Active	Northern
Greens Run railroad refuse	2014	Watershed		\$105,000	\$84,284	\$20,716	\$918,615	Active	Northern
Kanes Creek South upgrade	2014	Watershed		\$112,750		\$112,750	\$918,615	Active	Northern
Valley Point 12 revitalization	2014	Watershed		\$163,100		\$163,100	\$918,615	Active	Northern
Sleepy Creek Phase III	2014	Watershed		\$74,600	\$5,603	\$68,997	\$913,012	Active	Potomac
Milligan Creek/Davis Springs	2014	Watershed		\$150,000	\$58,040	\$91,960	\$854,972	Active	Southern
Finley Run - Friends of Blackwater	2014	Watershed		\$64,000		\$64,000	\$854,972	Active	Northern
Meadow River Septics - WVCA	2014	Watershed		\$53,100		\$53,100	\$854,972	Active	Southern
Muddy Creek Schwab 2.1	2014	SRF-State		\$57,605	\$57,511	\$94		Complete	Northern
Beaver Creek re-engineering	2014	SRF-State		\$40,302	\$40,302	\$0		Complete	Northern
Winding Gulf stream restoration	2014	SRF-State		\$35,132	\$12,217	\$22,915		Active	Southern
<b>Totals</b>	<b>2014</b>		<b>\$1,750,122</b>					<b>3.7%</b>	
WVDEP NP funds	2015	Nonpoint	\$619,640	\$355,402	\$282,945	\$72,457	\$336,695	Active	Statewide
WVCA NP funds	2015	Nonpoint		\$116,000		\$116,000	\$336,695	Active	Statewide
EPA watershed plan tracking	2015	Nonpoint		\$10,000	\$10,000	\$0	\$326,695	Complete	Statewide
Big Sandy watershed planning	2015	Nonpoint		\$84,000	\$2,624	\$81,376	\$324,071	Active	Northern
Opequon tree maintenance	2015	AGO-NP		\$3,000		\$3,000	\$324,071	Active	Potomac
FODC Clean Creek Program	2015	AGO-NP		\$12,000		\$12,000	\$324,071	Active	Northern
WV Rivers Coalition - SWP program	2015	AGO-NP		\$15,000	\$2,120	\$12,880	\$321,951	Active	Statewide
Hursher's Run monitoring	2015	AGO-NP		\$5,000		\$5,000	\$321,951	Active	Western
AMD and wastewater research	2015	AGO-NP		\$18,000	\$1,410	\$16,590	\$320,541	Active	Northern
Tuscarora Creek Phase II	2015	Watershed	\$1,017,369	\$56,523		\$56,523	\$1,017,369	Active	Potomac
Mill Creek Opequon Phase II	2015	Watershed		\$161,801		\$161,801	\$1,017,369	Active	Potomac
Morris Creek upper mainstem	2015	Watershed		\$49,265		\$49,265	\$1,017,369	Active	Western
Pase Active Treatment	2015	Watershed		\$101,378		\$101,378	\$1,017,369	Active	Northern
Valley Highwall upgrade	2015	Watershed		\$170,500		\$170,500	\$1,017,369	Active	Northern
Summerlee Phase II	2015	Watershed		\$163,412	\$12,303	\$151,109	\$1,005,066	Active	Southern
YMCA land restoration	2015	Watershed		\$20,145		\$20,145	\$1,005,066	Active	Southern
Elk Run Phase II	2015	Watershed		\$68,200		\$68,200	\$1,005,066	Active	Potomac
Herods Run	2015	Watershed		\$226,145	\$8,479	\$217,666	\$996,587	Active	Northern
<b>Totals</b>	<b>2015</b>		<b>\$1,637,009</b>						
Total projects	<b>102</b>								

