

# **NEIN BMP Compilation Procedures – Non Point Source Quality Assurance Plan**

*Prepared by the*

Water Planning Office  
Pennsylvania Department of Environmental Protection

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## **Pennsylvania Department of Environmental Protection**

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## 1.0 Introduction

This document summarizes procedures used for compiling data on best management practice (BMP) implementation within Pennsylvania for subsequent use by the Chesapeake Bay Program Office (CBPO). Such information is utilized within the Chesapeake Bay watershed model for the estimation of nutrient and sediment loads generated by different source areas within the Pennsylvania portion of the Chesapeake Bay watershed. (Load estimates for areas of the watershed outside of Pennsylvania are derived using similar BMP data prepared by other states as well). The submittal of such information is a requirement of the Chesapeake Bay Implementation Grant agreement between the Pennsylvania Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (EPA) Region 3.

BMP information has been submitted to EPA by DEP and other state agencies within the Chesapeake Bay region for over two decades, and the methods utilized for compiling this information in Pennsylvania for recent data submissions have been previously documented (DEP Water Planning Office, 2006). As a result of newly-established CBPO data submission requirements, however, it was necessary to use a revised approach for the 2010 data submittal. Among other things, this new approach was based on a need to format BMP data in a way that was more directly compatible with “Scenario Builder”, which is a new software interface used by CBPO to feed input data to the current version of the Chesapeake Bay watershed model (i.e., Phase 5.3). More specifically, as of December 2010, all BMP information submitted to the CBPO must be in a format compatible with National Environmental Information Exchange Network (NEIEN) protocols that dictate the use of BMP-specific fields and units. A major part of DEP’s data collection effort for 2010 involved the “translation” of various BMP descriptions and units currently used by various state and federal programs to the newer NEIEN-compatible format. Procedures for doing this are discussed in greater detail in Section 3.0 of this document.

To a large extent, the process by which data were compiled from various state and federal sources for the 2010 data submission did not differ much from the process used in previous submissions. In fact, the greatest difference was primarily related to the need to complete the additional “NEIEN data translation” step mentioned above. Although the initial data compilation process for 2010 did not differ significantly from previous years, it is entirely possible (and expected) that this process for future data compilation efforts will be substantially different, particularly given the expressed desire by DEP to quickly move to much more automated procedures. As this occurs, this document will be updated to reflect any changes in procedures.

## 2.0 List of Acronyms Used

To facilitate reading, a number of program names and other terms have been abbreviated throughout this document. A listing of these abbreviations is given in Table 1 below.

Table 1. Abbreviations used in this document.

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BMP	Best Management Practice
CBIG	Chesapeake Bay Implementation Grant
CBPO	Chesapeake Bay Program Office
CREP	USDA Conservation Reserve Enhancement Program
CRP	USDA Conservation Reserve Program
DCNR	PA Department of Conservation and Natural Resources
DEP	PA Department of Environmental Protection
EDU	Equivalent Domestic Unit
EQIP	Environmental Quality Incentive Program (NRCS)
FSA	USDA Farm Services Agency
NASS	USDA National Agricultural Statistics
NEIEN	National Environmental Information Exchange Network
NMA	Nutrient Management Act (PA)
NRCS	USDA Natural Resources and Conservation Service
PFBC	Pennsylvania Fish and Boat Commission
PDA	Pennsylvania Department of Agriculture
REAP	Resource Enhancement and Protection Program
SCC	State Conservation Commission
SWP	State Water Plan
SWPC	State Water Plan Code
USDA	U.S. Department of Agriculture
NA	Not Available or Not Applicable

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## 3.0 Agency/Program Data Sources and Data Formats

For the data compilation effort completed at the end of December 2010, BMP-related information was obtained from 18 different state and federal agency/program sources for submittal to the CBPO. For the most part, this information was obtained in electronic format (primarily as Excel spreadsheet files). In some cases, this information was retrieved from various web sites (primarily in the case of federal data), and subsequently re-compiled in Excel file format. A listing of these different sources is given in Table 2 below. In many cases, data for the 2010 submittal were obtained from the same sources used in previous data compilation efforts. In some instances, data were obtained from entirely new sources not used in previous

submittals (e.g., SCC Resource Enhancement and Protection Program, DEP Nutrient Trading Program, and PA Fish and Boat Commission). In still other cases, data from previously-used sources were not used for the 2010 submittal due to lack of data (e.g., American Farmland Trust) or to the fact that the programs are no longer in existence (e.g., PDA Agri-Link Program).

Table 2. Sources of BMP information.

Data Source	How Information was Received	Staff Contact
DEP Stream Bank Fencing Program	Excel file obtained from program contact <sup>1</sup>	T. Juengst
DEP Chesapeake Bay Implementation Grants	Excel file obtained from program contact <sup>1</sup>	T. Young
DEP Section 319 Non-Point Source Program	Excel file obtained from program contact <sup>2</sup>	G. Price
DEP Abandoned Mine Land Reclamation Program	Excel file obtained from program contact	B. Bradley
DCNR Forest Stewardship Program	Excel file obtained from program contact	C. Peiffer
PA Act 6 Nutrient Management Program	Excel file obtained from program contact <sup>1</sup>	T. Young
PA Stream Releaf Program	Excel file obtained from program contact	D. McDonald
PA Growing Greener Grant Program	Excel file obtained from program contact <sup>2</sup>	G. Price
PA Chapter 102 Erosion & Sedimentation Program	Excel file obtained from program contact <sup>2</sup>	D. Goerman
FSA Conservation Reserve Program	Tabular data obtained from FSA website	NA
FSA Conservation Reserve Enhanced Program	Tabular data obtained from FSA website	NA
NRCS Environmental Quality Incentive Program	Tabular data obtained from NRCS website	NA
USDA Rural Development Program	Listing received from program contact	S. Bickel
SCC Resource Enhancement and Protection Program	Excel file from program contact	State Conserv. Comm.
USDA National Agricultural Statistics Service	Data obtained from USDA-NASS website	NA
SCC Dirt and Gravel Road Program	Excel file obtained from program contact	S. Bloser
DEP Nutrient Trading Program	Tabular data obtained from program	A. Roda
PA Fish and Boat Commission	Tabular data obtained from program	S. Carney
PennVest Program	Tabular data obtained from program	P. Marchetti

<sup>1</sup> Data from the CBIG, NMA and stream bank fencing programs were retrieved both from a common ACCESS database maintained by Tammy Young, and individually from Tom Juengst and Mike Thomas

<sup>2</sup> For these two programs, data were compiled by Garry Price and assembled into multiple Excel files

For the 2010 data compilation effort, information from both state and federal sources were obtained and re-formatted for submittal to the CBPO via NEIEN. However, it is fully expected that in the future, data from federal sources will be compiled directly by CBPO, and that state agencies such as DEP will only be responsible for submitting “state” information (i.e., information on BMPs that are not completely funded through federal programs administered by agencies such as the National Resources and Conservation Service (NRCS) and the Farm Service Agency (FSA) of the U.S. Department of Agriculture (USDA)). When this occurs, it is assumed that descriptions in this document related to compiling data from these sources will no longer apply.

## 4.0 Assembling BMP Data for Transfer to CBPO via NEIEN

### 4.1 Overview of Process

As briefly described in Section 1.0, BMP-related data were obtained from a number of sources. These included data on such activities as agricultural BMPs, urban BMPs, stream protection, manure transport, animal waste management systems, and other similar activities that could result in model-simulated decreases in nutrient and sediment loads within Pennsylvania's portion of the Chesapeake Bay watershed. Depending on the source, information on a variety of BMP types and activities may be included with data obtained from either state or federal programs. In some cases (e.g., NRCS, SCC REAP, DEP Growing Greener, DEP CBIG, and DEP 319 Program), data from a fairly extensive list of BMPs may be obtained. Whereas in other cases (e.g., the SCC Dirt and Gravel Road Program, the DEP Stream Bank Fencing Program, and the USDA Rural Development Program), information may be provided for only one or two specific BMPs. In all cases, as described in more detail in following sub-sections, an attempt was made to translate BMP information into the specific BMP-related names and units required by CBPO for submittal via the NEIEN protocol.

Prior to compiling data for the 2010 submittal, DEP staff prepared an example listing of BMPs and related activities for which it had been collecting information on for various programs, and which represented the types of BMPs and activities that it intended to submit to CBPO for use in future Chesapeake Bay model runs. A copy of this list is provided in Table 3. (The information provided in this table should be viewed as somewhat dynamic in that various BMP additions and subtractions have been made since its' initial development). Upon identifying the type of BMP information typically gathered from various sources, efforts were then focused on re-formatting the data to conform to the data requirements of NEIEN and Scenario Builder, and ultimately the Chesapeake Bay model. This was basically done by making various adjustments to Excel files, or other tabular information, obtained from those sources listed in Table 2. These adjustments were based on data formatting guidance contained in various documents provided by CBPO, including:

- A document called "System Requirements Specification (SRS) – NEIEN NPS BMP – Scenario Builder Data Flow" prepared for CBPO by Tetra Tech, Inc. in September, 2010.
- An Excel file called "BMP Mapping Report" that contains information on how to assign ("map") state-collected information to NEIEN/Scenario Builder-specific data types.
- An Excel file called "SRS NEIEN NPS BMP CBP Data Flow\_AppendixA.1.7" that provides additional information on how to adapt state-collected information to NEIEN/Scenario Builder-specific data types.

Using data obtained from the sources listed in Table 2, a number of Excel files were prepared and delivered to an individual within DEP's Bureau of Information Technology (BIT). For the 2010 data submittal, this individual was Colleen Reismiller. In this case, this person was

Table 3. Example BMP data prepared in advance of 2010 NEIEN submittal by DEP.

Agency	Funding Source	County	Practice Code	BMP	Practice description	Units Installed	Unit Type	Date
State Conservation Commission	Nutrient Management Fund	CENTRE	312	?	ANIMAL WASTE MANAGEMENT SYSTEM	1	number	6/30/09
State Conservation Commission	Nutrient Management Fund	BRADFORD	313	?	ANIMAL WASTE MANAGEMENT SYSTEM	1	number	9/30/09
NRCS	NRCS	JUNIATA	314	yes	Brush Management	88	acre	9/30/09
NRCS	NRCS	CUMBERLAND	316	yes	Animal Mortality Facility	1	no	9/30/09
State Conservation Commission	Nutrient Management Fund	CENTRE	317	yes	Composting Facility	1	number	6/30/09
NRCS	NRCS	DAUPHIN	324	no	Deep Tillage	170	acre	9/30/09
State Conservation Commission	Nutrient Management Fund	CHESTER	327	no	CROPLAND TILLAGE SYSTEM	943.8	ACRE	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	JUNIATA	328	no	CONSERVATION CROPPING SEQUENCE	6000	ACRE	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	SULLYMAN	329	yes	CONSERVATION TILLAGE SYSTEM	93	ACRE	9/30/09
State Conservation Commission	Nutrient Management Fund	LANCASTER	330	yes	STRIP CROPPING & CONTOUR FARMING SYSTEM	40	ACRE	6/30/09
NRCS	NRCS	ADAMS	331	yes	Contour Orchard and Other Fruit Area	26	acre	9/30/09
NRCS	NRCS	JUNIATA	332	yes	Contour Buffer Strips	25	acre	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	PERRY	340	yes	COVER & GREEN MANURE CROP	2087	ACRE	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	YORK	342	yes	CRITICAL AREA PLANTING	1	ACRE	9/30/09
NRCS	NRCS	LEBANON	344	yes	Residue Management, Seasonal	5	acre	9/30/09
NRCS	NRCS	YORK	345	yes	Residue and Tillage Management, Mulch Till	450	acre	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	LEBANON	357	no ??	BARNYARD RUNOFF CONTROL	1	ACRE	9/30/09
NRCS	NRCS	LANCASTER	360	yes	Closure of Waste Impoundment	1	no	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	ADAMS	362	yes	DIVERSION	10	ACRE	9/30/09
NRCS	NRCS	PERRY	366	yes	Anaerobic Digester, Ambient or Controlled Temperature	1	no	9/30/09
NRCS	NRCS		378	no	Pond		no	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	YORK	382	yes	FENCING	835	FEET	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	JUNIATA	386	yes	FIELD BORDER	2	FEET	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	FULTON	390	yes	RIPARIAN HERBACEOUS COVER	1	ACRE	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	TIOGA	391	yes	RIPARIAN FOREST BUFFER	10	ACRE	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	ADAMS	393	yes	FILTER STRIP	1	ACRE	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	TIOGA	395	yes	FISH STREAM IMPROVEMENT	100	FEET	9/30/09
NRCS	NRCS	LANCASTER	396	no	Fish Passage	1	mile	9/30/09
NRCS	NRCS	CLINTON	403	no	Irrigation Water Conveyance, Pipeline	3000	feet	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	LEBANON	412	yes	GRASSED WATERWAY	24	ACRE	9/30/09
NRCS	NRCS	DAUPHIN	422	yes	Hedgerow Planting	550	feet	9/30/09
NRCS	NRCS	LUZERNE	441	yes	Irrigation System, Microirrigation	3	acre	9/30/09
NRCS	NRCS	COLUMBIA	442	yes	Irrigation System, Sprinkler	111	acre	9/30/09
NRCS	NRCS	LUZERNE	443	no	Irrigation System, Surface and Subsurface	5	acre	9/30/09
NRCS	NRCS	ADAMS	449	yes	Irrigation Water Management	47	acre	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	YORK	468	yes	LINED WATERWAY OR OUTLET	1	NUMBER	9/30/09
NRCS	NRCS	BRADFORD	472	yes	Access Control	626	acre	9/30/09
NRCS	NRCS	LYCOMING	490	no	Tree/Shrub Site Preparation	3	acre	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	JUNIATA	500	no	OBSTRUCTION REMOVAL	1	ACRE	9/30/09
NRCS	NRCS	SNYDER	511	yes	Forage Harvest Management	17	acre	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	CLINTON	512	yes	PASTURE & HAYLAND PLANTING	3	ACRE	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	HUNTINGDON	516	yes	PIPELINE	3300	FEET	9/30/09
NRCS	NRCS	YORK	521	yes	Pond Sealing or Lining	2	no	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	CENTRE	528	yes	Prescribed Grazing	12	ACRE	9/30/09
NRCS	NRCS	PERRY	553	no	Pumping Plant	140	no	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	NORTHUMBERLAND	558	yes	ROOF RUNOFF MANAGEMENT	1	NUMBER	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	CLINTON	560	yes	ACCESS ROAD	1603	FEET	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	YORK	561	yes	HEAVY USE AREA PROTECTION	1	NUMBER	9/30/09
State Conservation Commission	Nutrient Management Fund	LANCASTER	570	yes	RUNOFF MANAGEMENT SYSTEM	1	number	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	LEBANON	574	yes	SPRING DEVELOPMENT	1	NUMBER	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	ADAMS	575	yes	ANIMAL TRAILS & WALKWAYS	1300	FEET	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	YORK	578	no	STREAM CROSSING	819	FEET	9/30/09

Table 3. Example BMP data prepared in advance of 2010 NEIEN submittal by DEP (cont.)

Agency	Funding Source	County	Practice Code	BMP	Practice description	Units Installed	Unit Type	Date
PaDEP	Chesapeake Bay Implementation Grant	CAMBRIA	580	yes	STREAMBANK & SHORELINE PROTECTION	800	FEET	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	LYCOMING	584	yes	STREAM CHANNEL STABILIZATION	500	FEET	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	JUNIATA	585	yes	STRIP CROPPING-CONTOUR	21	ACRE	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	YORK	587	no	STRUCTURE FOR WATER CONTROL	1	NUMBER	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	CENTRE	590	yes	NUTRIENT MANAGEMENT PLAN	1	NUMBER	9/30/09
NRCS	NRCS	WYOMING	595	no	Pest Management	103	acre	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	ADAMS	600	yes	TERRACE	45	ACRE	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	HUNTINGDON	606	yes	SUB SURFACE DRAIN	450	FEET	9/30/09
NRCS	NRCS	CHESTER	612	yes	Tree/Shrub Establishment	3	acre	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	ADAMS	614	no	TROUGH OR TANK	1	NUMBER	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	NORTHUMBERLAND	620	yes	UNDERGROUND OUTLET	1	NUMBER	9/30/09
NRCS	NRCS	CHESTER	633	no	Waste Utilization	77	acre	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	CHESTER	634	no!	MANURE WASTE TRANSFER	1	NUMBER	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	CHESTER	635	yes	WASTEWATER TREATMENT STRIP	1	ACRE	9/30/09
NRCS	NRCS	FRANKLIN	635	yes	Vegetated Treatment Area	1	acre	9/30/09
NRCS	NRCS	BERKS	638	yes	Water and Sediment Control Basin	2	no	9/30/09
NRCS	NRCS	FRANKLIN	642	no	Water Well	13	no	9/30/09
NRCS	NRCS	LYCOMING	644	no	Wetland Wildlife Habitat Management	4	acre	9/30/09
NRCS	NRCS	NORTHUMBERLAND	645	no	Upland Wildlife Habitat Management	106	acre	9/30/09
NRCS	NRCS	SNYDER	646	yes	Shallow Water Development and Management	4	acre	9/30/09
NRCS	NRCS	SOMERSET	647	yes	Early Successional Habitat Development/Management	16	acre	9/30/09
NRCS	NRCS	MONTOUR	657	yes	Wetland Restoration	37	acre	9/30/09
NRCS	NRCS	CAMBRIA	659	yes	Wetland Enhancement	5	acre	9/30/09
NRCS	NRCS	LYCOMING	660	no	Tree/Shrub Pruning	170	acre	9/30/09
NRCS	NRCS	TIOGA	666	yes	Forest Stand Improvement	48	acre	9/30/09
PaDEP	Chesapeake Bay Implementation Grant	CENTRE	999	no	SOIL ANALYSIS	44	NUMBER	9/30/09
NRCS	NRCS	ADAMS	313/317/359	yes	Total Waste Storage	5	no	9/30/09
NRCS	NRCS	LANCASTER	329A	yes	Residue Management, No-Till/Strip Till	31	acre	9/30/09
NRCS	NRCS	CENTRE	329B	yes	Residue Management, Mulch Till	131	acre	9/30/09
NRCS	NRCS	JUNIATA	329C	yes	Residue Management	13	acre	9/30/09
NRCS	NRCS	FRANKLIN	380/650	yes	Windbreak/Shelterbelt	1158	acre	9/30/09
NRCS	NRCS	BEDFORD	395/644/645	yes	Total Wildlife Habitat	10	acre	9/30/09
State Conservation Commission	Nutrient Management Fund	FRANKLIN	521A	yes	POND SEALING-FLEXIBLE MEMBRANE	1	number	9/30/09
NRCS	NRCS	POTTER	528A	yes	Prescribed Grazing	259	acre	9/30/09
NRCS	NRCS	HUNTINGDON	657/658/659	yes	Wetlands Created, Restored, or Enhanced	2	acre	9/30/09
NRCS	NRCS	POTTER	666/612	yes	Forestland Re-established or Improved	121	acre	9/30/09
FSA	FSA	BRADFORD	CP1	yes	INTRODUCED GRASSES	618.5	acre	9/30/09
FSA	FSA	FULTON	CP10	yes	ESTABLISHED GRASS	-986.2	acre	9/30/09
FSA	FSA	SCHUYLKILL	CP11	yes	ESTABLISHED TREES	-3.9	acre	9/30/09
FSA	FSA	LYCOMING	CP12	no	WILDLIFE FOOD PLOTS	3.8	acre	9/30/09
FSA	FSA	LUZERNE	CP15A	yes	CONTOUR GRASS STRIPS	6.2	acre	9/30/09
FSA	FSA	LUZERNE	CP2	yes	NATIVE GRASSES	39.9	acre	9/30/09
FSA	FSA	UNION	CP21	yes	FILTER STRIPS	-12.9	acre	9/30/09
FSA	FSA	TIOGA	CP22	yes	RIPARIAN BUFFERS	145.8	acre	9/30/09
FSA	FSA	MONTOUR	CP23	yes	WETLAND RESTORATION	-12.5	acre	9/30/09
FSA	FSA	SUSQUEHANNA	CP29	no??	MARGINAL PASTURELAND WILDLIFE HABITAT	8.2	acre	9/30/09
FSA	FSA	DAUPHIN	CP3	yes	TREE PLANTING	-20.3	acre	9/30/09
FSA	FSA	LANCASTER	CP30	no??	PASTURE LAND WETLAND BUFFER	8.7	acre	9/30/09
FSA	FSA	CAMBRIA	CP3A	yes	HARDWOOD TREE PLANTING	-25.8	acre	9/30/09
FSA	FSA	YORK	CP4B	no	HABITAT CORRIDOR (SU 10+)	-12.4	acre	9/30/09
FSA	FSA	LANCASTER	CP4D	yes	WILDLIFE HABITAT (SU 10+)	30.8	acre	9/30/09
FSA	FSA	HUNTINGDON	CP5A	yes	FIELD WINDBREAKS (SU 10+)	-3.3	acre	9/30/09
FSA	FSA	INDIANA	CP8	yes	GRASS WATERWAYS (SU 1-12)	4.2	acre	9/30/09
FSA	FSA	HUNTINGDON	CP9	no	WILDLIFE WATER	-1.9	acre	9/30/09
State Conservation Commission	Nutrient Management Fund	LANCASTER	n/a		Nutrient Management	32.7	ACRE	6/30/09



Table 3. Example BMP data prepared in advance of 2010 NEIEN submittal by DEP (cont.)

Funding Source	County Name	BufferTypeDesc	LengthFirstSide	AverageWidthFirst	Acres - First	LengthSecond Side	AverageWidthSecond	Acres - Second	Acres - All	
DEP Stream Relief	Adams	Forest	3300	50	3.8	3300	50	3.8	7.6	
DEP Stream Relief	Montgomery	Forest	1200	50	1.4	1230	50	1.4	2.8	
	<b>Commodity</b>	<b>Practice</b>	<b>Year</b>	<b>State</b>	<b>County</b>	<b>District</b>	<b>Planted (acres)</b>			
USDA National Agriculture Statistics Service	Wheat Winterfall	Cover Crop	2008	Pennsylvania	Adams	80	12,900			
<b>Agency</b>	<b>BMP TYPE</b>	<b>COUNTY</b>	<b>Non-Urban Acres</b>		<b>Urban Acres</b>					
DCNR	Erosion and Sedimentation Control Plan	Bedford	20							
DCNR	Planting - Wildlife	Centre	13							
DCNR	Wildlife Habitat Development	Centre	28							
DCNR	Stream Improvement for Fish Habitat	Schuylkill	100							
DCNR	Wildlife Habitat Development	Snyder	15							
DCNR	Trees Planted	Franklin	350							
DCNR	Trees Planted	Snyder			250					
USDA Rural Development	<b>Practice</b>	<b>Units hooked-Up</b>	<b>Unit Description</b>	<b>Watershed</b>						
County	Septic System Hook-Ups	15	Systems	Stoney Creek						
Dauphin Borough										
DIR and Gravel Road Program - FDOTbus Values	<b>Municipality</b>	<b>Practice</b>	<b>Practice Units Installed</b>		<b>Unit Description</b>					
County	Bedford	Southampton	E&S Controls and outlets		2530					
Fulton	Licking Creek	Outlets Only	1850		Feet					
Lycoming	Cummings	Surface Aggregate and Raised Roadbed	876		Feet					
Stormwater Management - FDOTbus Values	<b>Practice</b>	<b>Practice Units Installed</b>		<b>Unit Description</b>						
County	BLAIR	Wet Ponds and Wetlands		267						
FRANKLIN	Dry Detention Ponds and Hydrodynamic Structures		350		acres					
LANCASTER	Dry Detention Ponds		623		acres					
MIFFLIN	Infiltration Practices		250		acres					
TIOGA	Filtering Practices		36		acres					

responsible for entering information contained in the Excel files into an internal NPS BMP database, which was subsequently used for transferring data to CBPO via NEIEN. During this process, data relating to BMPs contained in the Excel files were revised and corrected as needed to ensure all data were properly submitted to CBPO.

#### *4.2 Addressing Scenario Builder / NEIEN Formatting Requirements*

Of the three CBPO documents identified in the previous section, the latter two (i.e., “BMP Mapping Report” and “AppendixA.1.7”) provide the most detailed information with respect to how BMP-related data should be formatted for subsequent submittal to the CBPO via NEIEN. Both of these documents are quite lengthy, and it is beyond the scope of this particular document of procedures to provide precise descriptions of all of the items and comments contained in them. However, a brief explanation of the information contained in these documents is provided below.

Figures 1a and 1b show a small portion of the information given in the BMP Mapping Report file. (Note that Figure 1b is a continuation of the columns to the right for the rows shown in Figure 1a). Shown in several rows of these figures is descriptive information pertaining to less than two dozen of the almost 600 BMP entries included in the actual Excel file. From Figures 1a and 1b, it can be seen that some BMPs have been assigned an “NRCS Practice Code” (for example, “575” for “Animal Trails and Walkways”), whereas others such as “Animal Waste Management Systems” have no such code. Some require that BMP implementation be specified as to the number of “units” installed (see “COUNT” for various BMPs), and that others be specified as to the total length or area installed (see “FEET” or “ACRE” under the “Unit Name” field). Most importantly, however, is the fact that many of the BMPs included in this file have not necessarily been accepted by CBPO for use in the Bay model as indicated by comments given in the “Status Comment” field such as “Not mapped to valid SB BMP”, “Currently this indicates discrepancies”, or “Business Rules for Conversions need to be developed”. For those BMPs that have been accepted by CBPO for use in the model, a “Scenario Builder” variable has been assigned such as “PastFence”, “MortalityComp” and “ConPlan” as can be seen under the “SB” heading in Figure 1b. As a result, a primary focus in developing data for the 2010 submittal was to identify appropriate “Bay” BMPs to which Pennsylvania-compiled BMP data could be assigned. The second document described previously (“AppendixA.1.7”) is essentially a simplified version of the BMP Mapping Report that contains updates and clarifications pertaining to the various BMPs included in the latter document.

