

9. Technical and Financial Assistance Needed to Implement BMPs

This section gives estimated costs of design, installation and maintenance. An evaluation of sources of funding for plan implementation is included. Additionally, implementation shortfalls are identified and addressed.

9.1. Estimated costs of design, installation and maintenance

Cost estimates for the design, installation and maintenance of restoration activities outlined in the previous section are given in Table 9-1. Design, installation and maintenance costs were estimated from past and present watershed restoration project experiences. Maintenance costs include projected expenses for minor repairs, replacements and other expenses over a 3-year period.

Table 9-1. Cost estimates for seven selected BMPs for designated and mapped targeted areas

Selected Appropriate BMPs	BMP Sites	BMP Length (feet)	BMP Width (feet)	Total Area (SF)	Area Restored/Protected (acres)	BMP Unit Cost (Dollars)	Total BMP Cost (Dollars)
Riparian Forest Buffer	306	436,277	70	30,539,390	701.09	\$2,000	\$1,402,176
Livestock Stream Crossing (LF)	51	5,100	16	81,600	1.87	\$2.50	\$204,000
Stream Bank Fencing (LF)	94	137,295	-	0	110.32	\$2.00	\$274,590
Nutrient Management Plan (ac)	98	139,735	100	13,973,500	320.79	\$0.01	\$9,620
Stormwater Management (LF)	24	1,200	70	84,000	1.93	\$25	\$2,100,000
FGM Stream Restoration (mi)	22	54,259	-	0	10.28	\$150	\$8,138,850
Wetlands Restoration (ac)	7	10,805	3,500	5,402,500	124.03	\$1,225	\$151,930
Totals	602	784,671	-	50,080,990	1270.31	-	\$12,281,166

9.2. Evaluation of sources of funding for plan implementation

Estimates of the amounts of technical and financial assistance needed, associated costs, and the sources or authorities that will be relied on to implement the entire plan are given below (table 9-2) and potential sources of funding are listed (table 9-3).

State and federal governing agencies are the most viable sources of financial assistance for restoration implementation measures. These dollars can be used to leverage additional financial resources from private landowners, business and industry, nonprofit organizations, and individuals who live. Work and play in the Codorus Creek Watershed.

Additionally, the U.S. Army Corps of Engineers has committed \$5,000,000 to designing and implementing it's Water Resources Development Act Feasibility Study under Section #206. The Corps requires a 65%/35% match between it and the York City and County.

Table 9-2. Evaluation of sources of technical and financial assistance needed for plan implementation

BMPs	Technical Assistance Needed	Financial Assistance Needed	Sources or Authorities	Implementation Tracking
Riparian Forest Buffer	Planning Design	\$1,402,176	Chesapeake Bay Small Watershed Grants National Fish & Wildlife Foundation Conservation Reserve Enhancement Program	Codorus Creek Watershed Association NRCS York County Conservation District
Livestock Stream Crossing	Design Permitting	\$204,000	Chesapeake Bay Program, PADEP	NRCS York County Conservation District
Stream Bank Fencing	Planning Design	\$274,590	Chesapeake Bay Program, PADEP Conservation Reserve Enhancement Program	NRCS York County Conservation District
Nutrient Management Plans	Planning Design	\$9,620	Nutrient Management Program, PADEP	NRCS York County Conservation District
Stormwater Management	Design Permitting	\$2,100,000	Act 167 Stormwater Management, PADEP Growing Greener Program	Local Municipalities York County Planning Commission
FGM Stream Restoration	Design Permitting	\$8,138,850	Growing Greener Program 319 Nonpoint Source Program, PADEP WRDA Sec. 206, USACE	Izaak Walton League York Chapter York County Conservation District
Wetlands Restoration	Design Permitting	\$151,930	Growing Greener Program 319 Nonpoint Source Program, PADEP Environmental Quality Incentives Program, NRCS WRDA Sec. 206, USACE	Izaak Walton League York Chapter NRCS York County Conservation District USACE
Totals		\$12,281,166		