## Appendix 2. BMPs installed in 2015

<u>BMPs</u>	<u>Quantity</u>	<u>Units</u>	<u>Date</u>	<u>HUC8</u>
Alternate water source	19.0	unit	Sep-15	Greenbrier
Alternate water source	2.0	unit	Sep-15	Greenbrier
Alternate water source	11.0	unit	Sep-15	Greenbrier
Alternate water source	1.0	unit	Mar-15	Greenbrier
Alternate water source	7.0	unit	Sep-15	Greenbrier
AMD - Limestone channel	38.0	ft	Sep-15	West Fork
AMD - Limestone channel	435.0	ft	Sep-15	Cheat
AMD - Limestone leachbed	10,126.0	sqft	Sep-15	Monongalia
AMD - Outlet	1.0	unit	Sep-15	West Fork
AMD - Settling pond	11,500.0	sqft	Sep-15	Monongalia
AMD - Wetland	130,680.0	sqft	Sep-15	West Fork
AMD - Wetland	6,000.0	sqft	Sep-15	Cheat
AMD treatment system	1.0	unit	Sep-15	Monongalia
AMD treatment system	5.0	unit	Sep-15	West Fork
AMD treatment system	1.0	unit	Sep-15	Cheat
Buffer	0.3	ac	Sep-15	Potomac
Buffer	37.4	ac	Sep-15	Greenbrier
Buffer	0.6	ac	Mar-15	Statewide
Buffer	1.4	ac	Mar-15	Potomac
Division fence	20,050.0	ft	Sep-15	Greenbrier
Division fence	4,845.0	ft	Sep-15	James
Division fence	47,003.0	ft	Sep-15	Greenbrier
Division fence	3,500.0	ft	Sep-15	Greenbrier
Exclusion fence	713.0	ft	Sep-15	Greenbrier
Exclusion fence	2,586.0	ft	Sep-15	Greenbrier
Exclusion fence	25,996.0	ft	Sep-15	James
Exclusion fence	5,337.0	ft	Sep-15	Greenbrier
Exclusion fence	3,030.0	ft	Sep-15	Greenbrier
Exclusion fence	6,893.0	ft	Mar-15	Greenbrier
Exclusion fence	408.0	ft	Sep-15	Greenbrier
Grazing systems	72.0	ac	Sep-15	Greenbrier
Grazing systems	451.0	ac	Sep-15	James
Grazing systems	722.0	ac	Sep-15	Greenbrier
Grazing systems	562.3	ac	Mar-15	Statewide
Grazing systems	379.0	ac	Sep-15	Greenbrier
Grazing systems	379.0	ac	Sep-15	Greenbrier
Grazing systems	562.0	ac	Mar-15	South Branch
Heavy use protection	15.0	unit	Sep-15	James
Heavy use protection	1.0	unit	Mar-15	Greenbrier
Heavy use protection	1.0	unit	Mar-15	Greenbrier
Heavy use protection	6.0	unit	Sep-15	Greenbrier
Livestock pipeline	1,724.0	ft	Sep-15	Greenbrier
Livestock pipeline	100.0	ft	Sep-15	Greenbrier
Livestock pumping plant	2.0	unit	Sep-15	Greenbrier
Nutrient management	508.4	ac	Mar-15	South Branch
Nutrient management	72.0	ac	Sep-15	Greenbrier
Nutrient management	451.0	ac	Sep-15	James
Nutrient management	958.0	ac	Sep-15	Greenbrier

<u>BMPs</u>	<u>Quantity</u>	<u>Units</u>	<u>Date</u>	<u>HUC8</u>
Nutrient management	81.2	ac	Mar-15	South Branch
Nutrient management	228.0	ac	Mar-15	Greenbrier
Nutrient management	429.0	ac	Sep-15	Greenbrier
Nutrient management	379.0	ac	Sep-15	Greenbrier
Nutrient management	468.0	ac	Mar-15	South Branch
Nutrient management	88.0	ac	Mar-15	South Branch
Nutrient management	541.0	ac	Mar-15	South Branch
Nutrient management	1,138.0	ac	Mar-15	South Branch
Nutrient management	648.0	ac	Mar-15	Cacapon
Nutrient management	15.0	ac	Sep-15	South Branch
Nutrient management	142.0	ac	Sep-15	South Branch
Nutrient management	7.0	ac	Sep-15	Cacapon
Raingarden	2.0	unit	Sep-15	Potomac
Porous pavers	0.6	ac	Sep-15	Potomac
Sediment/erosion control	9.3	ac	Mar-15	Lower Kanawha
Sediment/erosion control	2.2	ac	Sep-15	South Branch
Sediment/erosion control	16.0	ac	Sep-15	Gauley
Sediment/erosion control	7.0	ac	Sep-15	Lower Kanawha
Septic - alternate	1.0	unit	Sep-15	Potomac
Septic - new	32.0	unit	Sep-15	Potomac
Septic - new	3.0	unit	Sep-15	Potomac
Septic - new	2.0	unit	Sep-15	Greenbrier
Septic - repair	2.0	unit	Sep-15	Potomac
Septic - repair	10.0	unit	Sep-15	Greenbrier
Stream restoration	448.0	ft	Sep-15	Potomac
Stream restoration	957.0	ft	Sep-15	Greenbrier
Streambank protection	57.0	ft	Sep-15	Potomac
Streambank protection	365.0	ft	Sep-15	Greenbrier
Streambank protection	275.0	ft	Sep-15	Greenbrier
Streambank protection	51.0	ft	Sep-15	South Branch
Streambank protection	480.0	ft	Sep-15	South Branch
Streambank protection	100.0	ft	Sep-15	Lower Guyandotte
Tree planting	1.5	ac	Sep-15	Potomac
Tree planting	2.5	ac	Sep-15	Potomac