Of the many items described in the BMP Mapping Report, the most important with respect to properly describing BMP data collected for Pennsylvania are those included in Table 4, which also includes brief descriptions of each. As mentioned above, a primary effort in compiling BMP data for submittal via NEIEN is the proper characterization of BMPs compiled with respect to each of these parameters. Note that some of the items given in Table 3 are not directly identified in the BMP Mapping Report (i.e., “Units Installed”, “Date” and “BMP Type”).

However, these items are needed to ensure that BMP data submitted via NEIEN are “accepted” without errors.

Table 4. Critical NEIEN BMP parameters.

BMP Parameter	Description
BMP Name	BMP name or type used by source program in Pennsylvania
NRCS Practice Code	Specific code used by NRCS (specify “none” if does not exist)
Land Use	This is used to specify the “setting” in which BMP is used. Options include such types as “Row Crops”, “Agriculture”, “Urban”, “Mixed Forest”, and several others.
Measurement Name	NEIEN-designated unit type associated with “Unit Name” (see below)
Unit Name	This specifies the unit of measure used for specifying the extent of BMP implementation, and includes options such as “ACRE”, “FEET”, “COUNT” and others.
Units Installed	This is used to provide a numeric value associated with the Unit Name.
Date	Refers to the date BMP was implemented. This does not have to be exact, but, at a minimum, should reflect the year for which BMP data are being submitted.
BMP Type	This is used to reflect whether BMP was implemented as a result of “state” (e.g., DEP Grower Greener) or “federal” (e.g., NRCS) programs.
Funding Agency	Source of cost-share funding
SB BMP	Used to specify the Scenario Builder variable to which the BMP applies.
County Name	Within Scenario Builder, this is used to distribute county-level information across different sub-watersheds (segments) used by the Chesapeake Bay watershed model.

## BMP Mapping Report

BMP	BMP Name Code ID	NRCS Practice Code	NRCS Practice Code ID	BMP Name Type	Land Use	Land Use Code	State	Measure Name	Measure Name Code	Unit Name	UOM Code
Access Control	391	472		Federal - 2	Pasture/Hay	81	West Virginia, Maryland	AC		57 ACRE	119
Access Control	391	472		Federal - 2	Pasture/Hay	81	West Virginia, Maryland	AC		57 ACRE	119
Access Road	71	560	2	Federal - 2	Mixed Forest	43	Maryland	FT		52 FEET	18
Agrichemical Handling Facility	None	None		Federal - 2	Agricultural	Agriculture	Maryland	NO		56 COUNT	177
Alternative Water System	3	None		State - 1	Pasture/Hay	81	Virginia	Area Improved		62 ACRE	119
Amendments for the Treatment of Agricultural Waste	73	591	4	State - 1	Agricultural	Agriculture	Maryland, Delaware	AU		60 COUNT	177
Anaerobic Digester, Controlled Temperature	75	366	6	State - 1	Agricultural	Agriculture	Maryland	NO		56 COUNT	177
Animal Mortality Facility	76	316	7	Federal - 2	Agricultural	Agriculture	Maryland	NO		56 COUNT	177
Animal Trails and Walkways	77	575	8	Federal - 2	Agricultural	Agriculture	West Virginia	Feet		78 FEET	18
Animal Waste Management Systems (All Types)	313	None		State - 1	Agricultural	Agriculture	Pennsylvania, Delaware, New	No. of systems		80 COUNT	177
Animal Waste Management Systems (All Types)	313	None		State - 1	Agricultural	Agriculture	Pennsylvania, Delaware, New	Systems		53 COUNT	177
Barnyard Runoff Controls	311	357	707	State - 1	Agricultural	Agriculture	Pennsylvania, New York	Systems		53 COUNT	177
Basin for Dredged Material	321	None		State - 1	Agricultural	Agriculture	Maryland	AC		57 ACRE	119
Biofiltration	None			State - 1	Urban	26	Delaware	No. Systems		81 COUNT	177
Bioretention	None			State - 1	Urban	26	Delaware	No. Systems		81 COUNT	177
Bioswale	322	None		State - 1	Urban	26	Delaware, Maryland	Area Treated		48 ACRE	119
Bioswale	322	None		State - 1	Urban	26	Delaware, Maryland	Drainage Area		51 ACRE	119
Bioswale	322	None		State - 1	Urban	26	Delaware, Maryland	No. Systems		81 COUNT	177
Bioswale	322	None		State - 1	Urban	26	Delaware, Maryland	Drainage Area		51 FT^2SQ	500
Brush Management	82	314	13	Federal - 2	Pasture/Hay	81	Maryland	AC		57 ACRE	119
Carbon Sequestration/ Alternative Crops	323	None		State - 1	Agricultural	Agriculture	Pennsylvania	Area of Alternative Crops		45 ACRE	119
Channel Stabilization	84	None		State - 1	Agricultural	Agriculture	West Virginia, Virginia	Area Treated		48 ACRE	119

Figure 1a. Portion of the BMP Mapping Report with descriptive information on BMP formatting requirements.

Measurement State	Mapping Rule	SB	Comment	Modified By	Modified Date	Status	Status Comment	is Annual BMP	Priority
Maryland	1:1	PastFence		julian	#####	For Release 1.0	Currently this indicates discrepancies	No	1
West Virginia	AC <sup>6</sup> 0.4=PastFence	PastFence	All the 472s (in acres) are supposed to be multiplied by 40%, I believe because we can not be sure these fencing projects were	marty	#####	For Release 1.0	Currently this indicates discrepancies	No	1
Default	Never been submitted to CBPO. No SB BMP exists. Under what SB BMP		Perhaps D&GR???No model credit until states map - The length of road	System	#####	Draft	Not mapped to valid SB BMP	No	0
Default	Never been submitted to CBPO. No SB BMP exists. Under what SB BMP		No model credit until states map - Number of Facilities	System	#####	Draft	Not mapped to valid SB BMP	No	0
Default	1:1	CSW/noFence		System	#####	For Release 1.0		No	1
Default		AWMSLivestock	Animal Units: Not sure if this is count: No ideas how this can be converted to unit area	System	#####	Draft	Business Rules for Conversions	No	0
Default	Never been submitted to CBPO. No SB BMP exists. Under what SB BMP		No model credit until CBP maps - Number of Systems	System	#####	Draft	Not mapped to valid SB BMP	No	0
Default	NO <sup>3</sup> 0.338=MortalityComp	MortalityComp	0.338 is based on MD 2009 submission and Jan 18,2010 progress run.	System	#####	Release 2.0 Draft	MD numbers	No	1
Default	CBPO does not accept this BMP on feet. A conversion is needed from	BarnRunoffCont	Take NRCS code 575 at 1:1 but note: other NEIEN BMPs are added in to make total of	marty	#####	Draft	Business Rules for Conversions	No	0
Default	1:1	AWMSLivestock	Undocumented assumption is each system represents 1 acre of implementation in SB.	System	#####	Draft	Business Rules for Conversions	No	1
Default	1:1	AWMSLivestock	Undocumented assumption is each system represents 1 acre of implementation in SB.	marty	#####	Draft	Business Rules for Conversions	No	2
Default	CBPO does not accept this BMP on counts. A conversion is needed	BarnRunoffCont	From PA	marty	#####	Draft	Business Rules for Conversions		0
Default	1:1	ConPlan		System	#####	For Release 1.0		No	1
Default	CBPO does not accept this BMP on counts. A conversion is needed	Filter		System	#####	Draft	Business Rules for Conversions	No	0
Default	CBPO does not accept this BMP on counts. A conversion is needed	Filter		System	#####	Draft	Business Rules for Conversions	No	0
Default	1:1	Filter	Area draining to the swale	System	#####	For Release 1.0		No	1
Default	1:1	Filter	Area draining to the swale	System	#####	For Release 1.0		No	2
Default	CBPO does not accept this BMP on counts. A conversion is needed	Filter		System	#####	Draft	Business Rules for Conversions	No	0
Default	1 acre = 43 560 square foot	Filter	This record represents a duplicate (an additional unit of measure (Sq. Feet)) Not	System	#####	Invalid	Duplicate	No	0
Default	1:1	ConPlan		System	#####	For Release 1.0		No	1
Default	1:1	GrSeqAltCrop		System	#####	For Release 1.0		No	1
Default	1:1	NonUrbStrmRes		marty	#####	For Release 1.0			1

Figure 1b. Continuation of data columns to the right of those shown in Figure 1a.

As different data were obtained from the various state and federal program sources, Excel files were revised and/or created, and the BMP Mapping Report was used to re-format or augment the data as necessary to meet the requirements specified by CBPO. At the conclusion of the 2010 data collection efforts a reference or “cross-walk” document (an Excel file called “BMPDataCrosswalk.xls”) was developed for the purpose of aiding similar data submittals in the future. Among other things, this cross-walk contains a listing of BMPs typically collected as a result of various programs in Pennsylvania, as well as guidance on how to characterize them for successful transfer to CBPO via NEIEN protocols (i.e., type of measurement unit, NEIN BMP, Scenario Builder designation, etc. to use). A printout of this document has been provided in Appendix A.

#### *4.3 Source-Specific Data Compilation Procedures/Examples*

In this section, brief descriptions of procedures used for compiling BMP data for each of the program sources given in Table 2 are provided, along with examples of the files used and/or created during the process. It should be noted that the results of the 2010 data submittal are still being evaluated. Consequently, some of the following examples and descriptions may be somewhat incomplete at this time. However, expectations are that this procedures document will be updated as necessary in the future in order to provide sufficient guidance on the preparation and submittal of BMP data to the CBPO in the future.

##### 4.3.1 DEP Stream Bank Fencing Program

Data from DEP’s streambank fencing program was obtained in a printed report from Mr. Tom Juengst of the Bureau of Watershed Management and subsequently entered into an Excel file called “2010 Streambank\_Fence\_to\_IT”. BMP information contained in this file is shown in Figure 2. As can be seen in this figure, all streambank fencing “lengths” were submitted as “Streambank and Shoreline Protection” BMPs to CBPO.

##### 4.3.2 DEP CBIG and Nutrient Management Act Programs

For the 2010 submittal, BMP data related to DEP’s Chesapeake Bay Innovation Grants and Nutrient Management Act programs were compiled separately by different people. Before other data compilation activities had begun in earnest at the end of 2010, Tammy Young within the Bureau of Watershed Management had prepared an Excel file containing information from both the CBIG and Nutrient Management Act (NMA) programs, and had delivered this file to the Bureau of Information Technology (BIT) for entry into a NPS database that was subsequently used for transmitting data to CBPO via NEIEN. A view of a portion of this file is shown in Figures 3a and 3b. (Note that for the sake of convenience, many of the less critical data columns contained in this particular file have not been shown in these figures).

Upon reviewing this initial data set, it was determined that some program data appeared to be missing. Consequently, two additional files containing information from the same two DEP

Agency	BMP	Funding Source	Funding Type	NEIEN BMP	BMP Type	Date	County	Measurement Name	Unit Name	Unit	Bay
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/22/10	Adams	FT	FEET	489	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	05/18/10	Bedford	FT	FEET	5698	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/10/10	Cambria	FT	FEET	3620	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/10/10	Cameron	FT	FEET	1750	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/10/10	Centre	FT	FEET	29293	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/10/10	Cleaveland	FT	FEET	2236	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/10/10	Clinton	FT	FEET	7550	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	04/20/10	Huntingdon	FT	FEET	1341	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/22/10	Lebanon	FT	FEET	290	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/09/10	Luzerne	FT	FEET	1527	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/10/10	Snyder	FT	FEET	2975	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/09/10	Susquehanna	FT	FEET	5389	Y
PA Bureau of Watershed Management	Federal	DEP	Federal	Streambank and Shoreline Protection	Agriculture	06/10/10	Union	FT	FEET	4740	Y

Figure 2. View of data included in the “2010 Streambank\_Fence\_to\_IT” Excel file.

County_code	County_name	NPS_BMP_Type_Description	NRCS_Practice_Code	CBP_BMP_Name	NRCS_Practice_Description
15	CHESTER	Agricultural	382	(see note)	FENCING
14	CENTRE	Agricultural	382	(see note)	FENCING
34	JUNIATA	Agricultural	382	(see note)	FENCING
54	SCHUYLKILL	Agricultural	382	(see note)	FENCING
14	CENTRE	Agricultural	382	(see note)	FENCING
59	TIOGA	Agricultural	382	(see note)	FENCING
34	JUNIATA	Agricultural	382	(see note)	FENCING
14	CENTRE	Agricultural	382	(see note)	FENCING
36	LANCASTER	Agricultural	634	Animal Waste Mangement	MANURE WASTE TRANSFER
44	MIFFLIN	Agricultural	357	Animal Waste Mangement	BARNYARD RUNOFF CONTROL
54	SCHUYLKILL	Agricultural	313	Animal Waste Mangement	WASTE STORAGE STRUCTURE
54	SCHUYLKILL	Agricultural	357	Animal Waste Mangement	BARNYARD RUNOFF CONTROL
15	CHESTER	Agricultural	313	Animal Waste Mangement	WASTE STORAGE STRUCTURE
14	CENTRE	Agricultural	313	Animal Waste Mangement	WASTE STORAGE STRUCTURE
15	CHESTER	Agricultural	412	Conservation Planning	GRASSED WATERWAY
34	JUNIATA	Agricultural	468	Conservation Planning	LINED WATERWAY OR OUTLET
34	JUNIATA	Agricultural	362	Conservation Planning	DIVERSION
34	JUNIATA	Agricultural	468	Conservation Planning	LINED WATERWAY OR OUTLET
11	CAMBRIA	Agricultural	329	Conservation Planning	CONSERVATION TILLAGE SYSTEM
11	CAMBRIA	Agricultural	329	Conservation Planning	CONSERVATION TILLAGE SYSTEM
34	JUNIATA	Agricultural	328	Conservation Planning	CONSERVATION CROPPING SEQUENCE
34	JUNIATA	Agricultural	329	Conservation Planning	CONSERVATION TILLAGE SYSTEM
15	CHESTER	Agricultural	600	Conservation Planning	TERRACE
11	CAMBRIA	Agricultural	329	Conservation Planning	CONSERVATION TILLAGE SYSTEM
14	CENTRE	Agricultural	516	Conservation Planning	PIPELINE
36	LANCASTER	Agricultural	362	Conservation Planning	DIVERSION
36	LANCASTER	Agricultural	412	Conservation Planning	GRASSED WATERWAY
1	ADAMS	Agricultural	362	Conservation Planning	DIVERSION
1	ADAMS	Agricultural	412	Conservation Planning	GRASSED WATERWAY
1	ADAMS	Agricultural	606	Conservation Planning	SUBSURFACE DRAIN
15	CHESTER	Agricultural	412	Conservation Planning	GRASSED WATERWAY
15	CHESTER	Agricultural	468	Conservation Planning	LINED WATERWAY OR OUTLET
15	CHESTER	Agricultural	510	Conservation Planning	PASTURE & HAYLAND MANAGEMENT
1	ADAMS	Agricultural	362	Conservation Planning	DIVERSION
34	JUNIATA	Agricultural	328	Conservation Planning	CONSERVATION CROPPING SEQUENCE
34	JUNIATA	Agricultural	329	Conservation Planning	CONSERVATION TILLAGE SYSTEM
34	JUNIATA	Agricultural	412	Conservation Planning	GRASSED WATERWAY
34	JUNIATA	Agricultural	585	Conservation Planning	STRIPCROPPING-CONTOUR
18	CLINTON	Agricultural	329	Conservation Planning	CONSERVATION TILLAGE SYSTEM
1	ADAMS	Agricultural	329	Conservation Planning	CONSERVATION TILLAGE SYSTEM
15	CHESTER	Agricultural	340	Cover Crop	COVER & GREEN MANURE CROP
15	CHESTER	Agricultural	340	Cover Crop	COVER & GREEN MANURE CROP
15	CHESTER	Agricultural	340	Cover Crop	COVER & GREEN MANURE CROP

Figure 3a. View of portion of the “NPS BMP Chesapeake Bay Submission1\_reviewByKenn” file showing CBIG data.



<b>NRCS_Practice_Units_Installed</b>	<b>NRCS_Measurement_Unit</b>	<b>Status_Code_Description</b>	<b>Status_Code_Date</b>
	819 FEET	Implemented	12/31/2009
	9488 FEET	Implemented	12/31/2009
	5818 FEET	Implemented	12/31/2009
	1 FEET	Implemented	12/31/2009
	3076 FEET	Implemented	12/31/2009
	1460 FEET	Implemented	12/31/2009
	403 FEET	Implemented	12/31/2009
	4656 FEET	Implemented	12/31/2009
	1 NUMBER	Implemented	12/31/2009
	1 ACRE	Implemented	12/31/2009
	1 NUMBER	Implemented	12/31/2009
	1 ACRE	Implemented	12/31/2009
	1 NUMBER	Implemented	12/31/2009
	1 NUMBER	Implemented	12/31/2009
	27 ACRE	Implemented	12/31/2009
	1 NUMBER	Implemented	12/31/2009
	2 ACRE	Implemented	12/31/2009
	1 NUMBER	Implemented	12/31/2009
	11 ACRE	Implemented	12/31/2009
	22 ACRE	Implemented	12/31/2009
	95 ACRE	Implemented	12/31/2009
	60 ACRE	Implemented	12/31/2009
	35 ACRE	Implemented	12/31/2009
	9 ACRE	Implemented	12/31/2009
	3482 FEET	Implemented	12/31/2009
	39 ACRE	Implemented	12/31/2009
	39 ACRE	Implemented	12/31/2009
	1 ACRE	Implemented	12/31/2009
	1 ACRE	Implemented	12/31/2009
	160 FEET	Implemented	12/31/2009
	25 ACRE	Implemented	12/31/2009
	1 NUMBER	Implemented	12/31/2009
	25 ACRE	Implemented	12/31/2009
	18 ACRE	Implemented	12/31/2009
	180 ACRE	Implemented	12/31/2009
	131 ACRE	Implemented	12/31/2009
	5 ACRE	Implemented	12/31/2009
	178 ACRE	Implemented	12/31/2009
	109 ACRE	Implemented	12/31/2009
	182 ACRE	Implemented	12/31/2009
	100 ACRE	Implemented	12/31/2009
	67 ACRE	Implemented	12/31/2009
	58 ACRE	Implemented	12/31/2009

Figure 3b. Continuation of data across the same rows as shown in Figure2a.

programs were prepared by two different individuals. These two files, called “2010-misc BMPs (BE)” and “NM\_Acres\_CBIGandNMA”, are the ones primarily used for data submittal via NEIEN, and are the ones referenced for these two source programs in the cross-walk document provided in Appendix A.

The first file (2010-misc BMPs (BE).xls) has four separate tabs pertaining to: 1) various agricultural BMPs funded by CBIG (“CBIG BMPs”), 2) streambank fencing projects funded by CBIG (“CBIG SB Fence”), 3) nutrient management acres implemented via NMA (NM Act Nutrient Man acres”), and 4) other agricultural BMPs funded by NMA (NM Act BMPs). Figure 4 shows a portion of the “CBIG BMPs” tab. Note that in this case, no conversion was needed to translate “DEP” BMPs to “NEIEN” BMPs since NRCS codes for all activities funded had previously been assigned (see column labeled “Prac Code”) which Scenario Builder is able to recognize. Also, if an NRCS practice code is specified in the data file, it is usually not necessary to also identify the “Landuse” and “SB BMP” types shown in Table 3 as these items are automatically recognized by Scenario Builder once the information is accepted by CBPO via NEIEN.

Figure 5 shows a portion of the “CBIG SB Fence” tab from the “2010-misc BMPs (BE)” file. This shows information extracted from another Excel file (“CB Fence 10-1-2009 to 6-30-2010”) that only pertains to acres excluded as a result of streambank fencing, which was calculated by multiplying the “Excluded Stream Length” column by an average width of 35 feet. The resulting acreage values relate directly to acres of “PastFence” used by Scenario Builder.

Figure 6 shows a portion of the “NM Act Nutrient Man acres” tab from the “2010-misc BMPs (BE)” file. In this case, the only data represented are “implemented” nutrient management acres, which refer to NRCS practice code 590 (see the cross-walk in Appendix A for other information pertaining to this BMP). For submittal via NEIEN the “owned” and “rented” acres were summed to reflect total acres implemented as required by Scenario Builder. Finally, Figure 7 shows all of the data contained in the “NM Act BMPs” tab of this particular Excel file.

Upon reviewing the data files represented by Figures 2, 3, 4, 5, 6 and 7, it was noticed that not all the files created captured the various types of BMPs equally well. In other words, some of the data were missing, particularly in the instance of nutrient management acres. To remedy this situation, another effort was made to summarize this last type of data, and the results are included in another Excel file called “NM\_Acres\_CBIGandNMA”. A portion of this file is shown in Figures 8a and 8b. It is believed that this file, which contains more nutrient management acres than represented in the previous files, more accurately reflects the extent of this BMP funded by the CBIG and Nutrient Management Act programs for the time period evaluated.

For the purposes of the 2010 data submittal, NEIEN data compiled on agricultural BMPs funded by the CBIG and NMA programs (excluding nutrient management) were based on the Excel file previously prepared and submitted to BIT by Tammy Young. NEIEN data on streambank fencing were derived from the “CBIG SB Fence” tab of the “2010-misc BMPs (BE)” file, and data on total nutrient management acres were derived from the

County	Watershed Name	Last Name	First Name	Prac Code	Practice_Description
CENTRE	PENNS / MIDDLE CREEK	ZOOK	SAM	560	ACCESS ROAD
CLINTON	BALD EAGLE / SPRING CR.	GLICK	JESSE	560	ACCESS ROAD
JUNIATA	TUSCARORA/BUFFALO CREEK	LOVE	DENNIS	560	ACCESS ROAD
TIOGA	PINE CREEK	ALLEN	BRIAN	560	ACCESS ROAD
CENTRE	BALD EAGLE / SPRING CR.	MATHIS	JIM	366	ANAEROBIC DIGESTER
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	CULLEN	JE FFREY	575	ANIMAL TRAILS & WALKWAYS
COLUMBIA	FISHING CREEK	HUGHES	JOHN	575	ANIMAL TRAILS & WALKWAYS
COLUMBIA	NESCOPECK CREEK	ZAGINAYLO III	JOHN	575	ANIMAL TRAILS & WALKWAYS
MONTOUR	MUNCY / CHILLISQUAQUA / SUSQ. TRBS.	SITLER	ROLLIE	575	ANIMAL TRAILS & WALKWAYS
MIFFLIN	JUNIATA RIVER	GLICK	ELROSE	357	BARNYARD RUNOFF CONTROL
SCHUYLKILL	SWATARA CREEK	SATLIZAHN	MARK	357	BARNYARD RUNOFF CONTROL
HUNTINGDON	LITTLE JUNIATA RIVER	VARIOUS LANDOWNERS		360	CLOSURE OF WASTE IMPOUNDMENTS
CENTRE	PENNS / MIDDLE CREEK	PSU		340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	STOLTZFUS	ABNER	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	BENDER	ROY	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	AR-JOY FARM		340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	GLENNVILLE FARMS		340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	SMOKER	JAY	340	COVER & GREEN MANURE CROP
CHESTER	OCTORARO CREEK	HERR	KARL	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	BARTRAM	DAVID	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	TROOP ENTERPRISES		340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	STOLTZFUS	BENUEL	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	CHROMEVIEW	MASON	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	KING	NEAL	340	COVER & GREEN MANURE CROP
CHESTER	OCTORARO CREEK	KAUFFMAN	LEVI	340	COVER & GREEN MANURE CROP
CHESTER	OCTORARO CREEK	STOLTZFUS	DANIEL	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	UMBLE	KEN	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	PEIFER	ROBERT	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	LAIR	J. DAVID	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	KING	NOLAN	340	COVER & GREEN MANURE CROP
CHESTER	PEQUE A / CONOWINGO/SUSQ. TRIBS.	BRE CKBILL	DENNIS	340	COVER & GREEN MANURE CROP
CHESTER	OCTORARO CREEK	RANCK	GLEN	340	COVER & GREEN MANURE CROP
LYCOMING	BUFFALO / WHITE DEER / ETC.	FURMAN	JASON	340	COVER & GREEN MANURE CROP
LYCOMING	BUFFALO / WHITE DEER / ETC.	FURMAN SR.	MAX	340	COVER & GREEN MANURE CROP
LYCOMING	BUFFALO / WHITE DEER / ETC.	FURMAN JR.	MAX	340	COVER & GREEN MANURE CROP

Figure 4. Portion of data contained in the “CBIG BMPs” tab of “2010-misc BMPs (BE)” file.

CB Fence 10-1-2009 to 6-30-2010.xls

<u>Field Rep.</u>	<u>Cert./Inv. Date</u>	<u>County</u>	<u>Name</u>	<u>Practice</u>	<u>Excluded Stream length</u>	<u>Excluded Area in Acres (@ 35ft width)</u>	<u>Wire 1</u>	<u>Wire 2</u>	<u>Cost</u>
Donovan									
	06/10/10	Union	Spangler	2 cross, fence	1600	1.3		3400	\$ 9,885.22
Donovan	06/10/10	Union	Ritzenthaler	4 cross, fence	785	0.6		1340	\$ 11,709.36
Donovan	06/10/10	Clinton	Glick	2 cross, fence	1000	0.8		2050	\$ 8,694.15
Donovan	06/10/10	Snyder	Wendt	fence	600	0.5		1400	\$ 2,845.00
	06/10/10	Centre		2 cross, fence	900	0.7		1900	\$ 12,717.25
Donovan			Amos Stoltzfus						
	06/10/10	Centre		1 cross, 1 access, fence	1800	1.4		2631	\$ 8,916.09
Donovan			Aquilla Stoltzfus						
	06/10/10	Snyder		1 cross, 1 access, 1 walkway, fence	1120	0.9		1575	\$ 12,460.76
Donovan			Dale Hornberger						
	06/10/10	Centre		2 cross, bank repair, fence	1400	1.1		2943	\$ 11,349.91
Donovan			Shook						
Donovan	06/10/10	Centre	Mellotte	2 cross, bank repair, fence	1600	1.3		3094	\$ 12,745.82
Donovan	06/10/10	Centre	Gray	2 cross, walkway, fence	1200	1.0		2514	\$ 12,244.50
	06/10/10	Centre		2 cross, walkway, 3 band, fence	1300	1.0		2323	\$ 11,249.63
Donovan			Houser						
Donovan	06/10/10	Centre	A. Coakley	2 cross, 2 bank, fence	1600	1.3		3308	\$ 17,354.90
Donovan	06/10/10	Centre	Houtz/Armstrong	cross, water sys, fence	1380	1.1		1428	\$ 10,659.86
	06/10/10	Centre		cross, 2 bank, fence	700	0.6		1469	\$ 6,349.83
Donovan			Martinec						
	06/10/10	Centre		1 cross, walkway, fence	1300	1.0		2698	\$ 6,969.10

Figure 5. Portion of data contained in the “CBIG SB Fence” tab of “2010-misc BMPs (BE)” file.