Table 9-3. Evaluation of other sources of funding for plan implementation

Stream Corridor Protection Funding Options PENNSYLVANIA				Program Funding Areas				What's Offered	* Project Examples	Eligibility
Program name	individuals	Eligibility local govt.	other orgs	capital	plan	edu	maint			
Conservation Reserve Program (CRP)	X			X			X	50/50% cost share and payments	ag,rb,w	farmers
Reforestation Tax Credit	X			X				10% tax credit	rb	private
Stewardship Incentive Program (SIP)	X			X	X			cost share 75% up to \$10,000	ag,er,rb,w	private forests
Wetlands Replacement Program - DEP	X		X	X	X			grants for wetland construction and plant materials	rb,w	individuals, public private, private agencies
Environmental Quality Incentives Program (EQIP)	X			X	X		X	cost share of 75% up to \$50,000	er,rb	ag or livestock producers
Wetlands Reserve Program (WRP)	X			X	X		X	easement cost share and incentives	rb,w	private land
Wildlife Habitat Incentives Program (WHIP)	X			X	X		X	cost share up to 75%	ag,rb,w	private land
Woodland Incentive Program (WIP)	X			X	X		X	cost share 50% for forest practices	rb	private forest
State Revolving Loan Fund - Water Quality (SRF)	X	X		X	X		X	low interest loans	er,np	local govts
Stream Improvement Program - DEP		X			X			planning & design assistance	np,er	local govt
Partners for Fish & Wildlife - USFWS	X	X		X	X			grants to \$25,000 to restore habitat	w,rb	private landowners
Advance Funding Program - PENNVEST	X	X	X		X			low interest loans & limited grants	er,np,rb,w	govt, public, private orgs
Water Quality Cooperative Agreements - CWA (Clean Water Act) section 104(b)(3) - EPA	X	X	X	X	X	X		grants -point source pollution	np	state/local govt, orgs, individuals
Community Development Block Grants (CDBG)		X		X			X	formula grant	np	local "central cities"
Stormwater Project Loans - PENNVEST		X		X			X	low interest loans	ag,er,np,rb,w	govt. agencies
Flood Protection Program - DEP		X		X	X			grants	er,np,rb	local govts
Coastal Zone Management Program - Pennsylvania		X		X	X	X		matching grants	ag,er,np,rb,w	state/local govts, univ
Construction Loan Program - PENNVEST		X		X	X		X	low interest loans, supplemental grants	np	local govt & agencies
Community Grant Program - DCNR		X		X	X		X	50% cost share, 100% for small towns	er,rb,w	municipalities (for parks)
Small Watershed Program - (Public Law 566)		X		X	X	X	X	grants to to 65%, and loans	np	state/local govt
Stormwater Management Program - DEP		X		X	X	X	X	grants to 75% & technical assistance	ag,er,np,rb,w	counties, municipalities
State Planning Assistance Grant (SPAG) Program		X			X			50% local match required	ag,er,np,rb,w	counties and municipalities
Small Communities Planning Assistance Program		X			X			grants	ag,er,np,rb,w	small local govts
Watershed Restoration & Assistance Program (WRAP)		X	X	X	X	X		grants to \$50,000, and small seed grants	ag,er,np,rb,w	org's and public agencies
Community Based Restoration Projects - NOAA		X	X	X	X	X	X	matching funds to local aquatic restoration efforts	er,rb,w	local govt, nonprofit orgs, watershed groups
Chesapeake Bay Trust Grants		X	X		X	X		mostly < \$5000	ag,er,np,rb,w	local govt, orgs, nonprof
Rivers Conservation Grant Program - DCNR		X	X	X	X			up to 50% cost-share, max \$50,000	er,rb,w	local govt & organizations
Sustainable Development Challenge Grant (SDCG)		X	X	X	X	X		up to \$250,000. 20% local match req.	er,np,rb,w	local govt & organizations
Chesapeake Bay Program Subcommittee Grants		X	X	X	X	X	X	1:1 nonfederal match	ag,er,np,rb,w	state/local govt, nonprofit, university

319 Nonpoint Source Pollution Grants - DEP	X	X	X	X	X	X	grants for planning and nonpoint source pollution control	ag,er,np,rb,w	state/local govt, cons dist, univ, watershed orgs
North American Wetlands Conservation Act (NAWCA)	X	X	X	X	X	X	50% nonfederal match required	w	local govt, other orgs
Environmental Education Grants - EPA Region 3	X	X				X	grants to nonprofits, to 75% of costs	ag,er,np,rb,w	state/local govt, univ, nonprofit orgs
Community Forestry Program - DCNR	X	X	X	X		X	match grants: gov-50%, orgs-90%	er, rb, np	municipalities, orgs
Land Trust Grants		X	X				up to 50% of cost	ag,er,np,rb,w	land trusts, etc.
Environmental Education Grants - Pennsylvania DEP		X				X	grant up to \$10,000	ag,er,np,rb,w	schools, nonprofits, orgs
<p>*project examples: ag = agricultural, er = erosion, np = nonpoint source pollution, rb = riparian forest buffers, w = wetlands</p>									

<p>These state and Federal programs may be supplemented by local or regional fund-generating initiatives. Innovative financing ideas to improve water quality are described in "Financing Alternatives for Maryland's Tributary Strategies."</p>	<p>Watershed-based methods are discussed in the "Financing Alternatives" report (118 pages), \$5 from the EFC, to address nonpoint and point source water pollution. A summary with funding categories is available on our web site.</p>
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9.3. *Implementation shortfalls identified*

Implementation shortfalls identified are in three key areas:

- 1) Financial
- 2) Technical, and
- 3) Human resources.

Funding shortfalls are the most critical limitation to implementing the plan. The current environment of federal and state budget deficits and the economy is not encouraging. Competition for limited grants and funding among stakeholder groups is increasing in all areas.

Technical shortfalls of skilled and knowledgeable restoration and protection professionals may occur if all projects are funded and proceed on schedule. This shortfall may be overcome by hiring and training more restoration technicians and professionals locally or hiring them externally.

Finally, a shortfall of human resources in terms of volunteers to do office and field work is already a problem with existing projects. Most construction-related field work will be done by hired professionals.