<u>BMPs</u>	<u>quantity</u>	<u>unit</u>	<u>BMPs</u>	<u>quantity</u>	<u>unit</u>
Alternate water sources	40	unit	Stream restoration	1,405	ft
AMD treatment systems	7	unit	Streambank protection	1,328	ft
AMD wetlands/ponds	158,307	sqft	Tree planting	4	ac
Buffers	39.7	ac	<b>Overall BMP implementation in 2015</b>		
Fencing	120,361	ft			
Heavy use protection	23	unit			
Grazing systems	3,127.3	ac			
Nutrient management	6,153.6	ac			
Sediment/erosion control	34.5	ac			
Septics	50	unit			
Streambank protection	1,328	ft			

### Appendix 3. Pollutant load reductions in 2015

<u>Project</u>	<u>GRTS#</u>	<u>Year</u>	<u>Pollutant</u>	<u>LRs</u>	<u>Units</u>	<u>Date</u>	<u>HUC8</u>
Lambert Site 7	5	2011	Acidity	97,808	lbs/yr	Sep-15	West Fork
Slabcamp	6	2011	Acidity	97,017	lbs/yr	Sep-15	Monongalia
Elk Run	4	2011	Fecal coliform	1.25E+13	cfu	Sep-15	Potomac
Tuscarora Creek	7	2011	Fecal coliform	1.76E+13	cfu	Sep-15	Potomac
Tuscarora Creek	7	2011	Fecal coliform	1.88E+13	cfu	Sep-15	Potomac
Muddy Creek	9	2011	Fecal coliform	1.20E+12	cfu	Sep-15	Greenbrier
Muddy Creek	9	2011	Fecal coliform	1.75E+12	cfu	Sep-15	Greenbrier
Kitchen Creek III	6	2012	Fecal coliform	3.56E+12	cfu	Sep-15	Greenbrier
SF Potts Creek	7	2012	Fecal coliform	2.13E+12	cfu	Sep-15	James
Milligan Creek	9	2012	Fecal coliform	5.44E+12	cfu	Sep-15	Greenbrier
Milligan Creek	9	2012	Fecal coliform	2.18E+12	cfu	Sep-15	Greenbrier
Milligan Creek	9	2012	Fecal coliform	7.42E+12	cfu	Sep-15	Greenbrier
Milligan Creek	9	2012	Fecal coliform	2.44E+12	cfu	Sep-15	Greenbrier
Milligan Creek	9	2012	Fecal coliform	1.09E+12	cfu	Sep-15	Greenbrier
Knapp Creek	12	2012	Fecal coliform	2.92E+12	cfu	Sep-15	Greenbrier
Knapp Creek	12	2012	Fecal coliform	8.72E+11	cfu	Sep-15	Greenbrier
WVCA Base Programs	2	2014	Fecal coliform	6.32E+11	cfu	Mar-15	Statewide
Sleepy Creek II	2	2013	Fecal coliform	6.32E+11	cfu	Mar-15	Potomac
Knapp Creek - NWQI	3	2013	Fecal coliform	2.28E+12	cfu	Sep-15	Greenbrier
Knapp Creek - NWQI	3	2013	Fecal coliform	2.61E+11	cfu	Mar-15	Greenbrier
Second Creek Karst	6	2013	Fecal coliform	2.40E+12	cfu	Mar-15	Greenbrier
Second Creek Karst	6	2013	Fecal coliform	4.36E+11	cfu	Mar-15	Greenbrier
Second Creek Karst	6	2013	Fecal coliform	4.79E+12	cfu	Sep-15	Greenbrier
Milligan Creek II	5	2014	Fecal coliform	5.08E+12	cfu	Sep-15	Greenbrier
Slabcamp	6	2011	Metals (Al)	16,681	lbs/yr	Sep-15	Monongalia
Lambert Site 7	5	2011	Metals (Fe)	30,000	lbs/yr	Sep-15	West Fork
Slabcamp	6	2011	Metals (Fe)	2,336	lbs/yr	Sep-15	Monongalia
Elk Run	4	2011	Nitrogen	1.5	lbs/yr	Sep-15	Potomac
Sleepy Creek II	2	2013	Nitrogen	14.6	lbs/yr	Sep-15	Potomac
Muddy Creek	9	2011	Nitrogen	4,000	lbs/yr	Sep-15	Greenbrier
SF Potts Creek	7	2012	Nitrogen	25,056	lbs/yr	Sep-15	James
Milligan Creek	9	2012	Nitrogen	53,272	lbs/yr	Sep-15	Greenbrier
Second Creek Karst	6	2013	Nitrogen	36,500	lbs/yr	Sep-15	Greenbrier
Milligan Creek II	5	2014	Nitrogen	21,056	lbs/yr	Sep-15	Greenbrier
WVCA Base Programs	2	2014	Nitrogen	15,965.2	lbs/yr	Mar-15	Statewide
WVCA Base Programs	2	2014	Nitrogen	5,049.1	lbs/yr	Mar-15	Statewide
WVCA Base Programs	2	2014	Nitrogen	27,062.3	lbs/yr	Mar-15	Statewide
WVCA Base Programs	2	2015	Nitrogen	3,059.1	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Nitrogen	15,965.2	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Nitrogen	5,808	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Nitrogen	29,240	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Nitrogen	990	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Nitrogen	9,372	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Nitrogen	75,108	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Nitrogen	27,062	lbs/yr	Mar-15	Cacapon
WVCA Base Programs	2	2015	Nitrogen	462	lbs/yr	Sep-15	Cacapon
WVCA Base Programs	2	2015	Nitrogen	42,768	lbs/yr	Sep-15	Cacapon
Elk Run	4	2011	Phosphorus	0.6	lbs/yr	Sep-15	Potomac