County	Watershed Name	OPERATION	Application Acres Owned	Application Acres Rented	Total Acres
BERKS	MAIDEN	ALLEN WEAVER	77.60	0.00	77.60
BERKS	SWATARA CREEK	PAUL NEWTON EHST	76.00	0.00	76.00
CENTRE	PENNS / MIDDLE CREEK	ELMER STOLTZFUS	4.80	0.00	4.80
CHESTER	PEQUEA / CONOWINGO/SUSQ. TRIBS.	LINCOLN DAIRY LLC	0.00	69.80	69.80
COLUMBIA	CATAWISSA CREEK	KENT ON ROSENBERRY	87.10	0.00	87.10
CUMBERLAND	CONODQUINET CREEK	ELVIN BURKHOLDER	15.58	0.00	15.58
FRANKLIN	CONOCOHEAGUE CREEK	GREYSTONE PORK FARM	87.70	0.00	87.70
FRANKLIN	CONODQUINET CREEK	ISAAC HORST	108.20	0.00	108.20
FRANKLIN	TUSCARORA/BUFFALO CREEK	LONGACRE FARM	51.00	0.00	51.00
JEFFERSON	MAHONING	C & C ENTERPRISES DOUG CATALANO	1.80	0.00	1.80
LANCASTER	CHICKIES CREEK	KEREK MUSSER	83.10	79.70	162.80
LANCASTER	CONESTOGA RIVER	JAY MARTIN	80.23	36.80	117.03
LANCASTER	CONEWAGO CR. (EAST)	DEAN L. STONER	25.80	0.00	25.80
LANCASTER	CONEWAGO CR. (EAST)	ROBERT HESS	100.30	188.80	289.10
LANCASTER	CONEWAGO CR. (EAST)	ROBERT L. BRUBAKER	22.80	58.80	81.60
LANCASTER	PEQUEA / CONOWINGO/SUSQ. TRIBS.	J. STEPHEN GOOD	67.00	66.00	133.00
LANCASTER	PEQUEA / CONOWINGO/SUSQ. TRIBS.	TODD M. ROHRER	37.60	11.00	48.60
LEBANON	CONEWAGO CR. (EAST)	MEADOW RUN FARM	88.50	0.00	88.50
LEBANON	TULPEHOCKEN	MIKE MARTIN	5.90	0.00	5.90
MIFFLIN	JUNIATA RIVER	THOMAS WRAY	106.20	3.60	109.80
SNYDER	PENNS / MIDDLE CREEK	CURTIS DIETZ	58.00	0.00	58.00
YORK	CODORUS CREEK	BAILEY FARMS - HILLANDALE	167.20	112.60	279.80

Figure 6. Data contained in the “NM Act Nutrient Man acres” tab of “2010-misc BMPs (BE)” file.

County	Watershed Name	OPERATION	Application Acres Owned	Application Acres Rented	AEU	BMP system name	Prac Code	Practice Desc	Estimated Acres	QUARTER
ADAMS	CONEWAGO CR. (WEST)	HANOVER SHOE FARMS	2193.10	0.00	1035.54	ANIMAL WASTE MANAGEMENT SYSTEM	578	STREAM CROSSING	1	30-Jun-10
ADAMS	CONEWAGO CR. (WEST)	HANOVER SHOE FARMS	2193.10	0.00	1035.54	ANIMAL WASTE MANAGEMENT SYSTEM	313	WASTE STORAGE STRUCTURE	1	30-Jun-10
FRANKLIN	CONOCO CHEAGUE CREEK	HISSONG FARMSTEAD INC	1327.70	74.70	1353.90	ANIMAL WASTE MANAGEMENT SYSTEM	313	WASTE STORAGE STRUCTURE	1	31-Dec-09
LANCASTER	CONESTOGA RIVER	MICHAEL T ROHRER	610.00	30.00	1963.13	ANIMAL WASTE MANAGEMENT SYSTEM	360	CLOSURE OF WASTE IMPOUNDMENTS	1	30-Jun-10
LANCASTER	CONEWAGO CR. (EAST)	ARLIN L BENNER	179.30	431.90	1470.90	ANIMAL WASTE MANAGEMENT SYSTEM	313	WASTE STORAGE STRUCTURE	611	30-Jun-10
LANCASTER	CONEWAGO CR. (EAST)	RON KREIDER	421.60	0.00	2808.30	ANIMAL WASTE MANAGEMENT SYSTEM	521A	POND SEALING-FLEXIBLE MEMBRANE	1	30-Jun-10
LANCASTER	CONEWAGO CR. (EAST)	RON KREIDER	421.60	0.00	1584.00	ANIMAL WASTE MANAGEMENT SYSTEM	521A	POND SEALING-FLEXIBLE MEMBRANE	1	30-Jun-10
SOMERSET	CASSELMAN	DOVAN FARMS	158.00	711.00	1102.00	ANIMAL WASTE MANAGEMENT SYSTEM	570	RUNOFF MANAGEMENT SYSTEM	1	31-Mar-10
SOMERSET	CASSELMAN	DOVAN FARMS	158.00	711.00	1102.00	ANIMAL WASTE MANAGEMENT SYSTEM	393	FILTER STRIP	2	31-Mar-10
BLAIR	LITTLE JUNIATA RIVER	KULP FAMILY DAIRY	336.50	2274.20	3651.25	BARNYARD RUNOFF SYSTEM	558	ROOF RUNOFF MANAGEMENT	1	30-Jun-10
LANCASTER	CONEWAGO CR. (EAST)	CARL MYER	203.50	849.70	1369.50	BARNYARD RUNOFF SYSTEM	561	HEAVY USE AREA PROTECTION	1	31-Mar-10
FRANKLIN	CONOCO CHEAGUE CREEK	HILLSIDE POULTRY FARM INC	242.00	222.00	1211.00	PERMANENT VEGETATIVE COVER	342	CRITICAL AREA PLANTING	2	31-Dec-09
FRANKLIN	CONOCO CHEAGUE CREEK	MERCER VU FARMS INC	352.30	401.90	1505.40	SOIL & MANURE ANALYSIS	0	NO CODE FOR THIS BMP	754.2	01-Oct-09
LANCASTER	CONEWAGO CR. (EAST)	GLENN ESBENSHADE	318.30	0.00	7504.75	WATERWAY SYSTEM	412	GRASSED WATERWAY	5	30-Jun-10
LANCASTER	CONEWAGO CR. (EAST)	TED ESBENSHADE	0.00	354.50	4384.00	WATERWAY SYSTEM	412	GRASSED WATERWAY	10	30-Jun-10
LEBANON	SWATARA CREEK	WEN CREST FARMS	413.10	621.00	1206.29	WATERWAY SYSTEM	412	GRASSED WATERWAY	1	31-Dec-09

Figure 7. Data contained in the “NM Act BMPs” tab of “2010-misc BMPs (BE)” file.

Operator ID	County	Watershed Code	Plan Acres (O)	App Acres (O)	Plan Acres (R)	App Acres (R)	Imp Date	Total NM Acres
3472	Tioga	04-A	30.0	30.0	127.0	127.0	6/30/10	157.0
3471	Tioga	04-A	179.5	141.0	471.5	471.5	6/30/10	612.5
3470	Somerset	18-E	575.0	564.0			6/30/10	564.0
3469	Snyder	06-A	97.0	0.0			6/30/10	0.0
3468	Northumberland	06-B	60.2	60.2			6/30/10	60.2
3464	Lebanon	03-C	39.0	0.0			6/30/10	0.0
3463	Lebanon	07-D	298.0	298.0			6/30/10	298.0
3462	Lebanon	03-C	12.0	5.9			6/30/10	5.9
3461	Lebanon	07-D	125.7	104.3	63.8	63.8	6/30/10	168.1
3460	Lebanon	03-C	102.0	89.3	36.6	36.6	6/30/10	125.9
3458	Lancaster	07-K	46.0	37.6	11.0	11.0	6/30/10	48.6
3457	Lancaster	07-G	82.8	0.0			6/30/10	0.0
3456	Lancaster	07-K	53.0	53.0	115.0	115.0	6/30/10	168.0
3455	Lancaster	07-K	9.0	0.0	6.9	6.9	6/30/10	6.9
3454	Lancaster	07-G	39.7	25.8			6/30/10	25.8
3453	Lancaster	07-G	13.0	12.0			6/30/10	12.0
3451	Indiana	08-B	55.0	28.0			6/30/10	28.0
3450	Huntingdon	11-B	113.2	113.2	92.9	92.9	6/30/10	206.1
3445	Dauphin		66.0	56.2			6/30/10	56.2
3440	Chester	07-K	204.0	173.8		4.3	6/30/10	178.1
3439	Chester	07-K	333.7	152.4		101.5	6/30/10	253.9
3438	Chester	03-H	77.3	77.3			6/30/10	77.3
3437	Centre	06-A	7.0	4.8			6/30/10	4.8
3434	Bradford	04-D	126.5	126.5	185.0	185.0	6/30/10	311.5
3433	Bradford	04-C	154.0	154.0	132.1	132.1	6/30/10	286.1
3432	Bradford	04-C	3.6	3.6	230.1	230.1	6/30/10	233.7
3431	Bradford	04-C	241.3	241.3	62.6	62.6	6/30/10	303.9
3430	Bradford	04-C	59.6	59.6	45.1	45.1	6/30/10	104.7
3429	Bradford	04-C	119.5	99.0			6/30/10	99.0
3428	Bradford	04-C	137.0	137.0			6/30/10	137.0
3427	Bradford	04-C	692.6	384.6	308.0	308.0	6/30/10	692.6
3426	Bradford	04-C	97.9	97.9	171.5	171.5	6/30/10	269.4
3425	Bradford	04-C	84.1	73.2		10.9	6/30/10	84.1
3424	Bradford	04-C	395.8	395.8			6/30/10	395.8
3423	Bradford	04-B	199.8	199.8			6/30/10	199.8
3422	Bradford	04-C	102.1	102.1	66.3	66.3	6/30/10	168.4

Figure 8a. Portion of data contained in the "NM\_Acres\_CBIGandNMA" file.





“NM\_Acres\_CBIGandNMA” file described above. In the next NEIEN submittal, it is anticipated that concerns with respect to accuracy of various agricultural BMPs pertaining to the CBIG and NMA programs may have to be further resolved, and that updates to the 2010 data submittal may be warranted.

#### 4.3.3 DEP Growing Greener and Section 319 Programs

Administrative and BMP-related information associated with these two programs are handled by separate staff within the Bureau of Watershed Management. However, BMP data associated with both programs has historically been assembled in GIS format by Garry Price within BWM. For the purposes of the 2010 data submittal, Garry Price compiled BMP data from both programs into four separate Excel files (prepared directly from ArcView-formatted dBase [\* .dbf] files), and delivered the data to BIT for subsequent entry into the NPS BMP database used to store data later transmitted to CBPO via NEIEN. These four files, called “AgBMPsDataInput”, “DSRoads\_Input”, “Input\_Urban”, and “Stream\_Input\_293\_End\_Final”, included data on agricultural BMPs, rural road BMPs, urban BMPs, and stream protection activities, respectively.

Figures 9a and 9b show a portion of the data from the “AgBMPsDataInput” file. In this case, BIT staff used information contained in the “BMPTYPE” field to map information directly to NEIEN BMPs via use of the NRCS BMP type and code provided in this field. (Such “mapping” information is provided in the BMP Mapping Report described earlier). Date information was drawn from the “BMPDATE” field, and information on “acres treated” or “linear extent” for specific BMPs were extracted from either the “BMPACTRT” or “BMPLINFT” field. In this instance, information on landuse type pertaining to each BMP type of activity were not needed since NRCS practice types are mapped directly to various landuse type within Scenario Builder.

Figures 10a through 10c show a portion of the data included in the “DSRoads\_Input” file. Similar to the Excel file described above, information in the “Chesapeake BMP Name” field was used by BIT staff to map data directly to “NEIEN BMPs” described in the BMP Mapping Report. Specifically, the “Chesapeake BMP Name” field was used to identify these BMPs (see the BMP Cross-walk document in Appendix A for these specific BMPs). The “COUNTY” and “BMP DATE” fields were used to identify county names and dates as described earlier, and the “BMPLINFT” field was used to specify the length (in feet) of each rural road BMP implemented.

Figures 11a and 11b show a portion of the “Input\_Urban” file, which contains data on urban BMPs implemented. As with the two Excel files described above, BIT staff used the “COUNTY”, “BMPTYPE”, “BMPACTRT”, “BMPLINFT”, and “BMPDATE” to extract the relevant information for entry into the NPS BMP database.

Finally, Figures 12a through 12c show a portion of the “Stream\_Input\_293\_End\_FINAL” file that contains data on various stream activities such as riparian buffers, streambank fencing, and streambank stabilization. Again, as with the other Excel files described above, BIT staff used

ID	SITEIDTS	DATE	STREAMNAME	HUCNO	COUNTY	TOWNSHIP	NRCS_CODE_ID	BMPTYPE
A.00003	9925B-082001	08/05/2010	WEST BRANCH SKIPPACK CREEK	2040203	Montgomery	LOWER SALFORD	1 15	Riparian Forest Buffer (Ac.) (391)
A.00005	9926-102000	05/20/2005	CEDAR RUN	2050204	Centre	HARRIS	38	Fence (Ft.) (382)
A.00006	9926B-102000	05/20/2005	SINKING CREEK	2050301	Centre	POTTER	38	Fence (Ft.) (382)
A.00007	9926C-102000	05/20/2005	BEAVER BRANCH	2050302	Centre	FERGUSON	38	Fence (Ft.) (382)
A.00008	9926D-102000	05/20/2005	WILSON CREEK	2050205	Tioga	DELMAR	38	Fence (Ft.) (382)
A.00009	9926E-102000	05/20/2005	NORTH FORK COWANESQUE RIVER	2050104	Potter	HARRISON	38	Fence (Ft.) (382)
A.00009	9926E-102000	05/20/2005	NORTH FORK COWANESQUE RIVER	2050104	Potter	HARRISON	104	Prescribed Grazing (Ac.) (528)
A.00010	9926F-102000	05/20/2005	"MINK HOLLOW"	2050104	Tioga	BROOKFIELD	38	Fence (Ft.) (382)
A.00010	9926F-102000	05/20/2005	"MINK HOLLOW"	2050104	Tioga	BROOKFIELD	104	Prescribed Grazing (Ac.) (528)
A.00011	9926G-102000	05/20/2005	TURNER CREEK	4130002	Potter	BINGHAM	38	Fence (Ft.) (382)
A.00012	9926H-102000	05/20/2005	GENESEE RIVER	4130002	Potter	BINGHAM	104	Prescribed Grazing (Ac.) (528)
A.00016	9970-042000	05/24/2005	MCLAUGHLIN RUN	5030101	Allegheny	UPPER ST CLAIR	38	Fence (Ft.) (382)
A.00034	2033D-042003	05/31/2005	STEWART RUN	2050306	Lancaster	EAST DRUMORE	38	Fence (Ft.) (382)
A.00035	2033E-082002	05/31/2005	WEST BRANCH OCTORARO CREEK	2050306	Lancaster	COLERAIN	38	Fence (Ft.) (382)
A.00036	2033F-072003	05/31/2005	MEETINGHOUSE CREEK	2050306	Lancaster	BART	38	Fence (Ft.) (382)
A.00037	2033G-042003	05/31/2005	STEWART RUN	2050306	Lancaster	EAST DRUMORE	38	Fence (Ft.) (382)
A.00038	2033H-042003	05/31/2005	MEETINGHOUSE CREEK	2050306	Lancaster	EDEN	38	Fence (Ft.) (382)
A.00039	2033I-092002	05/31/2005	WEST BRANCH BRANDYWINE CREEK	2040205	Chester	HONEY BROOK	38	Fence (Ft.) (382)
A.00040	2033J-112002	05/31/2005	NICKEL MINE S RUN	2050306	Lancaster	BART	38	Fence (Ft.) (382)
A.00042	2132-122003	05/31/2005	FISHING CREEK	2050204	Clinton	LOGAN	50	Grade Stabilization Structure (No.) (410)
A.00044	2132C-012003	08/01/2005	CEDAR RUN	2050204	Centre	MARION	53	Heavy Use Area Protection (Ac.) (561)
A.00046	2132E-072003	08/01/2005	CEDAR RUN	2050204	Centre	MARION	53	Heavy Use Area Protection (Ac.) (561)
A.00050	2129B-032004	08/01/2005	SOUTH FORK CROSS CREEK	5030101	Washington	CROSS CREEK	93	Pasture and Hayland Planting (Ac.) (512)
A.00050	2129B-032004	08/01/2005	SOUTH FORK CROSS CREEK	5030101	Washington	CROSS CREEK	120	Runoff Management System (No. and Ac.) (570)
A.00050	2129B-032004	08/01/2005	SOUTH FORK CROSS CREEK	5030101	Washington	CROSS CREEK	128	Spring Development (No.) (574)
A.00050	2129B-032004	08/01/2005	SOUTH FORK CROSS CREEK	5030101	Washington	CROSS CREEK	131	Streambank and Shoreline Protection (Ft.) (580)
A.00052	2131-112004	08/01/2005	MEETINGHOUSE CREEK	2050306	Lancaster	EDEN	38	Fence (Ft.) (382)
A.00053	2123-092002	08/01/2005	KISTLER CREEK	2040203	Lehigh	LYNN	38	Fence (Ft.) (382)
A.00053	2123-092002	08/01/2005	KISTLER CREEK	2040203	Lehigh	LYNN	156	Trough or Tank (No.) (614)
A.00054	2123B-092002	08/01/2005	ONTELAUNEE CREEK	2040203	Lehigh	LYNN	38	Fence (Ft.) (382)
A.00055	2123C-092002	08/01/2005	ONTELAUNEE CREEK	2040203	Lehigh	LYNN	38	Fence (Ft.) (382)
A.00056	2123D-092002	08/01/2005	LEHIGH RIVER	2040106	Northampton	WILLIAMS	38	Fence (Ft.) (382)
A.00057	2123E-092002	08/01/2005	HOKENDAUQUA CREEK	2040106	Northampton	ALLEN	38	Fence (Ft.) (382)
A.00058	2123F-092002	08/01/2005	LITTLE BUSHKILL CREEK	2040105	Northampton	PLAINFIELD	38	Fence (Ft.) (382)
A.00060	2123H-092002	08/01/2005	WEST BRANCH PERKIOMEN CREEK	2040203	Montgomery	UPPER HANOVER	38	Fence (Ft.) (382)
A.00061	2123I-092002	08/01/2005	HAYCOCK CREEK	2040105	Bucks	SPRINGFIELD	38	Fence (Ft.) (382)
A.00062	2123J-092002	08/01/2005	BUCK RUN	2040205	Chester	EAST FALLOWFIELD	38	Fence (Ft.) (382)
A.00063	2123K-092002	08/01/2005	CRUM CREEK	2040202	Delaware	EDGMONT	38	Fence (Ft.) (382)
A.00064	2123L-092002	08/01/2005	PERKIOMEN CREEK	2040203	Berks	HEREFORD	38	Fence (Ft.) (382)
A.00065	2123M-092002	08/01/2005	PERKIOMEN CREEK	2040203	Berks	HEREFORD	38	Fence (Ft.) (382)
A.00066	2126-022004	08/01/2005	BEACH RUN	2050305	Lebanon	BETHEL	26	Critical Area Planting (Ac.) (342)
A.00066	2126-022004	08/01/2005	BEACH RUN	2050305	Lebanon	BETHEL	38	Fence (Ft.) (382)
A.00066	2126-022004	08/01/2005	BEACH RUN	2050305	Lebanon	BETHEL	118	Roof Runoff Structure (No.) (558)
A.00067	2126A-022004	08/01/2005	LITTLE SWATARA CREEK	2050305	Lebanon	BETHEL	26	Critical Area Planting (Ac.) (342)
A.00067	2126A-022004	08/01/2005	LITTLE SWATARA CREEK	2050305	Lebanon	BETHEL	38	Fence (Ft.) (382)
A.00067	2126A-022004	08/01/2005	LITTLE SWATARA CREEK	2050305	Lebanon	BETHEL	53	Heavy Use Area Protection (Ac.) (561)
A.00068	2126B-022004	08/01/2005	OIL CREEK	2050305	Lebanon	SWATARA	26	Critical Area Planting (Ac.) (342)
A.00068	2126B-022004	08/01/2005	OIL CREEK	2050305	Lebanon	SWATARA	38	Fence (Ft.) (382)
A.00068	2126B-022004	08/01/2005	OIL CREEK	2050305	Lebanon	SWATARA	53	Heavy Use Area Protection (Ac.) (561)
A.00069	2126C-022004	08/01/2005	SWATARA CREEK	2050305	Lebanon	EAST HANOVER	51	Grassed Waterway (Ac.) (412)
A.00070	2126D-022004	08/01/2005	SWATARA CREEK	2050305	Lebanon	NORTH ANNVILLE	53	Heavy Use Area Protection (Ac.) (561)
A.00092	2221-012002	08/07/2005	OIL CREEK	2050305	Lebanon	BETHEL	184	Barnyard Runoff Control (No.) (357)
A.00092	2221-012002	08/07/2005	OIL CREEK	2050305	Lebanon	BETHEL	90	Nutrient Management (Ac.) (590)
A.00092	2221-012002	08/07/2005	OIL CREEK	2050305	Lebanon	BETHEL	118	Roof Runoff Structure (No.) (558)
A.00092	2221-012002	08/07/2005	OIL CREEK	2050305	Lebanon	BETHEL	183	Waste Stacking and Handling Pad (No.) (317A)
A.00092	2221-012002	08/07/2005	OIL CREEK	2050305	Lebanon	BETHEL	148	Waste Storage Facility (No.) (313)
A.00095	2222WilsonRun-08200	08/07/2005	WILSON RUN	2070004	Franklin	ST THOMAS	120	Runoff Management System (No. and Ac.) (570)
A.00096	9943-121998	08/17/2005	SACONY CREEK	2040203	Berks	GREENWICH	156	Trough or Tank (No.) (614)
A.00097	9943-011999	08/17/2005	MOSELEM CREEK	2040203	Berks	RICHMOND	34	Drainage Water Management (Ac.) (554)
A.00098	9943B-121998	08/17/2005	MAIDEN CREEK	2040203	Berks	WINDSOR	38	Fence (Ft.) (382)

Figure 9a. Portion of data contained in the "AgBMPsDataInput" file.

BMP_NAME_CODE_ID	Measurement Desc Code	Measure Name Code	BMPACTRT	BMPINFT	BMPNUMBER	BMPCODE	BMPDATE	BMPFUNDSRC
184 40		119	0.5	0	0	391	082001	DEP - 319
107 52		18	17	400		382	102000	DEP - 319
107 52		18	0	1800		382	102000	DEP - 319
107 52		18	10	1500		382	102000	DEP - 319
107 52		18	0	1350		382	102000	DEP - 319
107 52		18	22.5	3400		382	102000	DEP - 319
173 40		119	25	0		528	102000	DEP - 319
107 52		18	.1	530		382	102000	DEP - 319
173 40		119	70	0		528	102000	DEP - 319
107 52		18	26.3	3400		382	102000	DEP - 319
173 40		119	17.9	0		528	102000	DEP - 319
107 52		18	1	215		382	042000	DEP - 319
107 52		18	1	3609		382	042003	DEP - 319
107 52		18	1.34	1948		382	082002	DEP - 319
107 52		18	0	2857		382	072003	DEP - 319
107 52		18	2	11548		382	042003	DEP - 319
107 52		18	2	10100		382	042003	DEP - 319
107 52		18	10	9185		382	092002	DEP - 319
107 52		18	2.66	2474		382	112002	DEP - 319
119 66		177	0	1000	6	410	122003	DEP - 319
122 40		119	4	0		561	012003	DEP - 319
122 40		119	0.26	1700		561	072003	DEP - 319
162 40		119	4	0	0	512	032004	DEP - 319
189 66		177	0.6	1620	1	570	032004	DEP - 319
197 66		177	0	0	2	574	032004	DEP - 319
200 52		18	0	2418		580	032004	DEP - 319
107 52		18	0	4880		382	112004	DEP - 319
107 52		18	5	4333		382	092002	DEP - 319
379 66		177	0	0	1	614	092002	DEP - 319
107 52		18	0	302		382	092002	DEP - 319
107 52		18	0	2010		382	092002	DEP - 319
107 52		18	0	960		382	092002	DEP - 319
107 52		18	0	375		382	092002	DEP - 319
107 52		18	0	1235		382	092002	DEP - 319
107 52		18	0	1247		382	092002	DEP - 319
107 52		18	0	900		382	092002	DEP - 319
107 52		18	0	1750		382	092002	DEP - 319
107 52		18	0	270		382	092002	DEP - 319
107 52		18	0	3300		382	092002	DEP - 319
107 52		18	0	1600		382	092002	DEP - 319
95 40		119	1	0		342	022004	DEP - 319
107 52		18	1.3	1800		382	022004	DEP - 319
187 66		177	.14	0	1	558	022004	DEP - 319
95 40		119	.5	0		342	022004	DEP - 319
107 52		18	1.3	1800		382	022004	DEP - 319
122 40		119	.1	0		561	022004	DEP - 319
95 40		119	.5	0		342	022004	DEP - 319
107 52		18	5.7	6640		382	022004	DEP - 319
122 40		119	.4	0		561	022004	DEP - 319
120 40		119	.5	5		412	022004	DEP - 319
122 40		119	.005	0		561	022004	DEP - 319
311 66		177	0	0	1	357	042005	DEP - 319
159 40		119	321	0		590	042005	DEP - 319
187 66		177	0	0	6	558	042005	DEP - 319
386 66		177	0	0	6	317A	042005	DEP - 319
217 66		177	0	0	4	313	042005	DEP - 319
189 66		177	3.02	3800	1	570	072001	DEP - 319
379 66		177	0	0	6	614	092003	DEP - 319
103 40		119	0.1	100	0	554	042002	DEP - 319
107 52		18	0	1161		382	042003	DEP - 319

Figure 9b. Portion of data contained in the "AgBMPsDataInput" file.

SITEIDTS	BMP_DATE	STREAMNAME	HUCNO	COUNTY	FED_CODE	TOWNSHIP	MCD_CODE	UNPLNTH_1	EA_NDSLNTH	ROADNAME
3591017A-1999-2003	09/01/2002	DRY BROOK	2040104	Pike		103 DELAWARE	52902	3881.29	3881.29	Meadow Ridge Acres Rd
3591017A-1999-2003	09/01/2002	DRY BROOK	2040104	Pike		103 DELAWARE	52902	3881.29	3881.29	Meadow Ridge Acres Rd
3591017A-1999-2003	09/01/2002	DRY BROOK	2040104	Pike		103 DELAWARE	52902	3881.29	3881.29	Meadow Ridge Acres Rd
3591017B-1999-2003	02/01/2003	ADAM'S CREEK	2040104	Pike		103 DELAWARE	52902	7558.57	7558.57	Meadow Ridge Acres Rd
3591017D-1999-2003	09/01/2002	FREELING RUN	2040103	Pike		103 GREENE	52904	9879.04	9879.04	Timber Ridge Road
3591017D-1999-2003	09/01/2002	FREELING RUN	2040103	Pike		103 GREENE	52904	9879.04	9879.04	Timber Ridge Road
3591017D-1999-2003	09/01/2002	FREELING RUN	2040103	Pike		103 GREENE	52904	9879.04	9879.04	Timber Ridge Road
3591017D-1999-2003	09/01/2002	FREELING RUN	2040103	Pike		103 GREENE	52904	9879.04	9879.04	Timber Ridge Road
3591017E-1999-2003	08/01/2002	MILL BROOK	2040103	Pike		103 PALMYRA	52910	3721.76	3721.76	Doe Trail Rd
3591017E-1999-2003	08/01/2002	MILL BROOK	2040103	Pike		103 PALMYRA	52910	3721.76	3721.76	Doe Trail Rd
3591017E-1999-2003	08/01/2002	MILL BROOK	2040103	Pike		103 PALMYRA	52910	3721.76	3721.76	Doe Trail Rd
3591017G-1999-2003	08/01/2002	SHERIDAN BROOK	2040103	Pike		103 PALMYRA	52910	1455.10	1455.10	Colony Cove Dr
3591017G-1999-2003	08/01/2002	SHERIDAN BROOK	2040103	Pike		103 PALMYRA	52910	1455.10	1455.10	Colony Cove Dr
3591017G-1999-2003	08/01/2002	SHERIDAN BROOK	2040103	Pike		103 PALMYRA	52910	1455.10	1455.10	Colony Cove Dr
3591017N-1999-2003	08/01/2001	MASTHOPE CREEK	2040101	Pike		103 LACKAWAXEN	52905	1394.40	1394.40	Forest Lake Rd
3591017N-1999-2003	08/01/2001	MASTHOPE CREEK	2040101	Pike		103 LACKAWAXEN	52905	1394.40	1394.40	Forest Lake Rd
3591017N-1999-2003	08/01/2001	MASTHOPE CREEK	2040101	Pike		103 LACKAWAXEN	52905	1394.40	1394.40	Forest Lake Rd
3591017S-1999-2003	08/01/2002	SHOHOLA CREEK	2040104	Pike		103 SHOHOLA	52912	3091.47	3091.47	McKean Valley Rd
3591017R-1999-2003	08/01/2002	SHOHOLA CREEK	2040104	Pike		103 SHOHOLA	52912	3669.54	3669.54	McKean Valley Rd
3591017R-1999-2003	08/01/2002	SHOHOLA CREEK	2040104	Pike		103 SHOHOLA	52912	3669.54	3669.54	McKean Valley Rd
3591017R-1999-2003	08/01/2002	SHOHOLA CREEK	2040104	Pike		103 SHOHOLA	52912	3669.54	3669.54	McKean Valley Rd
3591017T-1999-2003	08/01/2002	SAVANTINE CREEK	2040104	Pike		103 SHOHOLA	52912	3320.70	3320.70	Pine Tree Rd
3591017T-1999-2003	08/01/2002	SAVANTINE CREEK	2040104	Pike		103 SHOHOLA	52912	3320.70	3320.70	Pine Tree Rd
3591017T-1999-2003	08/01/2002	SAVANTINE CREEK	2040104	Pike		103 SHOHOLA	52912	3320.70	3320.70	Pine Tree Rd
3591017U-1999-2003	08/01/2002	DELAWARE RIVER	2040104	Pike		103 WESTFALL	52913	3337.92	3337.92	Berger Rd
3591017U-1999-2003	08/01/2002	DELAWARE RIVER	2040104	Pike		103 WESTFALL	52913	3337.92	3337.92	Berger Rd
3591017U-1999-2003	08/01/2002	DELAWARE RIVER	2040104	Pike		103 WESTFALL	52913	3337.92	3337.92	Berger Rd
3591017U-1999-2003	08/01/2002	DELAWARE RIVER	2040104	Pike		103 WESTFALL	52913	3337.92	3337.92	Berger Rd
3591079-1999-2002	08/01/2001	"WHIPPOORWILL HOLLOW"	2050106	Wyoming	131	LEMON	86909	8688.32	0	Whippoorwill Hollow Rd
3591079-1999-2002	08/01/2001	"WHIPPOORWILL HOLLOW"	2050106	Wyoming	131	LEMON	86909	8688.32	0	Whippoorwill Hollow Rd
046026-2007-2008	11/01/2008	BLUE KNOB RUN	2050302	Blair	13	FREEDOM	07912	4311.73	3000	Moyer Rd
046026-2007-2008	11/01/2008	BLUE KNOB RUN	2050302	Blair	13	FREEDOM	07912	4311.73	3000	Moyer Rd
046026-2007-2008	11/01/2008	BLUE KNOB RUN	2050302	Blair	13	FREEDOM	07912	4311.73	3000	Moyer Rd
045490-2008-2007	12/01/2007	ALLEGHENY RIVER	5010001	Potter	105	EULALIA	53907	1276.62	0	Old Shovel Rd
352956B-2001-2007	01/01/2007	MAUCH CHUNK CREEK	2040106	Carbon	25	SUMMIT HILL	13921	2287.28	2000	
352956A-2001-2007	01/01/2007	MAUCH CHUNK CREEK	2040106	Carbon	25	SUMMIT HILL	13921	3448.06	3300	
352956A-2001-2007	01/01/2007	MAUCH CHUNK CREEK	2040106	Carbon	25	SUMMIT HILL	13921	3448.06	3300	
352956A-2001-2007	01/01/2007	MAUCH CHUNK CREEK	2040106	Carbon	25	SUMMIT HILL	13921	3448.06	3300	
033761A-2005-2008	08/01/2008	HUNTINGTON CREEK	2050107	Columbia	37	FISHING CREEK	19914	6508.95	0	
033761A-2005-2008	08/01/2008	HUNTINGTON CREEK	2050107	Columbia	37	FISHING CREEK	19914	6508.95	0	
033761A-2005-2008	08/01/2008	HUNTINGTON CREEK	2050107	Columbia	37	FISHING CREEK	19914	6508.95	0	
033761B-2005-2008	08/01/2008	PINE CREEK	2050107	Luzerne	79	HUNTINGTON	40944	2433.29	0	
033761F-2005-2008	08/01/2008	KITCHEN CREEK	2050107	Luzerne	79	FAIRMOUNT	40935	2996.06	0	
033761D-2005-2008	08/01/2008	KITCHEN CREEK	2050107	Luzerne	79	FAIRMOUNT	40935	3212.55	0	
033761E-2005-2008	08/01/2008	MAPLE RUN	2050107	Luzerne	79	FAIRMOUNT	40935	1597.25	0	
033761G-2005-2008	08/01/2008	HUNTINGTON CREEK	2050107	Luzerne	79	FAIRMOUNT	40935	2319.22	0	
033761C-2005-2008	08/01/2008	BLACK ASH CREEK	2050107	Luzerne	79	ROSS	40963	1913.70	0	
033761H-2005-2008	08/01/2008	FADE S CREEK	2050107	Luzerne	79	LAKE	40950	2433.88	0	
034894-2005-2009	08/01/2009	FOURMILE RUN	5010008	Westmoreland	129	DONEGAL	85930	8892.41	190	Stairs Road
034894-2005-2009	08/01/2009	FOURMILE RUN	5010008	Westmoreland	129	DONEGAL	85930	8892.41	190	Stairs Road
034894-2005-2009	08/01/2009	FOURMILE RUN	5010008	Westmoreland	129	DONEGAL	85930	8892.41	190	Stairs Road
037750-2008-2009	10/01/2009	TROUT RUN	5010003	Venango	121	CLINTON	61907	1369.22	75	Summit City Road
037750-2008-2009	10/01/2009	TROUT RUN	5010003	Venango	121	CLINTON	61907	1369.22	75	Summit City Road
037750-2008-2009	10/01/2009	TROUT RUN	5010003	Venango	121	CLINTON	61907	1369.22	75	Summit City Road
2521-2005-2007	08/01/2007	MILLER RUN	2050303	Huntingdon	61	CARBON	31908	8556.99	1000	

Figure 10a. Portion of data contained in the "DSRoads\_Input" file.

ROADTYPE	COMMENTS	BMPTYPE	Chesapeake BMP Name	BMP_NAME CODE	BMP_NAME TYPE	BMPA CTRT	BMPLINFT	BMPNUMBER	UOM	BMP Measure CODE
Dirt		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
Dirt		Stream Pipes	D&G Roads - Outlets Only	366	1	300	0	18		41
Dirt		Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	125	0	18		41
Dirt		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
Dirt		Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	124	0	18		41
Dirt		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	1028	0	18		41
Dirt		Stream Pipes	D&G Roads - Outlets Only	366	1	80	0	18		41
Dirt		Streambanks	D&G Road - Surface Aggregate and Rashed Road bed	367	1	743	0	18		41
Dirt		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	448	0	18		41
Dirt		Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	80	0	18		41
Dirt		Stream Pipes	D&G Roads - Outlets Only	366	1	400	0	18		41
Dirt	Lake View Drive	Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	650	0	18		41
Dirt	Lake View Drive	Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	145	0	18		41
Dirt	Lake View Drive	Stream Pipes	D&G Roads - Outlets Only	366	1	250	0	18		41
Dirt		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	1092	0	18		41
Dirt		Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	60	0	18		41
Dirt		Stream Pipes	D&G Roads - Outlets Only	366	1	180	0	18		41
Dirt		Stream Pipes	D&G Roads - Outlets Only	366	1	30	1	18		41
Dirt	Cold Spring Lake Project	Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	210	0	18		41
Dirt	Cold Spring Lake Project	Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	15	0	18		41
Dirt	Cold Spring Lake Project	Bank Benches	D&G Road - Erosion & Sediment Controls with Outlets	365	1	60	0	18		41
Dirt		Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	390	0	18		41
Dirt		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	1192	0	18		41
Dirt		Stream Pipes	D&G Roads - Outlets Only	366	1	90	0	18		41
Dirt		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	953	0	18		41
Dirt		Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	63	0	18		41
Dirt		Bank Benches	D&G Road - Erosion & Sediment Controls with Outlets	365	1	110	0	18		41
Dirt		Stream Pipes	D&G Roads - Outlets Only	366	1	110	0	18		41
Dirt		Through Drains	D&G Roads - Outlets Only	366	1	86	0	18		41
Dirt		Stream Pipes	D&G Roads - Outlets Only	366	1	86	0	18		41
		Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	2532	0	18		41
		Stream Pipes	D&G Roads - Outlets Only	366	1	50	0	18		41
		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	2000	0	18		41
		Through Drains	D&G Roads - Outlets Only	366	1	50	0	18		41
		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	2000	0	18		41
		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	3300	0	18		41
		French Mattresses	None	390	1	0	11	177		58
		Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	1089	0	18		41
		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
		Ditches Stabilized	D&G Road - Erosion & Sediment Controls with Outlets	365	1	150	0	18		41
		Underdrainage	D&G Roads - Outlets Only	366	1	150	0	18		41
	See 03378 1A	Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
	See 03378 1A	Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
	See 03378 1A	Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
	See 03378 1	Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
	See 03378 1A	Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
	See 03378 1A	Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
	See 03378 1A	Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	300	0	18		41
Dirt		Adding Turnouts	D&G Roads - Outlets Only	366	1	125	4	18		41
Dirt		Through Drains	D&G Roads - Outlets Only	366	1	125	4	18		41
Dirt		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	190	4	18		41
Gravel		Bank Benches	D&G Road - Erosion & Sediment Controls with Outlets	365	1	75	0	18		41
Gravel		Through Drains	D&G Roads - Outlets Only	366	1	75	0	18		41
Gravel		Underdrainage	D&G Roads - Outlets Only	366	1	75	0	18		41
		Surface Aggregate	D&G Road - Surface Aggregate and Rashed Road bed	367	1	1000	0	18		41

Figure 10b. Portion of data contained in the "DSRoads\_Input" file.



SITEIDTS	DATE	STREAMNAME	WRDSNO	HUCNO	SWPNO	COUNTY	TOWNSHIP	MCD_CODE	TOT SITEAC	TOTACTRT	TOTLINF
2434-2004	05/21/2008	MILL CREEK	903	2040203	03F	Delaware	RADNOR	23013	0	0	0
2431-2004	05/21/2008	ROCK CREEK	59041	2070009	13D	Adams	CUMBERLAND	01911	1	1	0
2826-2008	05/23/2008	PINE RUN	2790	2040201	02F	Bucks	PLUMSTEAD	09939	24	1.7	0
20085-2002	06/04/2008	FRANKFORD CREEK	2389	2040202	03J	Philadelphia	PHILADELPHIA	51000	0	0	0
20089-2002	06/05/2008	SLAB CABIN RUN	23038	2050204	09C	Centre	STATE COLLEGE	14001	0	0	0
20098-2002	06/08/2008	DELAWARE RIVER	2	2040202	03J	Philadelphia	PHILADELPHIA	51000	0	0	0
20146-2002	06/09/2008	SCHUYLKILL RIVER	833	2040203	03F	Philadelphia	PHILADELPHIA	51000	0	0	0
20208-2002	06/17/2008	BEAVER RUN	1573	2040203	03D	Chester	EAST NANTMEAL	15921	0	0	0
20221-2002	06/17/2008	WISSAHICKON CREEK	844	2040203	03F	Philadelphia	PHILADELPHIA	51000	1.8	1.8	0
20307-2002	06/23/2008	MILL CREEK	62418	4120101	15	Erie	MILLCREEK	25002	0	0	0
20513-2002	07/01/2008	ROCK CREEK	59041	2070009	13D	Adams	CUMBERLAND	01911	0	0	0
20548-2002	07/02/2008	ITHAN CREEK	777	2040202	03G	Delaware	RADNOR	23013	0	0	0
30041-2003	07/03/2008	BUCK CREEK	2944	2040105	02E	Bucks	YARDLEY	09954	0	0	0
30197-2003	07/15/2008	DELAWARE RIVER	2	2040202	03J	Philadelphia	PHILADELPHIA	51000	0	0	0
30300-2003	07/18/2008	SCHUYLKILL RIVER	833	2040203	03F	Philadelphia	PHILADELPHIA	51000	0	0	0
30461-2003	07/23/2008	SIXTEENMILE CREEK	62264	4120101	15	Erie	NORTH EAST	25930	0	0	0
30651-2003	07/28/2008	LAKE ERIE	62245	4120101	15	Erie	ERIE	25001	0	0	0
30652-2003	07/28/2008	LAKE ERIE	62245	4120101	15	Erie	ERIE	25001	0	0	0
30048-2003	07/28/2008	CRUM CREEK	692	2040202	03G	Delaware	MARPLE	23011	0	0	0
40006-2003	07/30/2008	CATASAUQUA CREEK	3832	2040106	02C	Northampton	EAST ALLEN	48915	0	0	0
40260-2004	08/21/2008	SCHUYLKILL RIVER	833	2040203	03F	Philadelphia	PHILADELPHIA	51000	0	0	0
9938A-2002	05/19/2010	DELAWARE RIVER	2	2040105	02E	Bucks	LOWER MAKEFIELD	09929	.110192	0	0
3591072-1999-2003											
3591088-2000-2002											
350468-2000-2003	06/04/2010	SCHUYLKILL RIVER	833	2040203	03F	Philadelphia	PHILADELPHIA	51000	2	2	0
350482-2000-2002	06/08/2010	MILL CREEK	903	2040203	03F	Montgomery	LOWER MERION	46002	50	2	0
351282-2001-2005	06/09/2010	WISSAHICKON CREEK	844	2040203	03F	Philadelphia	PHILADELPHIA	51000	158	3	0
350413-2000-2003	06/10/2010	LAKE ERIE	62245	4120101	15	Erie	ERIE	25001	2	1	0
350527-2000-2002	06/14/2010	NINEMILE RUN	37201	5020005	19A	Allegheny	WILKINSBURG	02116	0	0	2000
034899-2005-2009	06/17/2010	CONOY CREEK	8278	2050306	07G	Lancaster	ELIZABETHTOWN	36803	2	2	0
034900-2005-2009	06/17/2010	SLATE CREEK	37714	5020006	19D	Westmoreland	HEMPFIELD	65001	12	12	0
035015-2005-2009	06/18/2010	SCHUYLKILL RIVER	833	2040203	03F	Philadelphia	PHILADELPHIA	51000	1	1	0
039887-2006-2008	06/21/2010	MARSH RUN	44241	5010007	18D	Indiana	WHITE	32937	0	0	0
350385-2000-2003	06/21/2010	HARVEY CREEK	28317	2050107	05B	Luzerne	HARVEYS LAKE	40824	0	0	0
350376-2000-2004	06/21/2010	MIDDLE BRANCH	5038	2040104	01E	Monroe	BARRETT	45903	0	0	0
040464-2006-2007	06/21/2010	PENNYPACK CREEK	2409	2040202	03J	Philadelphia	PHILADELPHIA	51000	1	1	0
040717-2006-2007	06/22/2010	STUMP CREEK	47922	5010006	17D	Jefferson	SYKESVILLE	33927	0	0	5000
046405-2007-2009	06/22/2010	WEST BRANCH SUSQUEHANNA RIVER	18668	2050206	10A	Lycoming	PORTER		0	0	500
047689-2007-2009	06/23/2010	WILLIS RUN	8077	2050306	07H	York	YORK	67971	0	0	0
350547-2000-2002	06/23/2010	GEORGES CREEK	41340	5020005	19G	Fayette	FAIRCHANCE	26914	0	0	11000
351364-2001-2003	06/23/2010	CRUM CREEK	692	2040202	03G	Delaware	MARPLE	23011	48	0.183654	0
043633-2006-2008	06/23/2010	COAL TAR RUN	37734	5020006	19D	Westmoreland	GREENSBURG	65002	2	1.11	675
045494-2007-2008	06/24/2010	DARK SHADE CREEK	45330	5010007	18E	Somerset	CENTRAL CITY	56913	0	0	0
042170-2006-2007	06/24/2010	TWO LICK CREEK	44073	5010007	18D	Indiana	CLYMER	32915	0	0	0
028836-2004-2007	06/25/2010	FRANKFORD CREEK	2389	2040202	03J	Philadelphia	PHILADELPHIA	51000	1	1	1000
022090-2003-2008	07/02/2010	ABRAHAMS CREEK	28361	2050107	05B	Luzerne	WEST WYOMING	40821	0	0	0
027990-2004-2006	07/07/2010	TROUT CREEK	980	2040203	03F	Chester	TREDYFFRIN	15952	1.03	1.03	0
048379-2006-2010	07/09/2010	PINE RUN	35951	5030102	20A	Mercer	SHARON	41944	0	0	600
046662-2007-2009	07/09/2010	SANDY RUN	859	2040203	03F	Montgomery	WHITEMARSH	46960	2	2	0
050424-2008-2009	07/09/2010	FRENCH CREEK	51591	5010004	16D	Crawford	MEADVILLE	20001	2	2	0
2038-2000-2001	08/02/2010	COBBS CREEK	758	2040202	03G	Delaware	UPPER DARBY	23003	3	2.5	0
9948-1999	08/02/2010	MILL CREEK	903	2040203	03F	Delaware	RADNOR	23013	41	2	0

Figure 11a. Portion of the data contained within the "Input\_Urban" file.

COMMENTS	BMPTYPE	BMP_NAME_TYPE	Measure_Descrip	Measure_Descri	BMPDENSITY	BMPACTRT	BMPINFT	BMPCOD	BMPDATE	BMPFUND SRC
Numbering from Community College	Infiltration Practices				Low Density	0	0		122005	DEP - 319
	Infiltration Practices				Low Density	0	0		112007	DEP - 319
	Constructed Wetlands				High Density	1.7	0		112007	DEP - 319
	Rooftop Runoff Management				High Density	0	0		102002	DEP - Growing Greener
	Constructed Wetlands				Low Density	0	0		012003	DEP - Growing Greener
	Rooftop Runoff Management				High Density	0	0		052004	DEP - Growing Greener
	Filtering Practices				High Density	0	0		082007	DEP - Growing Greener
	Bioretention Areas				High Density	0	0		012005	DEP - Growing Greener
	Constructed Wetlands				High Density	1.6	0		032005	DEP - Growing Greener
	Filtering Practices				High Density	0	0		092004	DEP - Growing Greener
	Infiltration Practices				High Density	0	0		082003	DEP - Growing Greener
	Infiltration Practices				High Density	0	0		102006	DEP - Growing Greener
	Infiltration Practices				High Density	0	0		042005	DEP - Growing Greener
	Filtering Practices				High Density	0	0		122004	DEP - Growing Greener
	Infiltration Practices				High Density	0	0		042004	DEP - Growing Greener
	Reduction of Impervious Surface	346		40 Acres	High Density	0	0		082004	DEP - Growing Greener
	Filtering Practices				High Density	0	0		112003	DEP - Growing Greener
	Erosion & Sediment Control	290		50 Disturbed Area	Low Density	0	0		082004	DEP - Growing Greener
	Bioretention Areas				High Density	0	0		092005	DEP - Growing Greener
	Filtering Practices				Low Density	0	0		042007	DEP - Growing Greener
	Rooftop Runoff Management				High Density	0	0		092004	DEP - Growing Greener
	Filtering Practices				High Density	0	0		032002	DEP - 319
	Constructed Wetlands				Low Density	0	0		082003	DEP - Growing Greener
	Constructed Wetlands				High Density	.097814	0		082002	DEP - Growing Greener
	Constructed Wetlands				Low Density	2	0		082003	DEP - Growing Greener
	Wet Pond & Wetlands				Low Density	2	0		052002	DEP - Growing Greener
	Constructed Wetlands				High Density	0.70	0		082005	DEP - Growing Greener
	Reduction of Impervious Surface	346		40 Acres	High Density	.057392	0		042003	DEP - Growing Greener
	Erosion & Sediment Control	290		50 Disturbed Area	High Density	0	1000		082002	DEP - Growing Greener
	Reduction of Impervious Surface	346		40 Acres	Low Density	.495867	0		082009	DEP - Growing Greener
	Dry Extended Detention Ponds	242		51 Drainage Area	Low Density	12	0		082009	DEP - Growing Greener
	Rooftop Runoff Management				High Density	0.51	0		052009	DEP - Growing Greener
	Filtering Practices				High Density	0	0		042008	DEP - Growing Greener
	Filtering Practices				Low Density	0	0		092003	DEP - Growing Greener
	Filtering Practices				Low Density	0	0		032004	DEP - Growing Greener
	Reduction of Impervious Surface	346		40 Acres	Low Density	0.227272	0		112007	DEP - Growing Greener
	Infiltration Practices				Low Density	0	4060		082007	DEP - Growing Greener
	Filtering Practices				Low Density	0	500		052009	DEP - Growing Greener
	Infiltration Practices				High Density	0	0		022009	DEP - Growing Greener
	Infiltration Practices				Low Density	0	10342		072002	DEP - Growing Greener
Constructed Wetlands				Low Density	0.183654	0		082003	DEP - Growing Greener	
Infiltration Practices				High Density	1.11	675		092008	DEP - Growing Greener	
Filtering Practices				High Density	0	0		112008	DEP - Growing Greener	
Erosion & Sediment Control	290		50 Disturbed Area	Low Density	0	0		082007	DEP - Growing Greener	
Infiltration Practices				High Density	0	1000		072007	DEP - Growing Greener	
Infiltration Practices				Low Density	0	0		072008	DEP - Growing Greener	
Erosion & Sediment Control	290		50 Disturbed Area	Low Density	1.03	0		122006	DEP - Growing Greener	
Erosion & Sediment Control	290		50 Disturbed Area	High Density	0	600		012010	DEP - Growing Greener	
Constructed Wetlands				Low Density	2	0		092009	DEP - Growing Greener	
Bioretention Areas				High Density	2	0		122009	DEP - Growing Greener	
Constructed Wetlands				High Density	2.5	0		082001	DEP - 319	
Wetland Restoration	231		43 Area	High Density	2	0		122000	DEP - 319	

Figure 11b. Portion of the data contained within the "Input\_Urban" file.