<u>Project</u>	<u>GRTS#</u>	<u>Year</u>	<u>Pollutant</u>	<u>LRs</u>	<u>Units</u>	<u>Date</u>	<u>HUC8</u>
Sleepy Creek II	2	2013	Phosphorus	0.9	lbs/yr	Sep-15	Potomac
Muddy Creek	9	2011	Phosphorus	2,571	lbs/yr	Sep-15	Greenbrier
SF Potts Creek	7	2012	Phosphorus	16,107	lbs/yr	Sep-15	James
Milligan Creek	9	2012	Phosphorus	34,214	lbs/yr	Sep-15	Greenbrier
Second Creek Karst	6	2013	Phosphorus	23,464	lbs/yr	Sep-15	Greenbrier
Milligan Creek II	5	2014	Phosphorus	13,536	lbs/yr	Sep-15	Greenbrier
WVCA Base Programs	2	2014	Phosphorus	19,028.3	lbs/yr	Mar-15	Statewide
WVCA Base Programs	2	2014	Phosphorus	4,856.0	lbs/yr	Mar-15	Statewide
WVCA Base Programs	2	2014	Phosphorus	31,952.7	lbs/yr	Mar-15	Statewide
WVCA Base Programs	2	2015	Phosphorus	18,216.5	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Phosphorus	19,028.3	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Phosphorus	2,992	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Phosphorus	33,090.7	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Phosphorus	517.5	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Phosphorus	4,899	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Phosphorus	39,261	lbs/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Phosphorus	31,952.7	lbs/yr	Mar-15	Cacapon
WVCA Base Programs	2	2015	Phosphorus	238	lbs/yr	Sep-15	Cacapon
WVCA Base Programs	2	2015	Phosphorus	22,356	lbs/yr	Sep-15	Cacapon
Elk Run	4	2011	Sediment	1.6	tons/yr	Sep-15	Potomac
Tuscarora Creek	7	2011	Sediment	8.3	tons/yr	Sep-15	Potomac
Knapp Creek	12	2012	Sediment	4,468	tons/yr	Sep-15	Greenbrier
Knapp Creek	12	2012	Sediment	395	tons/yr	Sep-15	Greenbrier
WVCA Base Programs	2	2014	Sediment	70	tons/yr	Mar-15	Statewide
Knapp Creek - NWQI	3	2013	Sediment	1,688.3	tons/yr	Sep-15	Greenbrier
Knapp Creek - NWQI	3	2013	Sediment	76.6	tons/yr	Sep-15	Greenbrier
WVCA Base Programs	2	2015	Sediment	23	tons/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Sediment	250	tons/yr	Sep-15	South Branch
WVCA Base Programs	2	2015	Sediment	15	tons/yr	Sep-15	Gauley
WVCA Base Programs	2	2015	Sediment	70	tons/yr	Mar-15	Gauley
WVCA Base Programs	2	2015	Sediment	42.2	tons/yr	Sep-15	Lower Kanawha
WVCA Base Programs	2	2015	Sediment	10.5	tons/yr	Sep-15	Lower Kanawha
WVCA Base Programs	2	2015	Sediment	434.2	tons/yr	Sep-15	Lower Kanawha
WVCA Base Programs	2	2015	Sediment	35.2	tons/yr	Sep-15	Lower Kanawha
WVCA Base Programs	2	2015	Sediment	6.6	tons/yr	Sep-15	Lower Kanawha
WVCA Base Programs	2	2015	Sediment	9	tons/yr	Sep-15	Lower Kanawha
WVCA Base Programs	2	2015	Sediment	275	tons/yr	Mar-15	Lower Guyandotte

<u>Pollutant</u>	<u>Reduction</u>	<u>Unit</u>
Acidity	194,825	lbs/year
AMD metals	49,017	lbs/year
Nitrogen	397,811.3	lbs/year
Phosphorus	318,282.2	lbs/year
Sediment	7,878.2	tons/year
Fecal coliform	9.64E+13	cfu