SITEID	DATE	HUCNO	COUNTY	TOWNSHIP	Chesapeake	MCD_CODE	SPRBGRA \$\$	SPRBFOR ST	SPFENCING	SPSTABLIZE	LBGSTBUFF	LBGA VEBUFF
2427-2004	09/01/2008	2050308	Lancaster	PARADISE	Y	38943	Yes	Yes	Yes	Yes	7459	15
2625-2008	12/01/2008	2050308	Lancaster	SALISBURY	Y	38950	Yes	Yes	Yes	Yes	3725	25
20011-2002	08/01/2003	5010008	Armstrong	MADISON		03922	Yes	Yes	Yes	Yes	50	25
20245-2002	09/01/2003	2050308	York	JACOBUS	Y	87932	Yes	No	No	Yes	35	25
20495-2002	07/01/2008	2040203	Montgomery	WHITEMARSH		48980	Yes	No	Yes	Yes	375	40
40109-2004	08/01/2008	5010004	Venango	COOPERSTOWN		61909	No	Yes	No	Yes	0	0
40313-2004	08/22/2008	5020005	Allegheny	PITTSBURGH		02001	No	Yes	No	Yes	0	0
9817B-1998	05/19/2010	2050308	Lancaster	EAST DONEGAL	Y	38925	No	Yes	Yes	No	0	0
9960A-1999	05/20/2010	2050308	Lancaster	WARWICK	Y	38955	No	Yes	No	Yes	0	0
9980B-1999	05/20/2010	2050308	Lancaster	WARWICK	Y	38955	No	Yes	No	Yes	0	0
9988-2002	05/20/2010	5020008	Westmoreland	HEMPFIELD		85001	No	Yes	No	Yes	0	0
2044-2001	05/20/2010	2040203	Montgomery	POTTSTOWN		48005	No	Yes	No	Yes	0	0
2135-2004	05/21/2010	2040203	Montgomery	WHITPAIN		48981	No	Yes	No	Yes	0	0
359848B-1999-2002	05/27/2010	2050308	York	RAILROAD	Y	87952	No	Yes	No	Yes	0	0
359848A-1999-2001	05/27/2010	2050308	York	CODORUS	Y	87909	Yes	Yes	No	Yes	0	0
350444-2000-2004	06/03/2010	2050308	York	SHREWSBURY	Y	87955	No	Yes	No	Yes	0	0
350440-2000-2003	06/03/2010	2050308	York	NORTH HOPEWELL	Y	87947	Yes	Yes	Yes	Yes	600	30
350480-2000-2002	06/04/2010	2050308	Lancaster	MANOR	Y	38938	No	Yes	No	Yes	0	0
351257-2001-2003	06/07/2010	2050305	York	FAIRVIEW	Y	87919	No	Yes	No	Yes	0	0
350492-2000-2005	06/09/2010	2040202	Philadelphia	PHILADELPHIA		51000	No	Yes	No	Yes	0	0
351418-2001-2005	06/10/2010	2050108	Bradford	ORWELL	Y	08925	Yes	No	No	Yes	2600	20
351305-2001-2004	06/11/2010	2040203	Delaware	RADNOR		23013	No	Yes	No	Yes	0	0
033728B-2005-2008	06/11/2010	2050108	Bradford	COLUMBIA	Y	08914	No	Yes	Yes	No	0	0
033732-2005-2007	06/14/2010	2050108	Wyoming	FORKSTON	Y	88907	Yes	No	No	Yes	1185	10
034130-2005-2008	06/14/2010	5020008	Westmoreland	MOUNT PLEASANT		85943	No	Yes	No	Yes	0	0
034127-2005-2007	06/14/2010	5030102	Mercer	HERMITAGE		43918	No	Yes	No	Yes	0	0
034887-2005-2007	06/17/2010	2040108	Lehigh	COOPERSBURG		39909	Yes	Yes	No	Yes	1250	75
035012A-2005-2008	06/18/2010	5010004	Crawford	ROCKDALE		20928	Yes	Yes	No	Yes	260	15
035014-2005-2009	06/18/2010	2050107	Columbia	MT PLEASANT	Y	19925	No	Yes	No	Yes	0	0
038449-2008-2007	06/18/2010	2050202	Cameron	SHIPPEN	Y	12907	No	Yes	No	Yes	0	0
039795-2008-2009	06/21/2010	5030102	Lawrence	NEW WILMINGTON		37911	No	Yes	No	Yes	0	0
039548-2008-2007	06/21/2010	2050108	Wyoming	FORKSTON	Y	88907	Yes	No	No	Yes	1050	30
040423-2008-2007	06/21/2010	2050208	Sullivan	HILLSGROVE	Y	57910	Yes	No	No	Yes	0	0
040480-2008-2007	06/21/2010	2040203	Berks	UPPER BERN		06989	No	Yes	Yes	Yes	0	0
040493-2008-2007	06/22/2010	2050202	Cameron	SHIPPEN	Y	12907	No	Yes	No	Yes	0	0
040847-2008-2009	06/22/2010	2050308	Lancaster	WEST DONEGAL	Y	38958	No	Yes	No	Yes	0	0
045844-2008-2008	06/22/2010	5010001	Potter	HEBRON		53911	Yes	No	No	Yes	250	25
045984-2007-2008	06/22/2010	2040108	Lehigh	UPPER SAUCON		39922	No	Yes	No	Yes	0	0
046732-2008-2008	06/22/2010	2070004	Franklin	WASHINGTON	Y	28922	Yes	No	No	Yes	0	0
047552-2007-2009	06/22/2010	2070004	Fulton	AYR	Y	29901	No	Yes	No	Yes	0	0
044850-2007-2008	06/23/2010	5010001	Potter	COUDERSPORT		53801	Yes	No	No	Yes	250	25
045491-2007-2008	06/24/2010	4130002	Potter	GENESEE		53909	Yes	No	No	Yes	495	25
40088-2004	06/24/2010	2050104	Tioga	SULLIVAN	Y	59934	Yes	No	No	Yes	300	25
041588-2008-2007	06/24/2010	2050104	Tioga	SULLIVAN	Y	59934	Yes	Yes	No	Yes	700	10
028844-2004-2007	06/25/2010	4120101	Erie	ERIE		25001	No	Yes	No	Yes	0	0
020864-2003-2008	07/01/2010	2070004	Fulton	AYR	Y	29901	No	Yes	No	Yes	0	0
021892-2003-2008	07/01/2010	2040202	Delaware	NETHER PROVIDENCE		23012	No	Yes	No	Yes	0	0
	07/08/2010	5010003	Venango	CRANBERRY		81911	No	Yes	No	Yes	0	0
027994-2004-2007	07/07/2010	2050208	Lycoming	LOYALSOCK	Y	41928	No	Yes	No	Yes	0	0
044937-2007-2009	07/07/2010	2050302	Blair	ALTOONA	Y	07001	No	Yes	No	Yes	0	0
033570-2005-2007	07/07/2010	2050302	Blair	ALLEGHENY	Y	07905	No	Yes	No	Yes	0	0
034877-2005-2008	07/08/2010	2050201	Cambria	PATTON	Y	11811	Yes	No	No	Yes	100	20
035009-2005-2009	07/08/2010	2040202	Montgomery	ABINGTON		48001	No	Yes	No	Yes	0	0

Figure 12a. Portion of the data contained within the “Stream\_Input\_293\_End\_FINAL” file.

LBGBUFFAC	RBGSTBUFF	RBGAVEBUFF	RBGBUFFAC	LBFBSTBUFF	LBFAVEBUFF	LBFBUFFAC	RBFBSTBUFF	RBFAVEBUFF	RBFBUFFAC	LBFENCING	RBFBENCING	LBSTABLIZE
2.57	0	0	0.00	7459	10	1.71	0	0	0.00	3250	0	3173
2.14	0	0	0.00	3725	25	2.14	0	0	0.00	2350	0	3725
0.03	0	0	0.00	50	25	0.03	0	0	0.00	20000	0	4450
0.02	35	25	0.02	0	0	0	0	0	0	0	0	3000
0.34	375	40	0.34	0	0	0.00	0	0	0.00	1300	1300	375
0	0	0	0	250	25	0.14	250	25	0.14	0	0	250
0	0	0	0	200	25	0.11	200	25	0.11	0	0	200
0	0	0	0	0	0	0.00	400	30	0.28	0	300	0
0	0	0	0	1500	30	1.03	1500	30	1.03	0	0	2000
0	0	0	0	3000	20	1.38	3000	20	1.38	0	0	1320
0	0	0	0	50	20	0.02	50	20	0.02	0	0	50
0	0	0	0	100	25	0.08	100	25	0.08	0	0	1200
0	0	0	0	200	40	0.18	200	40	0.18	0	0	300
0	0	0	0	300	50	0.34	300	50	0.34	0	0	300
0.00	1500	30	1.03	1500	30	1.03	0	0	0.00	0	0	1500
0	0	0	0	400	70	0.84	400	70	0.84	0	0	1000
0.41	850	30	0.45	300	30	0.21	350	30	0.24	0	1042	493
0.00	0	0	0.00	250	40	0.23	250	40	0.23	0	0	500
0	0	0	0	0	0	0.00	1700	5	0.20	0	0	0
0.00	0	0	0.00	900	30	0.82	900	30	0.82	0	0	900
1.19	2800	20	1.19	0	0	0	0	0	0	0	0	1350
0	0	0	0	300	30	0.21	300	30	0.21	0	0	300
0	0	0	0	400	15	0.14	400	15	0.14	100	0	0
0.27	0	0	0.00	0	0	0	0	0	0	0	0	1185
0	0	0	0	450	15	0.15	450	15	0.15	0	0	450
0	0	0	0	1100	25	0.83	1100	25	0.83	0	0	1100
2.15	1250	75	2.15	1250	75	2.15	1250	75	2.15	0	0	1250
0.09	280	15	0.09	0	0	0.00	1000	180	4.13	0	0	870
0	0	0	0	0	0	0.00	1800	70	2.89	0	0	1800
0	0	0	0	100	20	0.05	275	20	0.13	0	0	100
0	0	0	0	1878	10	0.39	1878	8	0.31	0	0	1878
0.72	1050	30	0.72	0	0	0	0	0	0	0	0	1600
0.00	100	10	0.02	0	0	0.00	0	0	0.00	0	0	300
0	0	0	0	700	20	0.32	700	20	0.32	700	700	490
0.00	0	0	0.00	800	75	1.03	0	0	0.00	0	0	500
0	0	0	0	3300	90	8.82	3300	90	8.82	0	0	3300
0.14	250	25	0.14	0	0	0	0	0	0	0	0	300
0	0	0	0	550	100	1.26	595	100	1.37	0	0	1145
0.00	200	12	0.08	0	0	0	0	0	0	0	0	300
0	0	0	0	100	30	0.07	100	30	0.07	0	0	540
0.14	0	0	0.00	0	0	0	0	0	0	0	0	200
0.28	495	25	0.28	0	0	0	0	0	0	0	0	495
0.17	300	0	0.17	0	0	0	0	0	0	0	0	300
0.16	700	10	0.16	700	10	0.16	700	10	0.16	0	0	700
0	0	0	0	500	15	0.17	500	15	0.17	0	0	500
0	0	0	0	400	35	0.32	400	35	0.32	0	0	40
0.00	0	0	0.00	4000	5	0.48	4000	5	0.48	0	0	3000
0	0	0	0	250	20	0.11	250	20	0.11	0	0	250
0	0	0	0	800	15	0.21	800	15	0.21	0	0	700
0	0	0	0	800	25	0.50	800	25	0.50	0	0	450
0	0	0	0	250	15	0.09	250	15	0.09	0	0	1250
0.05	100	20	0.05	0	0	0	0	0	0	0	0	400
0	0	0	0	200	25	0.11	200	25	0.11	0	0	200

Figure 12b. Portion of the data contained within the "Stream\_Input\_293\_End\_FINAL" file.

RBSTABILIZE	COMMENTS	PRJ COST	PRJ SPONSOR	PRJ TITLE	STREAM NAME	
3172	The actual stre		500000	Paradise Sportsman Ass	Pequea Creek Watershed Re	8 NINEMILE RUN
0	Phase II S C20		39621	Paradise Sportsman Ass	Pequea Creek Watershed Re	8 LESHER RUN
0	Encompasses		32785	Clarion County Conserva	Redbank Creek AG BMP	8 COWANSHANNOCK CREEK
0			83630	Izaak Walton League of	East Branch Codorus Creek	8 MILL RUN
375			21900	Wissahickon Valley/Wat	Riparian Buffer Restoration	8 REDBANK CREEK
250			10894	Cooperstown Borough C	Cooperstown Municipal Strea	9 MILL RUN
200			50000	Urban Redevelopment A	Nine Mile Run Watershed Re	9 COBBS CREEK
0			81279	Donegal Fish & Conserv	Donegal Creek Restoration	8 GULPH CREEK
2000	Dam removal		93000	Lititz Run Watershed All	Lititz Run	8 CONNOQUENESSING CREEK
1320			93000	Lititz Run Watershed All	Lititz Run	8 CHEST CREEK
50			17500	Westmoreland Conserva	Sewickley Creek	8 WALDY RUN
1200			45000	Delaware Riverkeeper N	Manatawny Creek Riparian	8 NORTH CREEK
300			26650	Whitpain Township and	Prophecy Creek Riparian Pro	8 SPRING CREEK
300			13200	Izaak Walton League of	South Branch Codorus Creek	9 FISHING CREEK
1500			8800	Izaak Walton League of	South Branch Codorus Creek	9 MUDDY CREEK
1000			45154	Izaak Walton League of	South Branch Codorus Creek	9 LITTLE CRUM CREEK
493			8371	Izaak Walton League of	East Branch Codorus Creek	9 SUGAR CREEK
500			12250	Little Conestoga Waters	Little Conestoga Creek Tribut	9 CASCADE CREEK
650			36250	Borough of New Cumber	Borough Park Stream Bank F	9 EAST BRANCH ANTIETAM CREEK
900			75000	Philadelphia Water Depa	Sustainable Approach to Stre	9 SPRING RUN
1350			91085	Wysox Creek Restorato	The Wysox Creek Watershed	9 BIG COVE CREEK
300			176100	Eastern College	Upper Lake Restoration- Dan	9 DONEGAL CREEK
0			31250	Sugar Creek Watershed	Sugar Creek Watershed Hea	9 MILLERS RUN
1185			159388	Mehoopany Creek Wate	Mehoopany Creek Stream Re	9 LITTLE CONESTOGA CREEK
450			7500	Mt. Pleasant Borough	Shupe Run Enhancement an	9 PEQUEA CREEK
1100			19525	City of Hermitage	Indian Run Stream Restorati	9 PEQUEA CREEK
1250	One mixed ripa		12316	Lehigh County Conserva	South Branch Saucon Creek	9 LITITZ RUN
670			29333	Western Pennsylvania C	French Creek Priority Subwa	9 LITITZ RUN
1800			34375	Fishing Creek Water she	Fishing Creek Stream Repair	9 CONOY CREEK
100			8475	Cameron County Cons	Couchman Project	9 LITTLE NESHANNOCK CREEK
1678			187500	Westminster College	McClure Run Stream Restora	9 SAUCON CREEK
1600			284152	Mehoopany Creek Wate	Mehoopany Creek Problem A	9 PERKIOMEN CREEK
700			20000	Sullivan County Commis	Heiser Stream Bank Stabiliza	9 PERKIOMEN CREEK
490			5000	Berks County Conservan	Hix Stream Bank Restoration	9 LEHIGH RIVER
0			6000	Cameron County Conse	Solvason Streambank Stabili	9 MILLERS RUN
3300	Also, created 5		206500	Masonic Homes of the G	Conoy Creek Floodplain Rest	9 PINE HOLLOW RUN
300			7000	Potter County Conserva	Toad Hollow Streambank Res	9 LITTLE KISHA COQUILLAS CREEK
1145			162835	Wildlands Conservancy,	Restoration of Saucon Creek	9 FLAGLER RUN
300			12500	Antietam Watershed A	Antietam Meadow Park Strea	9 PENNYPACK CREEK
540			14250	Fulton County Conserva	Spring Run Steambank Rest	9 MANATAWNY CREEK
200	Installed 10 mu		5000	Potter County Conserva	CARP Park Bank Stabilizatio	9 WISSAHICKON CREEK
495	14 multi-log ve		10000	Potter County Conserva	Reed/Vanetter Genesee Bar	9 WISSAHICKON CREEK
300			5000	Corey Creek Watershed	Corey Creek Reach B (phase	9 JOHNSON CREEK
700	Also, construct		50000	Endless Mountains Resc	Corey Creek Reach B Phase	9 ALLEGHENY RIVER
500			19773	Erie County Conservato	West Branch Cascade Creek	9 WEST BRANCH GENESSEE RIVER
40			9979	Fulton County Conserva	Cove Creek Streambank Res	9 TOAD HOLLOW
3000	Dam removal		32500	Delco Anglers and Cons	Irving Mill Dam Removal	9 LOYALSOCK CREEK
250			6726	Oil City Chapter, Izaak V	Lower Two Mile Run	9 COREY CREEK
700	500 ft of stream		2500	Loyalsock Township	Miller's Run Repair Project	9 COREY CREEK
450	4 rock structure		50000	City of Albion	Mill Run Improvement IV	9 LAKE CREEK
1250			57500	City of Albion	Mill Run Improvement Project	9 LOWER TWOMILE RUN
400			38953	Cambria County Conser	Chest Creek Stream Improve	9 SLATE CREEK
200	Dam removal		25000	SE Montgomery County	Huntingdon Pike Dam Remov	9 MILL CREEK

Figure 12c. Portion of the data contained within the "Stream\_Input\_293\_End\_FINAL" file.

information in the file to enter data into the NPS BMP database for subsequent transmittal via NEIEN. For all data entries, the “DATE” and “COUNTY” fields were used to identify implementation date and county name, respectively. The sum of “LBGBUFFAC” (left bank grass buffer acres) and “RBGBUFFAC” (right bank grass buffer acres) was used to specify total grass buffer acres (NEIEN BMP “Grass Buffers”); the sum of “LBFBUFFAC” (left bank forest buffer acres) and “RFBUFFAC” (right bank forest buffer acres) was used to specify total forest buffer acres (NEIEN BMP “Riparian Forest Buffers”); the sum of “LBFENCING” (left bank fencing) and “RBFENCING” (right bank fencing) was used to specify total streambank fencing feet (NEIEN BMP “Streambank Protection (fencing)”); and the sum of “LBSTABLIZE” (left bank stabilized) and “RBSTABLIZE” (right bank stabilized) was used to specify total length (in feet) of stabilized streambanks.

All four of the files discussed above were created directly from the statewide GIS database maintained by Garry Price, and therefore contained information on BMP implementation in areas outside of the Chesapeake Bay region. However, for the purposes of the 2010 data submittal, BIT staff used only data for the Bay region, which could be determined via the presence of a “Y” code in the “Chesapeake” field that was part of each of the Excel files described above (see example of this field in Figure 12a).

#### 4.3.4 DEP Abandoned Mine Land Reclamation Program

For the 2010 data submittal, tabular information on the acres of reclaimed mine land was obtained from Brian Bradley within the Bureau of Abandoned Mineland Reclamation (BAMR). This information was subsequently entered into an Excel file; a portion of which is shown in Figure 13. As shown in this figure, all reclaimed acres of this type are assumed to have a “Land Use” type of “Urban” to be consistent with usage of this BMP by the Chesapeake Bay watershed model. The specific NEIEN BMP type is identified as “Land Reclamation, Abandoned Mined Land”, and the implementation units are in acres. Since the NEIEN BMP name was explicitly given, it was not necessary to specify the Scenario Builder land use type (in this case, “AbanMineRec”). As noted in the file under the “Comment” field, all county-level acreage values were adjusted to reflect only those acres located within the Chesapeake Bay watershed. This was done using the municipality name provided by BAMR with the original tabular data.

#### 4.3.5 DCNR Forest Stewardship Program

DCNR’s Forest Stewardship program is responsible, among other things, for compiling data on forestry BMPs and conservation activities throughout the state. For the 2010 data submittal, information on forestry BMPs within the Chesapeake Bay region was obtained from Corey Deniker within DCNR (the new DCNR contact is now Chris Peiffer). These data were entered into an Excel file, and a portion of this file is shown in Figure 14. (As described in the BMP Cross-walk document included in Appendix A, these data are contained in the “forestry” tab of the Excel file called “2010 Additional BMPs to IT”). In this file, the BMPs implemented were all in

Agency	Funding Type	NEIEN Practice	BMP Type	Date	County	Municipality	Unit Name	Units	Bay	Comment
Pa Bureau of Abandoned Mined Land Reclamation	State	Land Reclamation, Abandoned Mined Land	Urban	5/14/2010	Cambria	West Carroll	acre	11.5	Y	County data has been adjusted for Bay Watershed.
Pa Bureau of Abandoned Mined Land Reclamation	State	Land Reclamation, Abandoned Mined Land	Urban	5/26/2010	Clearfield	Bradford	acre	0.5	Y	County data has been adjusted for Bay Watershed.
Pa Bureau of Abandoned Mined Land Reclamation	State	Land Reclamation, Abandoned Mined Land	Urban	6/17/2010	Elk	Benezette	acre	48.2	Y	County data has been adjusted for Bay Watershed.
Pa Bureau of Abandoned Mined Land Reclamation	State	Land Reclamation, Abandoned Mined Land	Urban	2/3/2010	Lackawanna	Taylor	acre	75.2	Y	County data has been adjusted for Bay Watershed.
Pa Bureau of Abandoned Mined Land Reclamation	State	Land Reclamation, Abandoned Mined Land	Urban	11/24/2009	Luzerne	Pittston	acre	74.6	Y	County data has been adjusted for Bay Watershed.
Pa Bureau of Abandoned Mined Land Reclamation	State	Land Reclamation, Abandoned Mined Land	Urban	12/16/2009	Schuylkill	East Union	acre	104.5	Y	County data has been adjusted for Bay Watershed.
Pa Bureau of Abandoned Mined Land Reclamation	State	Land Reclamation, Abandoned Mined Land	Urban	5/13/2010	Schuylkill	Reilly	acre	2.4	Y	County data has been adjusted for Bay Watershed.
Pa Bureau of Abandoned Mined Land Reclamation	State	Land Reclamation, Abandoned Mined Land	Urban	12/21/2009	Schuylkill	Schuylkill	acre	4.6	Y	County data has been adjusted for Bay Watershed.

Figure 13. Data contained within the “2010 Aml to IT” file.

State BMP Name	Funding Type	NEIEN BMP	BMP Type	Date	County	Measurement Name	Unit Name	Unit	Bay
Erosion Control - Planting or Seeding Critical Areas	State	Erosion and Sediment Control	Urban	6/30/2010	Centre	Disturbed Area	ACRE	30	Y
Planting - Wildlife	State	Tree Planting	Urban	6/30/2010	Centre	Area Planted	ACRE	96	Y
Wildlife Habitat Development	State	Tree Planting	Urban	6/30/2010	Centre	Area Planted	ACRE	146	Y
Erosion and Sedimentation Control Plan	State	Erosion and Sediment Control	Urban	6/30/2010	Huntingdon	Disturbed Area	ACRE	25	Y
Planting - Wildlife	State	Tree Planting	Urban	6/30/2010	Huntingdon	Area Planted	ACRE	135	Y
Wildlife Habitat Development	State	Tree Planting	Urban	6/30/2010	Huntingdon	Area Planted	ACRE	163	Y
Trees Planted	State	Tree Planting	Urban	6/30/2010	Cumberland	Area Planted	ACRE	0.85	Y
Trees Planted	State	Tree Planting	Urban	6/30/2010	Dauphin	Area Planted	ACRE	0.75	Y
Trees Planted	State	Tree Planting	Urban	6/30/2010	Huntingdon	Area Planted	ACRE	80	Y
Trees Planted	State	Tree Planting	Urban	6/30/2010	Juniata	Area Planted	ACRE	1.5	Y
Trees Planted	State	Tree Planting	Urban	6/30/2010	Luzerne	Area Planted	ACRE	2	Y
Trees Planted	State	Tree Planting	Urban	6/30/2010	Union	Area Planted	ACRE	2	Y
Trees Planted	State	Tree Planting	Urban	6/30/2010	York	Area Planted	ACRE	25	Y

Figure 14. Forest stewardship data contained within the “2010 Additional BMPs to IT” file.

urban areas; hence, the “BMP Type” (or “Land Use” type for NEIEN) is given as “Urban”. Also given are the BMP names used by DCNR (“State BMP Name”) and the corresponding ones used by NEIEN and Scenario Builder (“NEIEN BMP”). As shown, all units installed (“Unit”) are in acres (“Unit Name”). Similar to BMPs described in the previous section, all unit values were adjusted to reflect only those acres located within the Chesapeake Bay watershed.

#### 4.3.6 DEP Stream Releaf Program

DEP’s Stream Releaf program compiles information on the implementation of riparian buffers along streams from several state and federal programs. Information from state-funded buffers is also included in the Excel file for the Grower Greener program, and was not duplicated for subsequent data transmittal to CBPO. Riparian buffers implemented from FSA, however, were submitted to CBPO separately as these data were not duplicated elsewhere. A view of a portion of the Excel file containing Stream Releaf data (“2010\_Stream\_Releaf\_to\_IT”) is shown in Figure 15 below.

#### 4.3.7 FSA Conservation Reserve Program and Conservation Reserve Enhanced Program

BMP information associated with both the Conservation Reserve Program (CRP) and Conservation Reserve Enhanced Program (CREP) administered by USDA’s Farm Service Agency (FSA) has historically been compiled by DEP for submittal to the CBPO. Given that these BMPs are directly funded through FSA, expectations are that this type of data will be compiled by CBPO (and not DEP) for future data submittals. However, protocols on how these data are to be compiled by CBPO have not yet been agreed upon; therefore these data were compiled by DEP for the 2010 data submittal.

Data on BMPs implemented via either CRP or CREP were obtained by DEP staff from FSA’s web site (<http://www.fsa.usda.gov/FSA/webapp?area=home&subject=copr&topic=crp-rt>) and subsequently entered into an Excel file. Figures 16a and 16b show the data assembled for 2010 by DEP for both of these programs. (Note for the purposes of this example, data for many of the counties have been hidden). In this file, the “NEIEN BMP” has been explicitly identified for each NRCS BMP type, the land use type has been identified as “Agriculture” for each BMP, and all values recorded for each county are given in acres. Unlike BMP data described earlier for other sources, the acreage values have not been adjusted for areas within counties that are located within the Chesapeake Bay watershed (see text given in the “Comment” field for each entry). In this case, it was assumed that CBPO would make this adjustment later.

#### 4.3.8 NRCS Environmental Quality Incentive Program

Similar to FSA data discussed above, BMP information associated with the Environmental Quality Incentive Program (EQIP) administered by USDA’s Natural Resources and Conservation Service (NRCS) has historically been compiled by DEP for submittal to the CBPO. Again, given that these BMPs are directly funded through USDA, expectations are that these data will be

Project Date	ProjectName	Latitude	Longitude	CountyName	BufferTypeDesc	NEIEN BMP	Acres	FundingSource	FundingType
1/1/2010	J. GEISWSKI RIPARIAN BUFFER PROJECT	40.82389	-75.08944	Snyder	Trees/Shrubs	CREP Riparian Forest Buffer	1.7	FSA	Federal
1/2/2010	K. KAMES RIPARIAN BUFFER PROJECT	41.14556	-75.57444	Columbia	Trees/Shrubs	CREP Riparian Forest Buffer	2.2	FSA	Federal
1/2/2010	G. S. FERGUSON RIPARIAN BUFFER PROJECT	41.70806	-75.18833	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	5.4	FSA	Federal
1/3/2010	M. BERGEN RIPARIAN BUFFER PROJECT	41.03972	-75.17722	Northumberland	Trees/Shrubs	CREP Riparian Forest Buffer	7.8	FSA	Federal
1/3/2010	R. G. WEAVER RIPARIAN BUFFER PROJECT	41.75333	-75.26722	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	7.7	FSA	Federal
1/3/2010	E. TRAMSUE RIPARIAN BUFFER PROJECT	41.55972	-75.49972	Sullivan	Trees/Shrubs	CREP Riparian Forest Buffer	2.4	FSA	Federal
1/3/2010	R. UPHAM RIPARIAN BUFFER PROJECT #2	41.87694	-75.85917	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	6.8	FSA	Federal
1/3/2010	J. LOMBARDO RIPARIAN BUFFER PROJECT	41.85611	-75.81000	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	5.2	FSA	Federal
1/4/2010	C. MUSSER RIPARIAN BUFFER PROJECT	40.24917	-75.77806	Lancaster	Trees/Shrubs	CREP Riparian Forest Buffer	3.3	FSA	Federal
1/4/2010	B. SHAEFFER RIPARIAN BUFFER PROJECT	41.53667	-75.64806	Sullivan	Trees/Shrubs	CREP Riparian Forest Buffer	4.0	FSA	Federal
1/24/2010	M. HILDEBRANDT RIPARIAN BUFFER PROJECT	41.94639	-75.53250	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	3.7	FSA	Federal
1/25/2010	W. DINGER RIPARIAN BUFFER PROJECT T	41.83694	-75.08611	Tioga	Trees/Shrubs	CREP Riparian Forest Buffer	4.1	FSA	Federal
1/27/2010	R. WAY RIPARIAN BUFFER PROJECT	41.71722	-75.72361	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	0.4	FSA	Federal
1/27/2010	R. J. WAGNER RIPARIAN BUFFER PROJECT	41.80611	-74.05583	Susquehanna	Trees/Shrubs	CREP Riparian Forest Buffer	1.5	FSA	Federal
2/1/2010	J. KODLICK RIPARIAN BUFFER PROJECT	40.76750	-76.74194	Snyder	Trees/Shrubs	CREP Riparian Forest Buffer	12.1	FSA	Federal
2/1/2010	M. & J KINGSLEY RIPARIAN BUFFER PROJECT	41.76389	-75.63611	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	5.7	FSA	Federal
2/1/2010	M. STURDEUANT RIPARIAN BUFFER PROJECT	41.55889	-75.95889	Wyoming	Trees/Shrubs	CREP Riparian Forest Buffer	2.2	FSA	Federal
2/2/2010	B. PRIMROSE RIPARIAN BUFFER PROJECT	41.78472	-75.65694	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	5.2	FSA	Federal
2/4/2010	G. GRIMM RIPARIAN BUFFER PROJECT	41.98083	-74.44111	Susquehanna	Trees/Shrubs	CREP Riparian Forest Buffer	1.1	FSA	Federal
2/13/2010	R. UPHAM RIPARIAN BUFFER PROJECT	41.87139	-75.82472	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	3.2	FSA	Federal
2/13/2010	G. HUBBARD RIPARIAN BUFFER PROJECT	41.74583	-74.12639	Susquehanna	Trees/Shrubs	CREP Riparian Forest Buffer	2.9	FSA	Federal
2/13/2010	W. SHORER RIPARIAN BUFFER PROJECT	41.67528	-75.82750	Bradford	Trees/Shrubs	CREP Riparian Forest Buffer	10.7	FSA	Federal
2/14/2010	A. H. KILBOURNE RIPARIAN BUFFER PROJECT	41.98222	-76.37389	Potter	Trees/Shrubs	CREP Riparian Forest Buffer	9.0	FSA	Federal
2/14/2010	D. A. GIBSON RIPARIAN BUFFER PROJECT	41.87889	-76.62222	Tioga	Trees/Shrubs	CREP Riparian Forest Buffer	5.9	FSA	Federal

Figure 15. Portion of the data contained within the “2010 Stream\_Releaf\_to\_IT” file.



FSA BMP Name	Funding Source	Funding Type	NEIEN BMP	BMP Type	Date	Measurement Name	Unit Name	ADAMS	BEDFORD
introduced grass planting	FSA	Federal	LandRetire	Agriculture	6/30/2010	Area Retired	ACRE	1284.2	1365.8
native grass planting	FSA	Federal	LandRetire	Agriculture	6/30/2010	Area Retired	ACRE	738.6	157.2
tree planting	FSA	Federal	Tree Planting	Agriculture	6/30/2010	Acres	ACRE	0	0
hardwood tree planting	FSA	Federal	Tree Planting	Agriculture	6/30/2010	Acres	ACRE	54.5	8
wildlife habitat corridor (su 10+)	FSA	Federal	LandRetire	Agriculture	6/30/2010	Area Retired	ACRE	0	0
wildlife habitat	FSA	Federal	LandRetire	Agriculture	6/30/2010	Area Retired	ACRE	51.7	1.7
grass waterways	FSA	Federal	ConPlan	Agriculture	6/30/2010	Area under conservation plan	ACRE	4.6	0
established grass	FSA	Federal	ConPlan	Agriculture	6/30/2010	Area under conservation plan	ACRE	275.9	3104.1
established trees	FSA	Federal	ConPlan	Agriculture	6/30/2010	Area under conservation plan	ACRE	0	0
contour grass strips	FSA	Federal	ConPlan	Agriculture	6/30/2010	Area under conservation plan	ACRE	0	0
filter strips	FSA	Federal	ConPlan	Agriculture	6/30/2010	Area under conservation plan	ACRE	126.2	10
riparian buffers	FSA	Federal	ForestBuffers	Agriculture	6/30/2010	Acres	Acre	733.4	736.2
wetland restoration	FSA	Federal	Wetland	Agriculture	6/30/2010	Area	ACRE	12.8	115.5
marginal pastureland wildlife habitat	FSA	Federal	LandRetire	Agriculture	6/30/2010	Area Retired	ACRE	7.7	15.6
marginal pastureland wetland buffer	FSA	Federal	Wetland Buffer	Agriculture	6/30/2010	Area Planted	ACRE	0	0
bottomland wetland trees	FSA	Federal	Tree Planting	Agriculture	6/30/2010	Acres	ACRE	0	0

Figure 16a. Composite CRP and CREP data contained in the “2010 FSA to IT” file.

3ERKS	SNYDER	SOMERSET	SULLIVAN	SUSQUEHANNA	TIOGA	UNION	WAYNE	WYOMING	YORK	Bay	Comment
2486.2	4177.1	4308.9	555.5	2394.9	9310.5	2291	465.5	1409.6	1954.3	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
1454.6	306.9	1540.2	86.1	244.9	505.7	293.4	39	285	1086.6	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
0	0	0	0	0	21.5	0	0	0	0	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
61.6	24.8	25.6	10.8	80	0	28.5	6.9	0	29.4	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
7.7	0	0	0	0	14.4	0	0	0	9.3	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
441.1	8.8	65.2	13.2	22.1	394	38.1	3.1	106.5	240.9	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
13.3	17.7	2.9	0	0.3	0	48.6	2.1	0	15.6	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
166.6	172.2	2900.9	0	942.2	147.9	173.4	0	11.5	294.3	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
0	0	8.8	0	0	51.6	0.5	0	0	102.4	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
8.1	4.9	7.2	0	0	0	0	0	0	0	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
24.7	34.6	26.3	10.9	0	20.7	204.6	0	0.3	136	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
270.8	220.6	945.2	340.2	1507	1644	120.7	388.7	313.4	437.3	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
61.9	11	14	0	17.4	38.5	4.6	0	0	4.9	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
12.2	33.7	22	5.5	141.2	82.6	0	33.7	0	0.3	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
7.4	0	23.2	0	7	19.9	0	0	0	0	Y	County data not adjusted for Bay watershed. Data represent acres under contract.
0	0	0	0	0	0	0	0	0	0	Y	County data not adjusted for Bay watershed. Data represent acres under contract.

Figure 16b. Composite CRP and CREP data contained in the "2010 FSA to IT" file.

Practice Name	NRCS Code	Measurement Name	Unit Name	Adams	Bedford	Berks	York	Totals
Access Control	472	acre	acre					6277
Access Road	560	feet	feet		1,315	22	500	10897
Animal Mortality Facility	316	number	number					2
Animal Trails and Walkways	575	feet	feet	1,450	528	3,425		23012
Brush Management	314	acre	acre	20				715
Closure of Waste Impoundment	360	number	number	1	1			3
Composting Facility	317	number	number			2		5
Conservation Cover	327	acre	acre	14	12	1	2	2674
Conservation Crop Rotation	328	acre	acre	2,821	4,575	2,546	750	41517
Contour Buffer Strips	332	acre	acre					37
Contour Farming	330	acre	acre	91		82	28	2250
Contour Orchard and Other Perennial Crops	331	acre	acre					103
Cover Crop	340	acre	acre	144	408	79	174	17267
Critical Area Planting	342	acre	acre		4		0	181
Deep Tillage	324	acre	acre					0
Diversion	362	feet	feet	2,436	1,860	440	110	46786
Early Successional Habitat Development/Management	647	acre	acre					370
Feed Management	592	Animal Units	Animal Units					3
Fence	382	feet	feet	6,221	53,082	10,544		537318
Field Border	386	acre	acre					1620
Filter Strip	393	acre	acre	3	0		1	26
Forage and Biomass Planting	512	acre	acre	17				1241
Forage Harvest Management	511	acre	acre	38				4604
Forest Stand Improvement	666	acre	acre	104				2220
Grade Stabilization Structure	410	number	number					1
Grassed Waterway	412	acre	acre	5	3	8	3	91
Heavy Use Area Protection	561	acre	acre	0	0	3	0	13
Hedgerow Planting	422	feet	feet					3217
Irrigation System, Microirrigation	441	acre	acre	15		3	26	157
Irrigation System, Sprinkler	442	acre	acre			2		171
Irrigation Water Management	449	acre	acre	35				601
Nutrient Management	590	acre	acre	1,111		93	803	20955
Prescribed Grazing	528	acre	acre	134	141	152		6040
Residue and Tillage Management, Mulch Till	345	acre	acre	841	45		29	3429
Residue and Tillage Management, No-Till/Strip Till/Direct Seed	329	acre	acre	870	1,152	1,622	228	29146
Residue Management, Seasonal	344	acre	acre			815		1193
Riparian Forest Buffer	391	acre	acre	46	6			872
Riparian Herbaceous Cover	390	acre	acre		1	1		54
Roof Runoff Structure	558	number	number		1	7	3	255
Sediment Basin	350	number	number					0
Stream Habitat Improvement and Management	395	acre	acre					6

Figure 17. Portion of data included in the “2010 NRCS to IT” file.

compiled by CBPO (and not DEP) for future data submittals. However, similar to the FSA BMP data, the NRCS EQIP data were compiled by DEP for the 2010 data submittal.

Data on BMPs implemented via EQIP were obtained by DEP staff from an NRCS web site (<http://ias.sc.egov.usda.gov/prsreport2010/>) and subsequently entered into an Excel file. Figure 17 shows a portion of the data assembled for 2010 by DEP for this particular program. (Note for the purposes of this example, data (i.e., units installed) for many of the counties have been hidden). In this file, the NRCS practice Name has been given (“Practice Name”), as well as the measurement type (“Unit Name”) pertaining to each BMP type. As discussed elsewhere, each NRCS BMP type is recognized by NEIEN, and the appropriate land use and BMP types required by the Bay watershed model are automatically assigned by Scenario Builder.

#### 4.3.9 USDA Rural Development Program

The USDA Rural Development Program funds the connection of on-lot septic systems to centralized wastewater treatment plants. The reduction of nutrient loads via such connections is considered to be a “Rural” BMP within the Bay watershed model, and is recognized as a “SepticConnect” BMP type within Scenario Builder. Data on such connections within the Bay watershed were obtained from Sharon Bickel and entered into an Excel file (see Figure 18). From this source, the number of connections (i.e., “COUNT” data) is given as the number of equivalent domestic units (EDUs), which are equal to 3.5 persons per connection.

BMP Name: Septic Connections  
 Measurement Name: Hook ups  
 Unit Name: COUNT  
 Scenario Builder BMP: SepticConnect

COUNTY	COUNT	BMP Date	BMP Name Type	Agency
Bedford	142	9/30/10	Federal - 2	USDA
Bedford	448	9/30/10	Federal - 2	USDA
Chester	3278	9/30/10	Federal - 2	USDA
Dauphin	299	9/30/10	Federal - 2	USDA
Dauphin	468	9/30/10	Federal - 2	USDA
Dauphin	960	9/30/10	Federal - 2	USDA
Lackawanna	963	9/30/10	Federal - 2	USDA
Luzerne	1729	9/30/10	Federal - 2	USDA
Lycoming	509	9/30/10	Federal - 2	USDA
Northumberland	5608	9/30/10	Federal - 2	USDA
Northumberland	9834	9/30/10	Federal - 2	USDA
Schuylkill	400	9/30/10	Federal - 2	USDA
Schuylkill	2288	9/30/10	Federal - 2	USDA
Susquehanna	1504	9/30/10	Federal - 2	USDA
Susquehanna	1930	9/30/10	Federal - 2	USDA

Figure 18. USDA Rural Development data included in “2010\_septic\_hookups” file.

#### 4.3.10 PA PennVest Program

Similar to the USDA program described above, PennVest is a state program that, among other things, funds septic system connections to wastewater treatment plants. Data on such connections were obtained from Paul Marchetti at PennVest, and entered into the same Excel file described for the USDA program above. Figure 19 shows this data. In this case, the population data provided had to be converted into EDUs (see above discussion) prior to being delivered to the appropriate staff in BIT.

BMP Name: Septic Connections  
 Measurement Name: Hook ups  
 Unit Name: COUNT  
 Scenario Builder BMP: SepticConnect

COUNTY	COUNT	BMP Date	BMP Name Type	Agency
Juniata	62	9/30/06	State - 1	PennVest
Clearfield	81	9/30/06	State - 1	PennVest
Dauphin	120	9/30/06	State - 1	PennVest
Lycoming	137	9/30/06	State - 1	PennVest
Juniata	86	9/30/06	State - 1	PennVest
Luzerne	1086	9/30/06	State - 1	PennVest
Luzerne	377	9/30/07	State - 1	PennVest
Berks	198	9/30/07	State - 1	PennVest
Centre	141	9/30/07	State - 1	PennVest
Luzerne	1006	9/30/07	State - 1	PennVest
Susquehanna	229	9/30/07	State - 1	PennVest
Luzerne	377	9/30/07	State - 1	PennVest
Perry	36	9/30/07	State - 1	PennVest
Adams	229	9/30/08	State - 1	PennVest
Mifflin	786	9/30/08	State - 1	PennVest
Somerset	714	9/30/08	State - 1	PennVest
Wyoming	214	9/30/08	State - 1	PennVest
Cambria	1386	9/30/08	State - 1	PennVest
Clearfield	152	9/30/08	State - 1	PennVest
Franklin	153	9/30/08	State - 1	PennVest
Tioga	32	9/30/08	State - 1	PennVest
Centre	873	9/30/08	State - 1	PennVest
Jefferson	66	9/30/08	State - 1	PennVest
Mifflin	342	9/30/08	State - 1	PennVest
Schuylkill	714	9/30/08	State - 1	PennVest
Columbia	301	9/30/08	State - 1	PennVest
Luzerne	2000	9/30/09	State - 1	PennVest
Union	284	9/30/09	State - 1	PennVest
Bradford	63	9/30/09	State - 1	PennVest
McKean	181	9/30/09	State - 1	PennVest
Huntingdon	339	9/30/09	State - 1	PennVest
Mifflin	63	9/30/09	State - 1	PennVest
Somerset	340	9/30/10	State - 1	PennVest

Figure 19. PennVest data included in “2010\_septic\_hookups” file.

#### 4.3.11 SCC Resource Enhancement and Protection Program

Pennsylvania’s State Conservation Commission (SCC) funds the implementation of a number of BMPs through its’ Resource Enhancement and Protection (REAP) program. Historically, these data have not been compiled as part of previous BMP data submittals. Consequently, for the 2010 submittal, data on all BMPs implemented since 9/30/2007 were compiled for subsequent delivery to CBPO.

An Excel file containing pertinent information was obtained from SCC's office in Harrisburg, and data contained therein were re-organized for submittal to CBPO via NEIEN. Figures 20a and 20b show portions of the data contained in this file (called "REAP\_2007-2010"). The first step in re-organizing the data involved combining the BMP data for the years 2007 through 2010. Then, the BMP data were assigned the appropriate NEIEN BMP names, units and other descriptors required for acceptance by CBPO using the "cross-walk" provided in Appendix A. The final data set is included in the "NEIEN Data" tab of the Excel file. In some instances, as described below, various calculations were made prior to finalizing the NEIEN-specific designations.

As shown in Figures 20a and 20b, this file contains the BMP name used by REAP ("BMP\_Type"), and the corresponding NRCS code ("NRCS Practice Code"). These, in turn, were translated into the appropriate Scenario Builder BMP types ("SB BMP"), land use type ("Land Use"), and measurement unit type ("Unit Name") used by Scenario Builder. The units installed in each case were given ("No. Units"), as well as the date of implementation ("BMP Date") and corresponding county.

Over the years, much of the funding provided by REAP has been used to implement what the program calls "No Till" farming. Since a precise definition of what this meant could not be established from the REAP program office, for the purposes of the 2010 submittal, this was interpreted as "Residue and Tillage Management, Mulch Till" as used by the Chesapeake Bay watershed model. Therefore, in this case, a Scenario Builder BMP type of "ConserveTill" was assigned. In the original data provided by REAP, the acres of "Existing No Till" and "New No Till" are reported. These two values were summed to reflect total acres of "ConserveTill" land in the adjusted file since these data had not been previously reported to CBPO as described above.

In the Excel file originally received from the REAP program, most of the activities reported did not include information pertaining to the number of units installed (e.g., acres). The one exception was the "No Till" acres described above. Instead, the cost of each activity was given. Therefore, in order to estimate the extent to which various BMPs were implemented, information on typical unit costs were used as shown in Table 5. In many cases, the information provided by REAP could not be directly associated with a valid NEIEN BMP (e.g., "Animal Trails and Walkways"). Where such problems occurred, explanatory notes are provided in the "COMMENTS" field.

In the case of "Composting" and "Composting Facility" BMPs, each individual activity (funded project) was assumed to represent one "MortalityComp" BMP unit as recognized by Scenario Builder. Acres of "Cover Crop" and "Critical Area Planting" were estimated by dividing the project cost by the cost per acre values given in Table 5. Each "Fence" or "Prescribed Grazing" entry was assumed to represent some quantity of "Prescribed Grazing" units (i.e., acres), and the total number of acres was calculated by dividing the activity cost by the value of \$1,425 per acre of fenced grazing land. The units (acres) of "Grassed waterway" were estimated by dividing the project cost by the unit cost of \$2.76/square yard, and then converting the square yards to

Unique_Id	BMP_Type	County	Existing No Till Acres	New No Till Acres	BMP Date	BMP Name Code ID	NRC S Practice Code
07-036-03	Grassed waterway	Adams			9/30/2007	120	412
07-036-04	Terrace	Adams			9/30/2007	207	600
07-069-01	No-till	Lackawanna	50	100	9/30/2007	317 None	
07-082-01	No-till	Centre	500	300	9/30/2007	317 None	
07-190-01	Animal Waste Management Systems (All Types)	Bradford			9/30/2007	313 None	
07-198-01	Fence	Centre			9/30/2007	173	528
07-198-03	Roof Runoff Structure	Centre			9/30/2007	187	558
07-239-02	No-till	Lancaster	950	100	9/30/2007	317 None	
07-264-01	Prescribed Grazing	Centre			9/30/2007	173	528
07-274-04	Fence	York			9/30/2007	173	528
07-274-05	Critical Area Planting	York			9/30/2007	95	342
07-276-09	Pasture and Hay Planting	Armstrong			9/30/2007	162	512
08-040-02	Animal Mortality Facility	Lancaster			9/30/2008	76	316
08-051-01	Fence	Jefferson			9/30/2008	173	528
08-064-01	No-till	Butler	250	0	9/30/2008	317 None	
08-073-01	No-till	Columbia	450	0	9/30/2008	317 None	
08-074-01	No-till	York	400	100	9/30/2008	317 None	
08-076-04	Heavy Use Area Protection	Tioga			9/30/2008	122	561
08-076-08	Roof Runoff Structure	Tioga			9/30/2008	187	558
08-076-11	Animal Waste Management Systems (All Types)	Tioga			9/30/2008	313 None	
08-081-01	Fence	Allegheny			9/30/2008	173	528
08-081-02	Fence	Allegheny			9/30/2008	173	528
08-082-03	Animal Waste Management Systems (All Types)	Bradford			9/30/2008	313 None	
08-083-01	Roof Runoff Structure	York			9/30/2008	187	558
08-085-08	Roof Runoff Structure	Perry			9/30/2008	187	558
08-091-05	Fence	Tioga			9/30/2008	173	528
08-091-06	Heavy Use Area Protection	Tioga			9/30/2008	122	561
08-091-10	Roof Runoff Structure	Tioga			9/30/2008	187	558
08-091-12	Animal Waste Management Systems (All Types)	Tioga			9/30/2008	313 None	
08-092-03	Animal Waste Management Systems (All Types)	Mifflin			9/30/2008	313 None	
08-117-01	Heavy Use Area Protection	Beaver			9/30/2008	122	561
08-121-01	No-till	Lancaster			9/30/2008	317 None	
08-122-01	No-till	Centre	125	400	9/30/2008	317 None	
08-135-01	Animal Waste Management Systems (All Types)	Perry			9/30/2008	313 None	
08-137-01	No-till	Perry	180	20	9/30/2008	317 None	
08-158-05	Heavy Use Area Protection	Cumberland			9/30/2008	122	561
08-162-01	Composting	Chester			9/30/2008	87	317
08-162-02	Heavy Use Area Protection	Chester			9/30/2008	122	561
08-162-04	Animal Waste Management Systems (All Types)	Chester			9/30/2008	313 None	
08-174-01	No-till	Columbia	0	15	9/30/2008	317 None	
08-174-03	Grassed waterway	Columbia			9/30/2008	120	412
08-179-01	Fence	Chester			9/30/2008	173	528
08-191-01	Grassed waterway	Northumberland			9/30/2008	120	412
08-191-02	Grassed waterway	Northumberland			9/30/2008	120	412
08-230-02	Heavy Use Area Protection	Chester			9/30/2008	122	561
08-230-03	Animal Waste Management Systems (All Types)	Chester			9/30/2008	313 None	
08-241-13	Fence	Franklin			9/30/2008	173	528
08-259-03	Animal Waste Management Systems (All Types)	Lebanon			9/30/2008	313 None	
08-259-03	Animal Waste Management Systems (All Types)	Lebanon			9/30/2008	313 None	
08-266-01	Animal Waste Management Systems (All Types)	Lebanon			9/30/2008	313 None	
08-284-01	Grassed waterway	Chester			9/30/2008	120	412
08-284-03	Terrace	Chester			9/30/2008	207	600

Figure 20a. Portion of data included in the "REAP\_2007-2010" file.