**Overall pollution reductions in 2015**

#### Appendix 4. WV Conservation Agency statewide implementation

BMPs	Quantity	Unit	Nitrogen	Phosphorus	Sediment	HUC code	Latitude	Longitude	Watershed name
Nutrient management	15.0	ac	990.0	517.5		020700010602	39.157314	78.988517	Anderson Run
Nutrient management	7.0	ac	462.0	238.0		020700030202	39.082678	78.566353	Shawan Run - Little Cacapon River
Nutrient management	32.0	ac	2,112.0	1,104.0		020700030501	39.042650	78.713203	Cullers Run - Lost River
Nutrient management	214.0	ac	14,124.0	7,383.0		020700030501	39.023050	78.753469	Cullers Run - Lost River
Nutrient management	508.4	ac	27,062.3	31,952.7		020700030501	38.690953	79.175942	Cullers Run - Lost River
Nutrient management	402.0	ac	26,532.0	13,869.0		020700030501	39.144286	78.692928	Cullers Run - Lost River
Nutrient management	81.2	ac	5,049.1	4,865.0		020700010101	38.743097	79.411169	Laurel Fork - North Fork South Branch
Nutrient management	165.0	ac	10,890.0	5,692.5		020700010101	38.810169	79.369567	Laurel Fork - North Fork South Branch
Nutrient management	222.0	ac	14,652.0	7,659.0		020700010101	38.850067	79.425736	Laurel Fork - North Fork South Branch
Nutrient management	562.3	ac	15,965.2	19,028.3		020700010309	38.781678	79.281789	Briggs Run - South Branch Potomac
Nutrient management	88.0	ac	5,808.0	2,992.0		020700010402	38.954264	79.102503	Johnson Run - Mill Creek
Nutrient management	508.4	ac	27,062.3	31,952.7		020700010501	38.690953	79.175942	Brushy Fork - South Fork South Branch
Nutrient management	33.0	ac	2,178.0	1,138.0		020700010501	39.007161	79.027761	Brushy Fork - South Fork South Branch
Nutrient management	142.0	ac	9,372.0	4,899.0		020700020702	39.331381	78.878781	Middle Fork Patterson Creek
Nutrient management	1,138.0	ac	75,108.0	39,261.0		020700020706	38.889972	78.939158	Cabin Run
Sediment/Erosion control	1.0	ac			16.0	020700010309			Briggs Run - South Branch Potomac
Sediment/Erosion control	0.7	ac			3.7	020700010309			Briggs Run - South Branch Potomac
Sediment/Erosion control	0.5	ac			0.2	020700010309			Briggs Run - South Branch Potomac
Sediment/Erosion control	15.0	ac			15.0	050500050602	37.980138	80.757477	Otter Creek - Meadow River
Sediment/Erosion control	1.0	ac			70.0	050500050605	37.980408	80.757344	Mill Creek - Meadow River
Sediment/Erosion control	0.8	ac			42.2	050500080204	38.515375	81.779275	Heizer Creek
Sediment/Erosion control	0.3	ac			10.5	050500080304	38.555939	81.977067	Scary Creek - Kanawha River
Sediment/Erosion control	0.3	ac			23.5	050500080305	38.448336	81.944342	Poplar Fork
Sediment/Erosion control	0.8	ac			35.1	050500080305	38.461662	81.932572	Poplar Fork
Sediment/Erosion control	1.0	ac			375.6	050500080305	38.441025	81.951128	Poplar Fork
Sediment/Erosion control	0.3	ac			11.0	050500080306	38.443056	81.984047	Hurricane Creek
Sediment/Erosion control	0.9	ac			24.6	050500080306	38.447411	81.950347	Hurricane Creek
Sediment/Erosion control	0.9	ac			6.6	050500080308	38.581839	82.002003	Buffalo Creek - Kanawha River
Sediment/Erosion control	0.8	ac			3.8	050701020201	38.302030	81.965130	Headwaters Trace Fork
Sediment/Erosion control	0.9	ac			5.2	050701020201	38.311000	81.965400	Headwaters Trace Fork
Streambank protection	51.0	ft			3.0	020700010309	38.972670	79.117081	Briggs Run - South Branch Potomac
Streambank protection	450.0	ft			250.0	020700010501	38.179082	79.958431	Brushy Fork - South Fork South Branch
Streambank protection	100.0	ft			275.0	050701020303	38.268908	82.058070	Middle Fork Mud River
Totals			237,367.0	172,551.7	1,171.0				18 different watersheds

## Appendix 5. WIB staff activities

### Potomac Basin Coordinator

The Potomac Basin Coordinator (PBC) works with partner agencies and groups to carry out strategies to reduce the amount of nitrogen, phosphorus and sediment that West Virginia streams contribute to the Chesapeake Bay. She continues to facilitate bi-monthly meetings of West Virginia's Chesapeake Bay Tributary Team and coordinate the submittal of annual nonpoint source Best Management Practice data to the Chesapeake Bay Program. In 2015, she helped the West Virginia Department of Agriculture to develop its own BMP database, helped to coordinate the writing of West Virginia's BMP Verification Program, and submitted an historical BMP dataset for the calibration of a revised Chesapeake Bay Watershed Model.