BMP Type	SB BMP	Land Use	Land Use Code	Measure Name	Measure Name Code	Unit Name	No. Units	COMMENTS	BAY
State	GrassBuffers	Agriculture	Agriculture	AC		57 ACRE	0.16 Acres = (sq yd * 9) / 43560		Yes
State	ConPlan	Agriculture	Agriculture	FT		52 FEET	1 Need conversion rules		Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	150 Acres not previously reported		Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	800 Acres not previously reported		Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	PrecRotGrazing	Pasture	Pasture	AC		57 ACRE	1.8 Assumed to be prescribed grazing		Yes
State	BarnRunoffCont	Agriculture	Agriculture	NO		56 COUNT	1 CBPO does not accept counts; area conversion nee	Yes	Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	1050 Acres not previously reported		Yes
State	PrecRotGrazing	Pasture	Pasture	AC		57 ACRE	1.1		Yes
State	PrecRotGrazing	Pasture	Pasture	AC		57 ACRE	0.3 Assumed to be prescribed grazing		Yes
State	LandRetireHyo	Agriculture	Agriculture	AC		57 ACRE	0.3		Yes
State	LandRetirePas	Pasture/Hay	Pasture/Hay	AC		57 ACRE	201		Yes
State	MortalityComp	Agriculture	Agriculture	NO		56 COUNT	1.0 NO*0.338=MortalityComp		Yes
State	PrecRotGrazing	Pasture	Pasture	AC		57 ACRE	2.2 Assumed to be prescribed grazing		Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	250 Acres not previously reported		Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	450 Acres not previously reported		Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	500 Acres not previously reported		Yes
State	BarnRunoffCont	Agriculture	Agriculture	AC		57 ACRE	0.003 Acres = sq ft / 43560		Yes
State	BarnRunoffCont	Agriculture	Agriculture	NO		56 COUNT	1 CBPO does not accept counts; area conversion nee	Yes	Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	PrecRotGrazing	Pasture	Pasture	AC		57 ACRE	3.7 Assumed to be prescribed grazing		Yes
State	PrecRotGrazing	Pasture	Pasture	AC		57 ACRE	2.6 Assumed to be prescribed grazing		Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	BarnRunoffCont	Agriculture	Agriculture	NO		56 COUNT	1 CBPO does not accept counts; area conversion nee	Yes	Yes
State	BarnRunoffCont	Agriculture	Agriculture	NO		56 COUNT	1 CBPO does not accept counts; area conversion nee	Yes	Yes
State	PrecRotGrazing	Pasture	Pasture	AC		57 ACRE	1.6 Assumed to be prescribed grazing		Yes
State	BarnRunoffCont	Agriculture	Agriculture	AC		57 ACRE	0.005 Acres = sq ft / 43560		Yes
State	BarnRunoffCont	Agriculture	Agriculture	NO		56 COUNT	1 CBPO does not accept counts; area conversion nee	Yes	Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	BarnRunoffCont	Agriculture	Agriculture	AC		57 ACRE	0.040 Acres = sq ft / 43560		Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	0 Acres not previously reported		Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	525 Acres not previously reported		Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	200 Acres not previously reported		Yes
State	BarnRunoffCont	Agriculture	Agriculture	AC		57 ACRE	0.009 Acres = sq ft / 43560		Yes
State	MortalityComp	Agriculture	Agriculture	NO		56 COUNT	1 NO*0.338=MortalityComp		Yes
State	BarnRunoffCont	Agriculture	Agriculture	AC		57 ACRE	0.097 Acres = sq ft / 43560		Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	ConserveTill	Row Crops	Row Crops	AC		57 ACRE	15 Acres not previously reported		Yes
State	GrassBuffers	Agriculture	Agriculture	AC		57 ACRE	0.08 Acres = (sq yd * 9) / 43560		Yes
State	PrecRotGrazing	Pasture	Pasture	AC		57 ACRE	2.6 Assumed to be prescribed grazing		Yes
State	GrassBuffers	Agriculture	Agriculture	AC		57 ACRE	0.22 Acres = (sq yd * 9) / 43560		Yes
State	GrassBuffers	Agriculture	Agriculture	AC		57 ACRE	0.12 Acres = (sq yd * 9) / 43560		Yes
State	BarnRunoffCont	Agriculture	Agriculture	AC		57 ACRE	0.003 Acres = sq ft / 43560		Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	PrecRotGrazing	Pasture	Pasture	AC		57 ACRE	0.6 Assumed to be prescribed grazing		Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	AWMSLivestock	Agriculture	Agriculture	Sys tems		53 COUNT	Need AEU info?		Yes
State	GrassBuffers	Agriculture	Agriculture	AC		57 ACRE	0.08 Acres = (sq yd * 9) / 43560		Yes
State	ConPlan	Agriculture	Agriculture	FT		52 FEET	1 Need conversion rules		Yes

Figure 20b. Portion of data included in the “REAP\_2007-2010” file.



acres. The “Heavy Use Area Protection” acres were calculated in a similar fashion using a unit cost of \$13.95 per square foot of protected land. Acres for “Pasture and Hay Planting” and “Tree/Shrub Establishment” were estimated using the appropriate units cost given in Table 5. Finally, each “Animal Waste Management Systems (All Types)” entry was assumed to represent the equivalent of one “AWMSLivestock” unit as currently assumed by Scenario Builder.

Table 5. Unit costs for estimating extent of REAP BMP implementation.

<b>Reported REAP Activity</b>	<b>Typical Per Unit Cost</b>
Cover Crop	\$275/acre
Critical Area Planting	\$500/acre
Fence / Prescribed Grazing	\$1,425/acre
Grassed Waterway	\$2.76/sq yd
Heavy Use Area Protection	\$13.95/sq ft
Pasture and Hay Planting	\$2.25/acre
Tree/Shrub Establishment	\$3,300/acre

#### 4.3.12 USDA National Agricultural Statistics Service

As has been done for previous BMP compilation efforts, estimates on the extent of cover crops in Pennsylvania counties were based on crop information provided on USDA’s NASS web site (<http://quickstats.nass.usda.gov/>). In this case, it was assumed that acres of “winter wheat” reported by NASS represented the extent of cover crops. The data compiled for the 2010 submittal are included in the “NASS cover crops” tab of the “2010 Additional BMPs to IT” Excel file, which is shown in Figure 21. In this instance, the acreage values have not been adjusted to reflect that portion of the county located within the Chesapeake Bay watershed. These data are not cumulative in that the data reported by NASS for each year are used to represent the total cover crop acres for that year. Given this, the total amount of cover crops for a specific year may increase or decrease when compared to estimates for previous years. As with other USDA data, it is expected that these data will be compiled by CBPO (and not DEP) for future data submittals.

#### 4.3.13 SCC Dirt and Gravel Road Program

This particular program funds a number of activities to reduce pollutant loads from unpaved roads in rural areas of the state. Three of these activities are recognized as BMPs by Scenario Builder; however, only one of them (“Surface Aggregate and Raised Roadbed”) has been

validated for use in the Bay watershed model. Therefore, only information on this specific BMP was compiled for subsequent transmittal to CBPO.

Data on the lengths of roads upgraded in each county within Pennsylvania were obtained from the Dirt and Gravel Road Center at Penn State in the form of an Excel file called "DirtGravelRoad\_data". Data on "stabilized road" ("RD\_STAB") from only Chesapeake Bay counties were then extracted and copied into the "NEIEN\_Data" tab of this file; a portion of which is shown in Figure 22. For this particular activity, the Dirt and Gravel Road Center reports units of square feet, but Scenario Builder requires lengths in feet. Consequently, estimates of linear feet (i.e., Units") were derived by dividing the "RD\_STAB" value reported by an average road width of 15 feet.

#### 4.3.14 DEP Nutrient Trading Program

Information on the extent of BMPs implemented as a result of various nutrient trading activities are included in the "nutrient trading" tab of the "2010 Additional BMPs to IT" file. This information was obtained from Ann Roda in DEP's Water Planning Office. A copy of this particular tab is shown in Figure 23. In this case, information related to BMP extent was extracted from various project reports describing the trading activities.

#### 4.3.15 PA Fish and Boat Commission

Tabular data on stream restoration projects completed by the PA Fish and Boat Commission (PFBC) were obtained from Scott Carney at that agency and subsequently entered into an Excel spreadsheet. A portion of this file, called "PFBC Stream Restoration 2005-2010 Chesapeake Bay Summary", is shown in Figure 24. As can be seen from the date given in the file ("Site Date"), information from the beginning of 2006 through the end of 2010 was compiled and given to BIT for transmittal to CBPO. This is because data of this type had not been previously compiled by DEP.

All of the stream restoration projects were considered to be of the "NonUrbStrmRest" BMP type used by Scenario Builder. For each, the total stream length restored, as required by Scenario Builder, was specified in the ""Length restored (ft)" field. In this case, the original data reported by PFBC are included in the "vHM\_CompletedStructuresSummaryA" tab of the Excel file. These same data, along with additional descriptors used for NEIEN submittal, are included in the "Reportable Practices" tab.

NASS - 2009-2010 winter Wheat - ALL

Agency	BMP	Funding Source	Funding type	NEIEN Practice	SB BMP	BMP Type	Date	State	County	Measurement	Units
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Cambria	Acres	2,500
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Centre	Acres	3,900
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Columbia	Acres	5,700
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Dauphin	Acres	4,200
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Huntingdon	Acres	1,600
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Montour	Acres	1,400
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Perry	Acres	2,700
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Snyder	Acres	1,700
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Union	Acres	2,000
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Adams	Acres	9,900
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Bedford	Acres	1,800
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Cumberland	Acres	7,500
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Franklin	Acres	8,500
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Fulton	Acres	1,400
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	York	Acres	21,800
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Berks	Acres	10,800
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Chester	Acres	9,000
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Lancaster	Acres	14,300
NASS	Federal	Unknown	Unknown	Cover Crops - Wheat	CoverCropSOW	Agriculture	6/30/2010	PA	Lebanon	Acres	5,700

Figure 21. NASS cover crop data included in the “2010 Additional BMPs to IT” file.

COUNTY	RD_STAB	BMP Date	BMP	BMP Code ID	NRCS Practice Code	Measure Name	Measure Name Code	Unit Name	Units	SB BMP
Armstrong	6188	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	412.5	DirtGravelDSA
Armstrong	15000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1000.0	DirtGravelDSA
Armstrong	39600	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2640.0	DirtGravelDSA
Armstrong	12405	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	827.0	DirtGravelDSA
Beaver	44352	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2956.8	DirtGravelDSA
Beaver	17580	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1172.0	DirtGravelDSA
Bedford	47520	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	3168.0	DirtGravelDSA
Blair	18120	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1208.0	DirtGravelDSA
Bradford	49500	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	3300.0	DirtGravelDSA
Bradford	26500	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1766.7	DirtGravelDSA
Bradford	61200	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	4080.0	DirtGravelDSA
Bradford	45000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	3000.0	DirtGravelDSA
Centre	19800	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1320.0	DirtGravelDSA
Centre	42000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2800.0	DirtGravelDSA
Clearfield	28800	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1920.0	DirtGravelDSA
Clinton	13600	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	906.7	DirtGravelDSA
Clinton	54000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	3600.0	DirtGravelDSA
Columbia	26500	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1766.7	DirtGravelDSA
Columbia	29000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1933.3	DirtGravelDSA
Columbia	22000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1466.7	DirtGravelDSA
Columbia	23400	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1560.0	DirtGravelDSA
Columbia	28000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1866.7	DirtGravelDSA
Crawford	25200	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1680.0	DirtGravelDSA
Cumberland	70000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	4666.7	DirtGravelDSA
Dauphin	9456	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	630.4	DirtGravelDSA
Forest	14400	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	960.0	DirtGravelDSA
Fulton	1620	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	108.0	DirtGravelDSA
Fulton	3000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	200.0	DirtGravelDSA
Fulton	12000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	800.0	DirtGravelDSA
Fulton	1620	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	108.0	DirtGravelDSA
Huntingdon	17703	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1180.2	DirtGravelDSA
Jefferson	52560	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	3504.0	DirtGravelDSA
Jefferson	41440	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2762.7	DirtGravelDSA
Juniata	15600	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1040.0	DirtGravelDSA
Juniata	26000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1733.3	DirtGravelDSA
Juniata	35000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2333.3	DirtGravelDSA
Lackawanna	16000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	1066.7	DirtGravelDSA
Lackawanna	30400	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2026.7	DirtGravelDSA
Luzerne	1770	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	118.0	DirtGravelDSA
Luzerne	3000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	200.0	DirtGravelDSA
Lycoming	63000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	4200.0	DirtGravelDSA
Lycoming	33800	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2253.3	DirtGravelDSA
Lycoming	7500	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	500.0	DirtGravelDSA
Mifflin	38400	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2560.0	DirtGravelDSA
Mifflin	9600	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	640.0	DirtGravelDSA
Montour	40500	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2700.0	DirtGravelDSA
Northumberland	40000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	2666.7	DirtGravelDSA
Northumberland	10800	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	720.0	DirtGravelDSA
Northumberland	45000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	3000.0	DirtGravelDSA
Northumberland	62500	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	4166.7	DirtGravelDSA
Pike	10000	12/30/2009	D&G Road - Surface Aggregate and Raised Roadbed	367	None	Length		41 FEET	666.7	DirtGravelDSA

Figure 22. Portion of BMP data in the “DirtGravelRoad\_data” file.

2010 Nutrient trading BMPs

Organization	BMP	Funding Source	Funding Type	NEIEN BMP	BMP Type	Date	County	Measurement Name	Unit Name	Unit	Bay
PA Nutrient Trading program	State	Private	Private	Continuous No-Till	Agriculture	6/30/2010	Lancaster	Area No-Till	ACRE	42	Y
PA Nutrient Trading program	State	Private	Private	Continuous No-Till	Agriculture	6/30/2010	Lancaster	Area No-Till	ACRE	35	Y
PA Nutrient Trading program	State	Private	Private	Grass Buffers	Agriculture	6/30/2010	Lycoming	Area Planted	ACRE	3.2	Y
PA Nutrient Trading program	State	Private	Private	Watering Facility	Agriculture	6/30/2010	Lycoming	Area served by Facilities	ACRE	38.5	Y
PA Nutrient Trading program	State	Private	Private	Prescribed Grazing	Agriculture	6/30/2010	Lycoming	AC	ACRE	38.5	Y
PA Nutrient Trading program	State	Private	Private	Grass Buffers	Agriculture	6/30/2010	Lycoming	Area Planted	ACRE	6.9	Y
PA Nutrient Trading program	State	Private	Private	Watering Facility	Agriculture	6/30/2010	Lycoming	Area served by Facilities	ACRE	82.2	Y
PA Nutrient Trading program	State	Private	Private	Prescribed Grazing	Agriculture	6/30/2010	Lycoming	AC	ACRE	82.2	Y

Figure 23. Data on nutrient trading BMPs in the “2010 Additional BMPs to IT” file.

PFBC Stream Restoration Projects, Chesapeake Bay Drainage, 2006-2010

Note: These practices have not been previously submitted. Need to assure that these get retrieved for 2010 NEIEN transfer

These practices map 1:1 to the nonurban stream restoration BMP in scenario builder

Organization	BMP Name Type	SB BMP (1:1)	County	Site Date	Length restored(ft)	Drainage Basin	BMP Name Code ID	Measure Name	Measure Name Code	Unit Name
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Lancaster	08-Feb-06		Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Franklin	07-Apr-06	605	Potomac	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Lancaster	09-Jun-06	2160	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Blair	22-Jun-06	900	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Franklin	04-Aug-06	1000	Potomac	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	York	04-Aug-06	300	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Blair	23-Aug-06	1150	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Lycoming	21-Mar-07	5280	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	York	29-Mar-07	100	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Cumberland	15-May-07	300	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Union	07-Jun-07	300	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Blair	19-Sep-07	110	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Lancaster	15-Oct-07	500	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Cameron	01-Nov-07	150	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Blair	28-Mar-08	840	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Blair	22-Apr-08	120	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Franklin	22-Apr-08	450	Potomac	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Lancaster	28-Apr-08	900	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Clinton	01-May-08	100	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Huntingdon	07-May-08	950	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Lancaster	20-May-08	660	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Bedford	06-Jun-08	275	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Potter	26-Feb-09	250	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Potter	26-Feb-09	250	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Potter	26-Feb-09	250	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Potter	27-Feb-09	250	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Potter	27-Feb-09	250	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Potter	27-Feb-09	250	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Potter	27-Feb-09	50	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Centre	06-Apr-09	240	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Centre	06-Apr-09	900	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Montour	06-Apr-09	200	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Northumberland	06-Apr-09	200	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Northumberland	06-Apr-09	330	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Snyder	06-Apr-09	370	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Union	06-Apr-09	240	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Schuylkill	10-Apr-09	1300	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Potter	13-Apr-09	498	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Lycoming	21-Apr-09	150	Susquehanna	378	Length	41	FEET
Pa Fish and Boat Commission	State -1	NonUrbStrmRest	Lycoming	21-Apr-09	400	Susquehanna	378	Length	41	FEET

Figure 24. View of portion of the “PFBC Stream Restoration 2005-2010 Chesapeake Bay Summary” file.

#### 4.3.16 Manure Transport Data

Manure transport data is a special case of BMP data that was not derived from any particular program source as is the case for the previous sections. Rather, information on the transport of manure loads from various areas within the Pennsylvania portion of the Chesapeake Bay watershed to other areas was compiled from various program sources and organized in a particular fashion that met the requirements for using this type of data within the Bay watershed model. Most importantly, for the purposes of more accurately achieving a mass balance of nutrient loads within the Chesapeake Bay watershed as a whole, information on both “sources” and “destinations” of transported manure loads is required when submitting this type of data to CBPO.

Figures 25a and 25b show a portion of the data included in the “2010 Additional BMPs to IT” file. As shown in this figure, additional information beyond that given for other BMPs has to be provided for this particular activity. In this case, the unit of measure is “tons”, and the animal type has to be provided in order to be accepted by Scenario Builder. Valid types are those shown in the “Manure Type” field. Also required is information on the “sources” and “destinations” as described above. In this case, both the county name (“County From”) and county FIPS code (“MT:SB FIPSFrom”) are given for each source of transported manure. Similar information is also given for each destination. In the “Comment” field, information is provided as to whether the manure was shipped out of the state or the Chesapeake Bay watershed.

Organization	BMP	NEIEN BMP	BMP Type	Manure Type	Tons Exported	Funding Source	Funding Type
Dale Hess	State	Manure Transport	Agriculture	Poultry	130	Private	Private
Fred Schisler	State	Manure Transport	Agriculture	Other cattle	1,159	Private	Private
Mike Hare, Critter Hill Farm	State	Manure Transport	Agriculture	Poultry	40	Private	Private
Eckman, Brian D.	State	Manure Transport	Agriculture	Swine	3,692	Private	Private
Musser, Kerek D.	State	Manure Transport	Agriculture	Layer	2,000	Private	Private
Nolt, Galen L.	State	Manure Transport	Agriculture	Swine	2,105	Private	Private
Mason Dixon Farms	State	Manure Transport	Agriculture	Dairy	174,667	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	300	Private	Private
Martin's Pine Lane Farm	State	Manure Transport	Agriculture	poultry	1,400	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	1,800	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	500	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	48	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	300	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	960	Private	Private
Alvin Weaver	State	Manure Transport	Agriculture	layer	907	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	1,490	Private	Private
Hoover, Frank	State	Manure Transport	Agriculture	Broiler	186	Private	Private
Kreider Farms	State	Manure Transport	Agriculture	Pullet	450	Private	Private
Kreider Farms	State	Manure Transport	Agriculture	Layer	450	Private	Private
Stone, Lori (Hibred Pig)	State	Manure Transport	Agriculture	Swine	3,527	Private	Private
Stone, Lori (Middle Creek)	State	Manure Transport	Agriculture	Swine	4,010	Private	Private
Waldner, Leonard	State	Manure Transport	Agriculture	Broiler	1,100	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	750	Private	Private
Hanover Shoe Farm	State	Manure Transport	Agriculture	Horse	2,164	Private	Private
Hanover Shoe Farm	State	Manure Transport	Agriculture	Horse	2,164	Private	Private
Kreider Farms	State	Manure Transport	Agriculture	Pullet	60	Private	Private
Kreider Farms	State	Manure Transport	Agriculture	Layer	60	Private	Private
David Bower	State	Manure Transport	Agriculture	Broiler	700	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	300	Private	Private
Esbenshade, Glenn	State	Manure Transport	Agriculture	Layer	300	Private	Private
Kreider Farms	State	Manure Transport	Agriculture	Pullet	3,203	Private	Private
Kreider Farms	State	Manure Transport	Agriculture	Layer	3,203	Private	Private
Kreider Farms	State	Manure Transport	Agriculture	Pullet	15	Private	Private
Kreider Farms	State	Manure Transport	Agriculture	Layer	15	Private	Private
Allen & Brenda Balmer	State	Manure Transport	Agriculture	broiler	325	Private	Private

Figure 25a. Portion of data included in the “2010 Additional BMPs to IT” file.



County From	MT: SB FIPSF	County To	MT: SB FIPSTo	Comment
Adams	42001	Carroll	24013	Manure shipped out of state
Adams	42001	Carroll	24013	Manure shipped out of state
Adams	42001	Carroll	24013	Manure shipped out of state
Lancaster	42071	Cecil	24015	Manure shipped out of state
Lancaster	42071	Cecil	24015	Manure shipped out of state
Lancaster	42071	Cecil	24015	Manure shipped out of state
Adams	42001	Frederick	24021	Manure shipped out of state
Lancaster	42071	Harford	24025	Manure shipped out of state
Franklin	42055	Washington	24043	Manure shipped out of state
Lancaster	42071	Cumberland	34011	Manure shipped out of watershed
Lancaster	42071	Hunterdon	34019	Manure shipped out of watershed
Lancaster	42071	Mercer	34021	Manure shipped out of watershed
Lancaster	42071	Seneca	36099	Manure shipped out of watershed
Lancaster	42071	Tompkins	36109	Manure shipped out of watershed
Lebanon	42075	Berks	42011	Manure shipped out of watershed
Lancaster	42071	Berks	42011	Manure shipped out of watershed
Lancaster	42071	Berks	42011	Manure shipped out of watershed
Lancaster	42071	Berks	42011	Manure shipped out of watershed
Lancaster	42071	Berks	42011	Manure shipped out of watershed
Lancaster	42071	Berks	42011	Manure shipped out of watershed
Lancaster	42071	Berks	42011	Manure shipped out of watershed
Lancaster	42071	Berks	42011	Manure shipped out of watershed
Lancaster	42071	Berks	42011	Manure shipped out of watershed
Lancaster	42071	Chester	42029	Manure shipped out of watershed
Adams	42001	Chester	42029	Manure shipped out of watershed
York	42133	Chester	42029	Manure shipped out of watershed
Lancaster	42071	Chester	42029	Manure shipped out of watershed
Lancaster	42071	Chester	42029	Manure shipped out of watershed
Lycoming	42081	Crawford	42039	Manure shipped out of watershed
Lancaster	42071	Lehigh	42077	Manure shipped out of watershed
Lancaster	42071	Northampton	42095	Manure shipped out of watershed
Lancaster	42071	Somerset	42111	Manure shipped out of watershed
Lancaster	42071	Somerset	42111	Manure shipped out of watershed
Lancaster	42071	Westmoreland	42129	Manure shipped out of watershed
Lancaster	42071	Westmoreland	42129	Manure shipped out of watershed
Lebanon	42075	Unknown		Manure shipped out of watershed

Figure 25b. Portion of data included in the “2010 Additional BMPs to IT” file.

## APPENDIX A

Included in the following pages is information pertaining to the characterization of various BMPs and pollution mitigation activities for which data were compiled by DEP with respect to units, terms and names used by NEIEN and Scenario Builder. Due to the width of the original spreadsheets, multiple pages are needed to show all of the columns for each of the rows included in the file. The Excel file from which these pages are copied is called "BMPDataCrosswalk".

BMP	Source	NEIEN Practice	NRCS Practice Code	Land Use Type	Scenario Builder BMP
Cover Crops	USDA-NASS	Cover Crops - Wheat	NA	Agriculture	CoverCropsSDW
Erosion Control - Planting or Seeding Critical Areas	DCNR-Forestry	Erosion and Sediment Control	NA	Urban	BandS
Planting - Wildlife	DCNR-Forestry	Tree Planting	NA	Urban	TreePlant
Wildlife Habitat Development	DCNR-Forestry	Tree Planting	NA	Urban	TreePlant
Erosion and Sedimentation Control Plan	DCNR-Forestry	Erosion and Sediment Control	NA	Urban	BandS
Trees Planted	DCNR-Forestry	Tree Planting	NA	Urban	TreePlant
Area No-Till	PA Nutrient Trading Program	Continuous No-Till	NA	Agriculture	ContinuousNT
Area Planted	PA Nutrient Trading Program	Grass Buffers	NA	Agriculture	Grass Buffers
Area Served by Facilities	PA Nutrient Trading Program	Watering Facility	614	Agriculture	OSWnoFence
Access Control	PA Nutrient Trading Program	Prescribed Grazing	528	Agriculture	PastFence
Land Reclamation, Abandoned Mine Land	PA Bureau of Abandoned Mined Land Reclamation	Land Reclamation, Abandoned Mine Land	NA	Forest	AbanMineRec
Introduced Grass Planting	USDA Farm Services Agency	Land Retirement	NA	Agriculture	LandRetireHyo
Native Grass Planting	USDA Farm Services Agency	Land Retirement	NA	Agriculture	LandRetireHyo
Tree Planting	USDA Farm Services Agency	Tree Planting	NA	Agriculture	TreePlant
Hardwood Tree Planting	USDA Farm Services Agency	Tree Planting	NA	Agriculture	TreePlant
Wildlife Habitat Corridor	USDA Farm Services Agency	Land Retirement	NA	Agriculture	LandRetireHyo
Wildlife Habitat	USDA Farm Services Agency	Land Retirement	NA	Agriculture	LandRetireHyo
Grass Waterways	USDA Farm Services Agency	Conservation Plans	NA	Agriculture	ConPlan
Established Grass	USDA Farm Services Agency	Conservation Plans	NA	Agriculture	ConPlan
Established Trees	USDA Farm Services Agency	Conservation Plans	NA	Agriculture	ConPlan
Contour Grass Strips	USDA Farm Services Agency	Conservation Plans	NA	Agriculture	ConPlan
Filter Strips	USDA Farm Services Agency	Conservation Plans	NA	Agriculture	ConPlan
Riparian Buffers	USDA Farm Services Agency	Riparian Forest Buffer	391	Agriculture	ForestBuffers
Wetland Restoration	USDA Farm Services Agency	Wetland Restoration	657	Agriculture	WetlandRestore
Marginal Pastureland Wildlife Habitat	USDA Farm Services Agency	Land Retirement	NA	Agriculture	LandRetirePas
Marginal Pastureland Wetland Buffer	USDA Farm Services Agency	Wetland Buffer	NA	Agriculture	WetlandRestore
Bottomland Wetland Trees	USDA Farm Services Agency	Tree Planting	NA	Agriculture	TreePlant
Streambank Fencing	PA Bureau of Watershed Management	Streambank and Shoreline Protection	380	Agriculture	PastFence
Access Control	USDA-NRCS	Access Control	472	Agriculture	PastFence
Access Road	USDA-NRCS	Access Road	360	Forest	Not Valid
Animal Mortality Facility	USDA-NRCS	Animal Mortality Facility	316	Agriculture	MortalityComp
Animal Trails and Walkways	USDA-NRCS	Animal Trails and Walkways	373	Agriculture	BamRunoffCont
Brush Management	USDA-NRCS	Brush Management	314	Agriculture	ConPlan
Closure of Waste Impoundment	USDA-NRCS	Closure of Waste Impoundments	NA	Agriculture	ConPlan
Composting Facility	USDA-NRCS	Composting Facility	317	Agriculture	MortalityComp
Conservation Cover	USDA-NRCS	Conservation Cover	327	Agriculture	LandRetireHyo
Conservation Crop Rotation	USDA-NRCS	Conservation Crop Rotation	NA	Agriculture	ConPlan
Contour Buffer Strips	USDA-NRCS	Contour Buffer Strips	332	Agriculture	ConPlan
Contour Farming	USDA-NRCS	Contour Farming	330	Agriculture	ConPlan
Contour Orchard and Other Perennial Crops	USDA-NRCS	Contour Orchard and Other Fruit Area	331	Agriculture	ConPlan
Cover Crop	USDA-NRCS	Cover Crop	340	Agriculture	CoverCropsSDW
Critical Area Planting	USDA-NRCS	Critical Area Planting	342	Agriculture	LandRetireHyo
Deep Tillage	USDA-NRCS	Deep Tillage	324	Agriculture	ConPlan
Diversion	USDA-NRCS	Diversion	362	Agriculture	ConPlan
Early Successional Habitat Development/Management	USDA-NRCS	Early Successional Habitat Development/Management	647	Agriculture	ConPlan
Feed Management	USDA-NRCS	Feed Management	592	Agriculture	DairyRecFeed
Fence	USDA-NRCS	Fencing	382	Agriculture	PastFence
Field Border	USDA-NRCS	Field Border	368	Agriculture	Grass Buffers
Filter Strip	USDA-NRCS	Filter Strip	393	Agriculture	Grass Buffers
Forage and Biomass Planting	USDA-NRCS	Forage and Biomass Planting	512	Agriculture	Not Valid
Forage Harvest Management	USDA-NRCS	Forage Harvest Management	511	Forest	ConPlan
Forest Stand Improvement	USDA-NRCS	Forest Stand Improvement	666	Forest	ForestCon
Grade Stabilization Structure	USDA-NRCS	Grade Stabilization Structure	410	Agriculture	ConPlan
Grassed Waterway	USDA-NRCS	Grassed Waterway	412	Agriculture	Grass Buffers
Heavy Use Area Protection	USDA-NRCS	Heavy Use Area Protection	561	Agriculture	BamRunoffCont
Hedgerow Planting	USDA-NRCS	Hedgerow Planting	422	Agriculture	ConPlan
Irrigation System, Microirrigation	USDA-NRCS	Irrigation System, Microirrigation	441	Agriculture	ConPlan
Irrigation System, Sprinkler	USDA-NRCS	Irrigation System, Sprinkler	442	Agriculture	ConPlan
Irrigation Water Management	USDA-NRCS	Irrigation Water Management	449	Agriculture	ConPlan
Nutrient Management	USDA-NRCS	Nutrient Management	590	Agriculture	NutMan
Prescribed Grazing	USDA-NRCS	Prescribed Grazing	528	Pasture	PrecRotGrazing
Residue and Tillage Management, Mulch Till	USDA-NRCS	Residue and Tillage Management, Mulch Till	345	Agriculture	ConserveTill
Residue and Tillage Management, No-Till/Strip Till/Direct Seed	USDA-NRCS	Residue and Tillage Management, No-Till/Strip Till/Direct Seed	329	Agriculture	ConserveTill
Residue Management, Seasonal	USDA-NRCS	Residue Management, Seasonal	344	Agriculture	ConserveTill
Riparian Forest Buffer	USDA-NRCS	Riparian Forest Buffer	391	Agriculture	ForestBuffers
Riparian Herbaceous Cover	USDA-NRCS	Riparian Herbaceous Cover	390	Agriculture	Grass Buffers



Roof Runoff Structure	USDA-NRCS	Roof Runoff Structure	358	Agriculture	Bam RunoffCont
Sediment Basin	USDA-NRCS	Sediment Basin	350	Agriculture	ConPlan
Stream Habitat Improvement and Management	USDA-NRCS	Stream Habitat Improvement and Management	395	Agriculture	ConPlan
Streambank and Shoreline Protection	USDA-NRCS	Streambank and Shoreline Protection	380	Agriculture	PastFence
Stripcropping	USDA-NRCS	Stripcropping		Agriculture	ConPlan
Subsurface Drain	USDA-NRCS	Subsurface Drain	606	Agriculture	ConPlan
Surface Drainage	USDA-NRCS	Surface Drainage	607	Agriculture	ConPlan
Terrace	USDA-NRCS	Terrace	600	Agriculture	ConPlan
Tree/Shrub Establishment	USDA-NRCS	Tree/Shrub Establishment	612	Agriculture	TreePlant
Tree/Shrub Pruning	USDA-NRCS	Tree/Shrub Pruning	680	Agriculture	Not Valid
Upland Wildlife Habitat Management	USDA-NRCS	Upland Wildlife Habitat Management	645	Agriculture	ConPlan
Vegetated Treatment Area	USDA-NRCS	Vegetated Treatment Area	635	Agriculture	ConPlan
Waste Storage Facility	USDA-NRCS	Animal Waste Management Systems (All Types)		Agriculture	AWMSLivestock
Waste Transfer	USDA-NRCS	Waste Transfer	634	Agriculture	(See Manure Transport tab)
Water and Sediment Control Basin	USDA-NRCS	Water and Sediment Control Basin	638	Agriculture	ConPlan
Watering Facility	USDA-NRCS	Watering Facility	614	Agriculture	OSW noFence
Wetland Enhancement	USDA-NRCS	Wetland Enhancement	639	Agriculture	Not Valid
Wetland Restoration	USDA-NRCS	Wetland Restoration	637	Agriculture	WetlandRestore
Wetland Wildlife Habitat Management	USDA-NRCS	Wetland Wildlife Habitat Management	644	Agriculture	Not Valid
Windbreak/Shelterbelt	USDA-NRCS	Windbreak/Shelterbelt Establishment	380	Agriculture	TreePlant
Septic System Hook-ups	USDA-Rural Development Program	Septic Connections		Urban	SepticConnect
Septic System Hook-ups	Penn Vest	Septic Connections		Urban	SepticConnect
CREP Riparian Forest Buffer	USDA Farm Services Agency	CREP Riparian Forest Buffer		Agriculture	ForestBuffers
Riparian Forest Buffer	PA Growing Greener Program	Riparian Forest Buffer	391	Agriculture	ForestBuffers
Riparian Forest Buffer	PA Watershed Restoration Assistance Program	Riparian Forest Buffer	391	Agriculture	ForestBuffers
Access Road	PA Chesapeake Bay Innovation Grant	Access Road	360	Forest	Not Valid
Anaerobic Digester	PA Chesapeake Bay Innovation Grant	Anaerobic Digester, Controlled Temperature	366	Agriculture	Not Valid
Animal Trails and Walkways	PA Chesapeake Bay Innovation Grant	Animal Trails and Walkways	375	Agriculture	Bam RunoffCont
Bamyard Runoff Control	PA Chesapeake Bay Innovation Grant	Heavy Use Area Protection	337	Agriculture	Bam RunoffCont
Cover & Green Manure Crop	PA Chesapeake Bay Innovation Grant	Cover Crops	340	Agriculture	CoverCropSD W
Critical Area Planting	PA Chesapeake Bay Innovation Grant	Critical Area Planting	342	Agriculture	LandRetireHyo
Diversion	PA Chesapeake Bay Innovation Grant	Diversion	362	Agriculture	ConPlan
Fencing	PA Chesapeake Bay Innovation Grant	Streambank and Shoreline Protection	380	Agriculture	PastFence
Fish Stream Improvement	PA Chesapeake Bay Innovation Grant	Stream Improvement for Fish Habitat		Stream Restoration	NonUrbanStrmRest
Grade Stabilization Structure	PA Chesapeake Bay Innovation Grant	Grade Stabilization Structure	410	Agriculture	ConPlan
Grassed Waterway	PA Chesapeake Bay Innovation Grant	Grassed Waterway	412	Agriculture	Grass Buffers
Heavy Use Area Protection	PA Chesapeake Bay Innovation Grant	Heavy Use Area Protection	361	Agriculture	Bam RunoffCont
Lined Waterway or Outlet	PA Chesapeake Bay Innovation Grant	Lined Waterway or Outlet	468	Agriculture	ConPlan
Manure Waste Transfer	PA Chesapeake Bay Innovation Grant	Manure Transport	634	Agriculture	(See Manure Transport tab)
Nutrient Management Plan	PA Chesapeake Bay Innovation Grant	Nutrient Management	390	Agriculture	NutMen
Pasture & Hayland Management	PA Chesapeake Bay Innovation Grant	Conservation Plans		Agriculture	ConPlan
Pasture & Hayland Planting	PA Chesapeake Bay Innovation Grant	Pasture & Hay Planting	312	Agriculture	LandRetirePas
Riparian Forest Buffer	PA Chesapeake Bay Innovation Grant	Riparian Forest Buffer	391	Agriculture	ForestBuffers
Roof Runoff Management	PA Chesapeake Bay Innovation Grant	Roof Runoff Structure	358	Agriculture	Bam RunoffCont
Stream Crossing	PA Chesapeake Bay Innovation Grant	Stream Crossing	378	Agriculture	OSW noFence
Streambank & Shoreline Protection	PA Chesapeake Bay Innovation Grant	Streambank and Shoreline Protection	380	Agriculture	PastFence
Terrace	PA Chesapeake Bay Innovation Grant	Conservation Plans	600	Agriculture	ConPlan
Waste Storage Pond	PA Chesapeake Bay Innovation Grant	Animal Waste Management Systems (All Types)		Agriculture	AWMSLivestock
Waste Storage Structure	PA Chesapeake Bay Innovation Grant	Animal Waste Management Systems (All Types)		Agriculture	AWMSLivestock
Nutrient Management (Total acres)	PA Nutrient Management Act	Nutrient Management	390	Agriculture	NutMen
Animal Waste Management System	PA Nutrient Management Act	Animal Waste Management Systems (All Types)		Agriculture	AWMSLivestock
Bamyard Runoff System	PA Nutrient Management Act	Heavy Use Area Protection	361	Agriculture	Bam RunoffCont
Permanent Vegetative Cover	PA Nutrient Management Act	Critical Area Planting	342	Agriculture	LandRetireHyo
Waterway System	PA Nutrient Management Act	Grassed Waterway	412	Agriculture	Grass Buffers
Streambank Fencing (Excluded area in acres)	PA Chesapeake Bay Innovation Grant	Streambank Protection (fencing)		Agriculture	PastFence
Bamyard Runoff Control	PA Growing Greener and 319 programs	Heavy Use Area Protection	337	Agriculture	Bam RunoffCont
Conservation Cover	PA Growing Greener and 319 programs	Conservation Cover	327	Agriculture	LandRetireHyo
Conservation Crop Rotation	PA Growing Greener and 319 programs	Conservation Crop Rotation		Agriculture	ConPlan
Cover Crop	PA Growing Greener and 319 programs	Cover Crops	340	Agriculture	CoverCropSD W
Critical Area Planting	PA Growing Greener and 319 programs	Critical Area Planting	342	Agriculture	LandRetireHyo
Diversion	PA Growing Greener and 319 programs	Diversion	362	Agriculture	ConPlan
Fence	PA Growing Greener and 319 programs	Streambank Protection (fencing)		Agriculture	PastFence
Filter Strip	PA Growing Greener and 319 programs	Filter Strip	393	Agriculture	Grass Buffers
Grade Stabilization Structure	PA Growing Greener and 319 programs	Grade Stabilization Structure	410	Agriculture	ConPlan
Grassed Waterway	PA Growing Greener and 319 programs	Grassed Waterway	412	Agriculture	Grass Buffers
Heavy Use Area Protection	PA Growing Greener and 319 programs	Heavy Use Area Protection	361	Agriculture	Bam RunoffCont
Lined Waterway or Outlet	PA Growing Greener and 319 programs	Lined Waterway or Outlet	468	Agriculture	ConPlan

## Part 2

Systems	COUNT	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
ST	COUNT	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
Acres	ACRE	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
FT	FEET	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
AC	ACRE	State	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
FT	FEET	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
FT	FEET	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
FT	FEET	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
Acres	ACRE	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
Acre	ACRE	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
AC	ACRE	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
Acre	ACRE	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
Systems	COUNT	State	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
		Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
NO	ACRE	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
NO	COUNT	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
Enhancement	ACRE	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
Area	ACRE	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
Acres Managed	ACRE	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
FT	FEET	Federal	Federal	2010_NRCs_to_IT.xls	Date to be collected by CBPO in future?
Hookups	COUNT	State	Federal	2010_septic_hookups.xls	Date to be collected by CBPO in future?
Hookups	COUNT	State	State	2010_septic_hookups.xls	
Area Planted	ACRE	State	Federal	2010_Stream_Relief_to_IT.xls	Date to be collected by CBPO in future?
Acres	ACRE	Federal	State	2010_Stream_Relief_to_IT.xls	
Acres	ACRE	Federal	State	2010_Stream_Relief_to_IT.xls	
FT	FEET	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
NO	COUNT	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Feet	FEET	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
AC	ACRE	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Area Planted	ACRE	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
AC	ACRE	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
FT	FEET	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
FT	FEET	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Length	FEET	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
ST	COUNT	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Acres	ACRE	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
AC	ACRE	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
FT	FEET	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
	NUMBER	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Number	NUMBER	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Acres	ACRE	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Acres	ACRE	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Acres	ACRE	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
NO	COUNT	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
ST	COUNT	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
FT	FEET	Federal	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Acres	ACRE	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Systems	COUNT	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Systems	COUNT	State	State	2010-misc BMPs (B E).xls/C BIG BMPs tab	
Acres	ACRE	Federal	State	2010-misc BMPs (B E).xls/N M Act Nutrient Man acres tab	
Systems	COUNT	State	State	2010-misc BMPs (B E).xls/N M Act BMPs tab	
AC	ACRE	Federal	State	2010-misc BMPs (B E).xls/N M Act BMPs tab	
AC	ACRE	Federal	State	2010-misc BMPs (B E).xls/N M Act BMPs tab	
Acres	ACRE	Federal	State	2010-misc BMPs (B E).xls/N M Act BMPs tab	
Area Protected	ACRE	State	State	2010-misc BMPs (B E).xls/C BIG SB Fence tab	
Number of Facilities	COUNT	State	State	Ag8 MP sDetailing utx ls	
AC	ACRE	Federal	State	Ag8 MP sDetailing utx ls	
AC	ACRE	State	State	Ag8 MP sDetailing utx ls	
Area Planted	ACRE	Federal	State	Ag8 MP sDetailing utx ls	
Area Planted	ACRE	Federal	State	Ag8 MP sDetailing utx ls	
Area Treated	ACRE	Federal	State	Ag8 MP sDetailing utx ls	
Area Protected	ACRE	State	State	Ag8 MP sDetailing utx ls	
AC	ACRE	Federal	State	Ag8 MP sDetailing utx ls	
ST	COUNT	Federal	State	Ag8 MP sDetailing utx ls	
Acres	ACRE	Federal	State	Ag8 MP sDetailing utx ls	
AC	ACRE	Federal	State	Ag8 MP sDetailing utx ls	
FT	FEET	Federal	State	Ag8 MP sDetailing utx ls	

Part 2b (continuation of columns for each of the rows shown in Part 2)

Manure Transport	PA Growing Greener and 319 programs	Manure Transport		634 Agriculture	(See Manure Transport tab)
Mortality Composting	PA Growing Greener and 319 programs	Composting Facility		317 Agriculture	MortalityComp
Nutrient Management	PA Growing Greener and 319 programs	Nutrient Management		390 Agriculture	NutMan
Pasture and Hayland Planting	PA Growing Greener and 319 programs	Pasture & Hay Planting		312 Agriculture	LandRetirePas
Prescribed Grazing	PA Growing Greener and 319 programs	Prescribed Grazing		328 Agriculture	PresRotGrazing
Riparian Forest Buffer	PA Growing Greener and 319 programs	Riparian Forest Buffer		391 Agriculture	ForestBuffers
Riparian Herbaceous Cover	PA Growing Greener and 319 programs	Riparian Herbaceous Cover		390 Agriculture	Grass Buffers
Roof Runoff Structure	PA Growing Greener and 319 programs	Heavy Use Area Protection		361 Agriculture	Sam RunoffCont
Sediment Basin	PA Growing Greener and 319 programs	Sediment Basin		350 Agriculture	ConPlan
Stream Channel Stabilization	PA Growing Greener and 319 programs	Stream Channel Stabilization	NA	Stream Restoration	NonUrbanStrmRest
Stream Habitat Improvement and Management	PA Growing Greener and 319 programs	Stream Habitat Improvement and Management		395 Agriculture	ConPlan
Streambank and Shoreline Protection	PA Growing Greener and 319 programs	Streambank and Shoreline Protection		380 Agriculture	PastFence
Terrace	PA Growing Greener and 319 programs	Conservation Plans	NA	Agriculture	ConPlan
Tree/Shrub Establishment	PA Growing Greener and 319 programs	Tree/Shrub Establishment		612 Agriculture	TreePlant
Trough or Tank	PA Growing Greener and 319 programs	Watering Facility		614 Agriculture	OSWnoFence
Waste Management System	PA Growing Greener and 319 programs	Animal Waste Management Systems (All Types)	NA	Agriculture	AWMSLivestock
Waste Stacking and Handling Pad	PA Growing Greener and 319 programs	Heavy Use Area Protection	NA	Agriculture	Sam RunoffCont
Waste Storage Facility	PA Growing Greener and 319 programs	Animal Waste Management Systems (All Types)	NA	Agriculture	AWMSLivestock
Water and Sediment Control Basin	PA Growing Greener and 319 programs	Water and Sediment Control Basin		638 Agriculture	ConPlan
Wetland Creation	PA Growing Greener and 319 programs	Wetland Creation		638 Agriculture	WetlandRestore
Wetland Restoration	PA Growing Greener and 319 programs	Wetland Restoration		637 Agriculture	WetlandRestore
Riparian Herbaceous Cover	????	Riparian Herbaceous Cover		390 Agriculture	Grass Buffers
Road Stabilization	PA Dirt and Gravel Road Program	D&G Road - Surface Aggregate and Raised Roadbed	NA	Forest	DirtGravelDSA
Ditches Stabilized	PA Growing Greener and 319 programs	D&G Road - E&S Control and Outlets	NA	Forest	DirtGravelDSAOut
Bank Benches	PA Growing Greener and 319 programs	D&G Road - E&S Control and Outlets	NA	Forest	DirtGravelDSAOut
Surface Aggregate	PA Growing Greener and 319 programs	D&G Road - Surface Aggregate and Raised Roadbed	NA	Forest	DirtGravelDSA
Stream Pipes	PA Growing Greener and 319 programs	D&G Roads - Outlets Only	NA	Forest	DirtGravelnoDSA
Through Drains	PA Growing Greener and 319 programs	D&G Roads - Outlets Only	NA	Forest	DirtGravelnoDSA
Underdrainage	PA Growing Greener and 319 programs	D&G Roads - Outlets Only	NA	Forest	DirtGravelnoDSA
Adding Turnouts	PA Growing Greener and 319 programs	D&G Roads - Outlets Only	NA	Forest	DirtGravelnoDSA
Bioretention Areas	PA Growing Greener and 319 programs	Bioretention	NA	Urban	Filter
Constructed Wetlands	PA Growing Greener and 319 programs	Constructed Wetland		636 Urban	WetPondWetland
Dry Extended Detention Ponds	PA Growing Greener and 319 programs	Dry Extended Detention Ponds	NA	Urban	BrdDryPonds
Erosion & Sediment Control	PA Growing Greener and 319 programs	Erosion and Sediment Control	NA	Urban	BandS
Filtering Practices	PA Growing Greener and 319 programs	Filtering Practices	NA	Urban	Filter
Infiltration Practices	PA Growing Greener and 319 programs	Infiltration Practices	NA	Urban	Infiltration
Reduction of Impervious Surface	PA Growing Greener and 319 programs	Reduction of Impervious Surface	NA	Urban	ImpSurRed
Rooftop Runoff Management	PA Growing Greener and 319 programs	Roof Runoff Management	NA	Urban	???
Wet Pond & Wetlands	PA Growing Greener and 319 programs	Wet Ponds & Wetlands	NA	Urban	WetPondWetland
Nutrient Management	PA CBIG and NM Act Programs	Nutrient Management		390 Agriculture	NutMan
Stream Restoration	PA Fish and Boat Commission	Stream Improvement for Fish Habitat	NA	Forest	NonUrbanStrmRest
Animal Mortality Facility	PA State Conservation Commission REAP	Animal Mortality Facility		316 Agriculture	MortalityComp
Composting	PA State Conservation Commission REAP	Composting Facility		317 Agriculture	MortalityComp
Composting Facility	PA State Conservation Commission REAP	Composting Facility		317 Agriculture	MortalityComp
Cover Crop	PA State Conservation Commission REAP	Cover Crops		340 Agriculture	CoverCropsDW
Critical Area Planting	PA State Conservation Commission REAP	Critical Area Planting		342 Agriculture	LandRetireHyo
Fence	PA State Conservation Commission REAP	Prescribed Grazing		328 Agriculture	PresRotGrazing
Grassed Waterway	PA State Conservation Commission REAP	Grassed Waterway		412 Agriculture	Grass Buffers
Heavy Use Area Protection	PA State Conservation Commission REAP	Heavy Use Area Protection		361 Agriculture	Sam RunoffCont
No-Till	PA State Conservation Commission REAP	No-till	NA	Agriculture	ConserveTill
Pasture and Hay Planting	PA State Conservation Commission REAP	Pasture and Hay Planting		312 Agriculture	LandRetirePas
Prescribed Grazing	PA State Conservation Commission REAP	Prescribed Grazing		328 Agriculture	PresRotGrazing
Roof Runoff Structure	PA State Conservation Commission REAP	Roof Runoff Structure		358 Agriculture	Sam RunoffCont
Terrace	PA State Conservation Commission REAP	Terrace		600 Agriculture	ConPlan
Tree Planting	PA State Conservation Commission REAP	Tree Planting	NA	Agriculture	TreePlant
Animal Waste Management Systems (All Types)	PA State Conservation Commission REAP	Animal Waste Management Systems (All Types)	NA	Agriculture	AWMSLivestock
Riparian Stream Buffers (Grass)	PA Growing Greener Program	Riparian Herbaceous Cover		390 Agriculture	Grass Buffers
Riparian Stream Buffers (Forest)	PA Growing Greener Program	Riparian Forest Buffer		391 Agriculture	ForestBuffers
Streambank Fencing	PA Growing Greener Program	Streambank and Shoreline Protection		380 Agriculture	PastFence
Streambank Stabilization	PA Growing Greener Program	Stream Channel Stabilization	NA	Stream Restoration	NonUrbanStrmRest

		State	State	Ag&MP&DataInput.xls	
NO	COUNT	Federal	State	Ag&MP&DataInput.xls	
Acres	ACRE	Federal	State	Ag&MP&DataInput.xls	
Acres	ACRE	Federal	State	Ag&MP&DataInput.xls	
Acres	ACRE	Federal	State	Ag&MP&DataInput.xls	
Acres	ACRE	Federal	State	Ag&MP&DataInput.xls	
Acres	ACRE	Federal	State	Ag&MP&DataInput.xls	
AC	ACRE	Federal	State	Ag&MP&DataInput.xls	
ST	COUNT	Federal	State	Ag&MP&DataInput.xls	
Stream Bank Length	FEET	State	State	Ag&MP&DataInput.xls	
AC	ACRE	Federal	State	Ag&MP&DataInput.xls	
FT	FEET	Federal	State	Ag&MP&DataInput.xls	
Acres	ACRE	State	State	Ag&MP&DataInput.xls	
Acres	ACRE	Federal	State	Ag&MP&DataInput.xls	
NO	COUNT	State	State	Ag&MP&DataInput.xls	
Systems	COUNT	State	State	Ag&MP&DataInput.xls	
Number of Facilities	COUNT	State	State	Ag&MP&DataInput.xls	
Systems	COUNT	State	State	Ag&MP&DataInput.xls	
NO	ACRE	Federal	State	Ag&MP&DataInput.xls	
AC	ACRE	Federal	State	Ag&MP&DataInput.xls	
AC	ACRE	Federal	State	Ag&MP&DataInput.xls	
Acres	ACRE	Federal	State	DEP_2010_Grass_Buffers_to_IT.xls	WHERE FROM?????
Length	FEET	State	State	DirGravelRoad_data.xls	
Length	FEET	State	State	DSRoads_input.xls	
Length	FEET	State	State	DSRoads_input.xls	
Length	FEET	State	State	DSRoads_input.xls	
Length	FEET	State	State	DSRoads_input.xls	
Length	FEET	State	State	DSRoads_input.xls	
Length	FEET	State	State	DSRoads_input.xls	
Length	FEET	State	State	DSRoads_input.xls	
No. Systems	COUNT	State	State	Input_Urban.xls	
No. Systems	COUNT	State	State	Input_Urban.xls	
Area Treated	ACRE	State	State	Input_Urban.xls	
Disturbed Area	ACRE	State	State	Input_Urban.xls	
Drainage Area	ACRE	State	State	Input_Urban.xls	
Area Treated	ACRE	State	State	Input_Urban.xls	
Acres	ACRE	State	State	Input_Urban.xls	
Drainage Area	???	State	State	Input_Urban.xls	
Acres	ACRE	Federal	State	NIM_Acres_CBIGandNMA.xls	
Length	FEET	State	State	PFBC Stream Restoration 2005-2010 Chesapeake Bay Summary.xls	
NO	COUNT	Federal	State	REAP_2007-2010.xls	
NO	COUNT	Federal	State	REAP_2007-2010.xls	
NO	COUNT	Federal	State	REAP_2007-2010.xls	
Area Planted	ACRE	Federal	State	REAP_2007-2010.xls	
AC	ACRE	Federal	State	REAP_2007-2010.xls	
AC	ACRE	Federal	State	REAP_2007-2010.xls	
Acres	ACRE	Federal	State	REAP_2007-2010.xls	
AC	ACRE	Federal	State	REAP_2007-2010.xls	
AC	ACRE	State	State	REAP_2007-2010.xls	
Acres	ACRE	Federal	State	REAP_2007-2010.xls	
Acres	ACRE	Federal	State	REAP_2007-2010.xls	
NO	COUNT	State	State	REAP_2007-2010.xls	
FT	FEET	Federal	State	REAP_2007-2010.xls	
Area Planted	ACRE	State	State	REAP_2007-2010.xls	
Systems	COUNT	State	State	REAP_2007-2010.xls	
Acres	ACRE	Federal	State	Stream_input_293_End_Final.xls	
Acres	ACRE	Federal	State	Stream_input_293_End_Final.xls	
FT	FEET	Federal	State	Stream_input_293_End_Final.xls	
Stream Bank Length	FEET	State	State	Stream_input_293_End_Final.xls	

Part 3b (continuation of columns for each of the rows shown in Part 3)