Reducing streambank erosion is a local priority in Potomac Basin 319 watersheds as well as a strategy for reducing sediment delivered to the Chesapeake Bay. The PBC completed the River Assessment and Monitoring course (Rosgen Level 3) and used that experience to train the Watershed Improvement Branch staff on the Bank Erosion Hazard Index. She supported the Back Creek 319 project by supervising an intern's streambank assessment of Tilhance Creek (*photo*) and introducing Back Creek stakeholders to the Berkeley County Planning Department through a special meeting about the Comprehensive Plan update.

She supported the Tuscarora Creek 319 project by helping to assess the streambanks of Dry Run, bank pinning a site on Tuscarora Creek for a possible future project, helping to identify a streambank stabilization site at Poor House Farm Park, conducting the stormwater relay station at an outreach event, and presenting Tuscarora Creek project opportunities to the Berkeley County Chamber of Commerce. For the Elks Run 319 project, the PBC coordinated a meeting with WV Rail Authority representative to plan a stormwater demonstration project.

The PBC connects landowners with buffer and tree planting projects, and encourages group leaders and local governments to apply for tree planting grants for public land. In 2015 she served as a project liaison for planting projects at Hampshire High School in Hampshire County, and Hammonds Mill subdivision in Berkeley County.

The PBC conducted outreach about nonpoint source pollution, including discussing Opequon watershed projects with Berkeley County Council, meeting with City of Romney's administrator regarding stormwater projects, teaching kindergarten and

summer camp students about benthic macroinvertebrates, and displaying a map of impaired streams at the Tri-County Fair.



### Western Basin Coordinator

Tomi Bergstrom our Western Basin Coordinator (WBC) has a good year full of project anticipation. The Coal River Group's (CRG) Project Proposal was submitted over the summer of 2015, awaiting the approval period, the watershed group was trained by Ms. Bergstrom and Nick Murray of WVDEP's Watershed Assessment Branch (WAB) on DEP's Standard Operating Procedures (SOP) and situated with data forms to begin fecal coliform monitoring as part of their 319 Project Proposal. The WBC will be assisting CRG with an outreach event focused on septic tanks and how fecal coliforms affect stream health.

The Morris Creek Watershed Association's (MCWA) 319 Project Proposal was approved for funding by EPA in the spring of 2015 for the first phase of retrofitting an AMD treatment system. Once MCWA has a paid position through DEP's Watershed Pilot Program (WPP), project implementation will begin with the assistance of the WBC.

Michael Huff, with the Public Information Office (PIO) of WVDEP and Ms. Bergstrom coordinated with fellow WBC's, Alana Hartman and Martin Christ to collect videos and interviews of watershed groups across the state. These videos were made into short films for each watershed group and played at the Annual Watershed

Celebration Day as well as debuted as a collaborative short film for the West Virginia River's Coalition Film Festival under the title, "Currents."

The Western WBC also presented and organized several outreach events including the DEP Earth Day Event, Marshall University Water Festival, Ritchie County Middle School Water Festival, Fayette County Water Festival, Homeschool Water Festival at North Bend State Park, Ohio Island Outreach Anniversary, Coal River Group Water Festival, Morris Creek Water Festival, and the Mill Creek Adventure Day. At the Mill Creek Adventure Day on August 15, 2015, Ms. Bergstrom presented on nonpoint source pollution and herpetology in West Virginia, with co-work and Save Our Streams (SOS) coordinator, Glenn Nelson to over 350 children and adults from the Ripley, WV community. Additionally, she conducted five rain barrel workshops and an outreach event during Charleston's FestivALL with the City of Charleston's Stormwater Department and discussed combined sewer overflows (CSO) and nonpoint source pollution.

Three 319 Additional Grant Opportunities (AGO) final reports were submitted and reviewed by the Western WBC including Friends of the Hughes River Watershed Association (FOH) stream monitoring from Marcellus shale gas exploration efforts, MCWA's AMD monitoring project and concrete dying with AMD floc, and Latta's Stormwater Control Project which included the installation of roof drains to rain gardens and a bioretention system.

### **Northern Basin Coordinator**

My work is most easily organized according to the active watershed groups that I work with.

#### Buckhannon River Watershed Association

- Running Project Team meetings included notifying participants, writing agenda, running meeting, and writing minutes.
- Monitoring included two trips to monitor Smooth Rock Lick. I supplied flow and water-quality meters and transported sample bottles from the lab to the site and filled bottles back to the lab.
- Project management included calling on WVU-NMLRC to present conceptual designs and progress reports to Project Team, encouraging an extra review of project designs with the landowner, and participation in engineer procurement field trips.
- Assisted BRWA's vigilance over water downstream from permits by graphing discharge monitoring report data and inviting Division of Mining and Reclamation personnel to Project Team meetings.

- Visited Grassy Run in Tallmansville to identify possible future watershed projects with Jonathan Knight of the Office of Abandoned Mine Lands and Reclamation, explored Bull Run of French Creek to assess the water quality problems, and whether they are abandoned or forfeited mine problems.
- Explored the stream impacted by a second Swamp Run project.

#### Doddridge County Watershed Association

- Attended and provided car-pooling for Randy Huffman's tour of gas-well issues in Ritchie and Doddridge Counties.
- Attended monthly meetings and provided input as appropriate.

#### Friends of Blackwater/North Fork Project

- Assisted with water-quality monitoring and supplied flow and water-quality meters.
- Advised on monitoring for acidity and discussed the dissolved vs total metal issue.
- Compiled data for the watershed based plan, including a list of AMD sources in the watershed.
- Advised on completion of the watershed based plan.
- Participated in discussions with OAMLRL and the United States Forest Service about how to improve water quality in the watershed.
- Supported and conducted research for a \$319 proposal.

#### Friends of Cheat

- Assisted with project management for North Fork Greens Run Railroad Refused by attending pre-bid and pre-construction meetings and making site inspections.
- Toured AMD sites with Friends of Cheat personnel and Jonathan Knight of OAMLRL.
- Monitored Muddy Creek with Ladd Williams of the Office of Special Reclamation.
- Participated in planning and discussion of OSR's Martin Creek doser project.
- Attended River of Promise meetings.

#### Friends of Deckers Creek

- Assisted with project management for Slabcamp Tributary AMD by attending pre-bid meeting and making site inspections.
- Met with Slabcamp Run landowner several times to address concerns.
- Attended Deckers Creek Restoration Team meetings.
- Reviewed financial history checklist and requested modifications of FODC's procurement policy.
- Participated in strategic planning meeting.

#### Guardians of the West Fork

- Assisted with project management for Lambert Site 7 by attending bid opening, site inspections, and final inspection.

- Worked with WVU-NMLRC to plan maintenance of the Oldaker project.
- Provided information to Environmental Enforcement and the Public Information Office in response to the issues Mr. Oldaker brought up with EQT.
- Reviewed possible future projects with WVU-NMLRC.
- Compiled list of West Fork River Water Trail access points for Water Trail Committee.
- Scoped out two sections of water trail on float trips.
- Convened a meeting with Office of Environmental Remediation to encourage the use of the Spelter site for water trail and rail trail access.

#### Save the Tygart Watershed Association

- Monitored Sandy Creek watershed with Ladd Williams of the Office of Special Reclamation.
- Convened meeting with OAMLRC and DMR to discuss water quality problems on Fords Run.
- Compiled data to support discussions of water remediation plans for Raccoon Creek.
- Compiled coordinates for application to Army Corps of Engineers for limestone sand dumps.

#### UMRA

- Assisted with project management by attending pre-construction meeting for Van Voorhis boat access site.
- Submitted information about their keeping locks open for Facebook feature of the month.
- Pleasants County Area Chamber of Commerce
- Made recreation maps for Middle Island Creek and French Creek.
- West Run Watershed Association
- Occasional site visits to airport project.
- Reviewed water quality data with WVU Civil and Environmental Engineering

#### Training

- Automatic External Defibrillator/Cardio-Pulmonary Resuscitation training
- West Virginia Mine Drainage Task Force conference
- Allegheny Highlands Climate Change conference
- Rain barrel workshop training with Tomi
- Attended Forced Pooling info workshop
- Visited Flight 93 memorial/AMD treatment technology transfer
- Mid-Atlantic Chapter International Erosion Control Association conference
- Source Water Protection Plan training with West Virginia Rural Water Association
- Watershed Celebration Day

#### Program activities

- Data entry on GRTS.
- Help on grant conditions and reporting for Teresa
- CO2 experiment: Experimented with measurement of CO2 concentrations. Found a method that was not a home run.
- Northern Basin Mail Bag
- Participated in meetings between Army Corps of Engineers and OAMLRC
- Serve as go-between for Hedin and Southwest Energy
- Outreach at WVRC movie (recruited new chair for WFRWT)
- EPA site visit tours and discussions
- Submitted WaterNet article on NB mine projects
- Recruited WaterNet article on Buckhannon River Boat Ramp

#### **Southern Basin Coordinator**

The position has been vacant but we expect to fill it in early 2016. As the need arises, the NPS Program Coordinator, Watershed Program Coordinator and the Western Basin Coordinator have made themselves available to assist local stakeholders and provide support for watershed groups.

#### **Stormwater Specialist**

The implementation of adequate stormwater management practices reduces the amount of pollutants entering our waters and decreases peak flows during rain events. The Stormwater Specialist (SWS) promotes Low Impact Development (LID) and the implementation of Best Management Practices (BMPs) to reduce runoff and treat stormwater that does enter our streams. The position is funded through the Chesapeake Bay Regulatory and Accountability Program (CBRAP) and focuses on developed areas within the Chesapeake Bay. However, these concepts can be and are applied to many locations across WV. Working with both regulated and unregulated programs and projects, the SWS provides technical and compliance assistance.

Planning and Implementation: The SWS assisted local governments, NGOs, Home Owner Associations (HOAs), Professional Engineers (PEs), and interested parties with the adoption of Low Impact Development (LID) concepts and the implementation of Best Management Practices (BMPs). Site specific guidance provided stormwater management options for numerous projects. The SWS represented WV in the Urban Stormwater Workgroup and the Enhanced Street and Storm Drain Cleaning Expert Panel to guide implementation and reporting efforts within the Chesapeake Bay watershed. The SWS inspected BMPs and administers the WV BMP and Land Use Change Tracking and Reporting database used to submit stormwater BMP data



In 2015 Project WET held 21 workshops, 8 of which were conducted at universities across the state for preservice teachers. Workshops trained 378 educators. In addition the program coordinated, or assisted with, eleven water festivals, reaching more than 2,700 students. Project WET is a participant in the Leadership Team for the West Virginia Environmental Education Association, and also coordinated sixteen additional education and outreach events in 2015, servicing more than 1225 participants. West Virginia Project WET is closely tied to other WET programs throughout the United States and was elected to the Coordinator Council in 2015.

The Project WET program utilizes information from resources such as the EPA and NASA, and cultivates online relationships with both individuals and organizations throughout the state. Project WET's Facebook page is a fun and engaging way to connect water educators of West Virginia and beyond. Establishing and maintaining communication with past and future workshop participants is vital for to the effectiveness of the Project WET program.

#### WV Save Our Streams



The NPS program supports and supervises the activities of Glenn Nelson, WV Save Our Streams (SOS) Program Coordinator. SOS continues to maintain strong relationships with partners while forging and encouraging new partnerships and watershed groups. This year well over 3,500 people actively took part in SOS training. Numbers are significantly higher but hard to quantify due to water festivals where students rotate through stations and mass school presentations.

1. Monitoring workshops: Twenty five (25) workshops were conducted in 2015. A wide variety of groups/areas were serviced including but not limited to Sleepy Creek, Spring Creek, Roan-Jackson Technical Center, TMI's Appalachian Watershed Stream Monitors, WV River Coalition and Trout Unlimited (TU) Shale Monitoring Program, Kanawha State Forest, Montessori School, Twin Branch, Blue Mountain, Shannondale, Ohio Island Refuge, National Park Service, Friend of the Hughes, and the Pocahontas County water task force.

2. Water festivals, outdoor classrooms and outreach: Instructor for WV Division of Natural Resources (WVDNR) Master Naturalist Program, presented at multiple TU meetings, Seneca Discovery Day, Clay Center, Piney Creek, Dartmouth University at Morris Creek, Gesundheit Institute, Holly River State Park, and 10 water festivals.
3. Technical assistance: SOS assumed technical roles in a variety of ways. Most notable are the WV Envirothon and partnerships with The Mountain Institute and Trout Unlimited. SOS is also advisor for mussel surveys with WVDEPs dive team, New River Consortium, North Bend wetland delineation, Rainforest Alliance, Regional Appalachian Improvement League and WV Division of Highways (DOH) culvert removal.

While conducting business as usual certain topics take front line which tends to lead discussion. Therefore it is pertinent to keep abreast of the most up to date topics and events. While this year didn't see the events as observed during the past two years SOS remained quite busy with water quality issues. The most addressed issues this year stem from shale gas and pipeline explorations.

Strong partnerships are central to the mission of SOS. Most notable this year, SOS teamed with TU to teach a Trout Ecology course. The course was well received with numerous agencies present. The course resulted in WV DOH voluntarily replacing culverts within the study reach. WVDNR called upon SOS to be part of a mussel survey on the Kanawha. SOS remains project consultant for Morris Creek Liming Project to treat AMD. Furthermore SOS has taken advisory role with several basin coordinators, River of Promise, WV Environmental Education Association, and Hughes Creek.