

State Conservation Commission Meeting

February 9, 2016

Ramada Conference Center, State College PA

Agenda

Orientation/Briefing Session – 10:00am; Chairman’s Room

1. Review of agenda items.
2. Insights from EPA Region III State Animal Agriculture Program Assessments, *Kelly Shenk, Agricultural Advisor, EPA Region III*

Luncheon – 12:30 – 1:30PM

Business Session – 1:45pm; Ballroom B

A. Opportunity for Public Comment

B. Business and Information Items

1. Approval of Minutes (A)
 - a. January 22, 2016 Public Meeting
2. Approval for the creation of and appointments to the Nutrient Management (Act 38) and Manure Management (Chapter 91) Delegation Workgroup – Frank Schneider, SCC (A)
3. Appointments to the State Conservation Commission General Advisory Committee – Karl G. Brown, SCC (A)
4. 2014 Conservation District Annual Audit Findings Report –Karen Books, DEP (A)
5. DEP Special Project Agreements - Signature Authority Approval for Deputy Secretary Kelly Hefner – Fred Fiscus, DEP (A)
6. Penn State Non-Cost-Shared BMP Survey – Jim Shortle, PSU (NA)
7. Growing Greener III Update – Erin Smith, Policy Director, PDA (NA)
8. Dirt, Gravel and Low Volume Road Program Update – Roy Richardson, SCC & Steve Bloser, Center for DGR Studies (NA).
9. Tioga Conservation District Building Project – E. Tomlinson, Tioga County Conservation District (NA)
10. NRCS Program Updates (NA)
 - a. PA NRCS Strategic Plan Results 2011-15 – Denise Coleman, NRCS
 - b. Remote Sensing Project – Joseph Kraft, NRCS
11. Chesapeake Bay Program Update (Strategy & FAQ Release & Posting) - Karl Brown (SCC)

C. Written Reports

1. Ombudsman Program Reports
2. Act 38 Nutrient Management Program

D. Cooperating Agency Reports

Adjournment

Next Public Meeting – March 8, 2016; Pa Department of Agriculture, Harrisburg PA.

STATE CONSERVATION COMMISSION MEETING
PA Dept of Agriculture, Harrisburg, PA
Tuesday, January 22, 2016 @ 1:00 p.m.

Draft Minutes

Members Present: Secretary John Quigley, DEP; Secretary Russell Redding, PDA; Deputy Secretary Greg Hostetter, PDA ; Kelly Heffner, DEP; Ronald Rohall; Ronald Kopp; Michael Flinchbaugh; Denise Brinley for Secretary Dennis Davin, DCED; Denise Coleman, State Conservationist, USDA NRCS; Dr. Dennis Calvin, Penn State University Cooperating Extension via conference call.

Secretary Redding opened the meeting and noted that an executive session was held prior to the public meeting to discuss several compliance and enforcement issues.

A. Public Input

Public comments were received during agenda item B.4.a.

B. Business and Information Items

1. Approval of Minutes

a. November 10, 2015 Public Meeting

Ron Kopp moved to approve the November 10, 2015 minutes. Motion seconded by Mike Flinchbaugh. Motion carried.

2. Nutrient and Odor Management Program (A)

a. Marlin Martin OMP, Lebanon County - Karl Dymond, SCC

Karl Dymond reported that the Marlin Martin OMP meets the planning and implementation criteria established under the PA Nutrient & Odor Management Act and Facility Odor Management Regulations.

Kelly Heffner moved to approve the Marlin Martin OMP plan. Motion seconded by Mike Flinchbaugh. Motion carried.

b. Bar-U-Farm NMP, Harold Hauschild; CAO Monroe Co - Michael Walker, SCC

Mike Walker reported that the Bar-U-Farm NMP meets the nutrient management planning and implementation criteria established under Act 38 Nutrient Management rules and regulations.

Mike Flinchbaugh moved to approve the Bar-U-Farm NMP. Motion seconded by Ron Kopp. Motion carried.

- c. Mountain Creek Riding Stable, Inc. NMP, Mark Ecker; CAO Monroe County Michael Walker, SCC

Mike Walker reported that the Mountain Creek Riding Stable, Inc. NMP meets the nutrient management planning and implementation criteria established under the Act 38 Nutrient Management rules and regulations.

Ron Kopp moved to approve the Mountain Creek Riding Stable, Inc. NMP. Motion seconded by Mike Flinchbaugh. Motion carried.

- d. Andrew Mizerak NMP; VAO Lackawanna County – Michael Walker, SCC

Mike Walker reported that the Andrew Mizerak NMP meets the nutrient management planning and implementation criteria established under the Act 38 Nutrient Management rules and regulations.

Ron Rohall moved to approve the Andrew Mizerak NMP. Motion seconded by Ron Kopp. Motion carried.

- e. Wright Dairy Farm NMP; VAO Lackawanna County– Michael Walker, SCC

Mike Walker reported that the Wright Dairy Farm NMP meets the nutrient management planning and implementation criteria established under the Act 38 Nutrient Management rules and regulations.

Kelly Heffner moved to approve the Wright Dairy Farm NMP. Motion seconded by Ron Rohall. Motion carried.

3. Susquehanna County Conservation District Reserve Account request to include additional funds - Johan E. Berger, SCC (A)

Johan reported that the Conservation District Fund Allocation Program Statement of Policy allows for the use of funds allocated to conservation districts by the State Conservation Commission for the creation of a reserve account for purposes approved by the Commission. At its March 17, 2015 public meeting, the Commission approved the creation of a reserve account for the Susquehanna County Conservation District (District). The approved request placed a portion of the FY2014-15 Unconventional Gas Well funds allocated to the District in a reserve account for a new office building project. The District's Board of Directors has submitted a request to the Commission to designate allocated FY2015-16 UGW funds into the District's existing Building Reserve Account established for the building project. Jim Garner, Susquehanna County's manager (via conference call), reported that on December 15th, property was purchased for \$108,000 and is now ready for construction. The District met with several builders to review plans and is awaiting Commission approval to designate an additional \$48,662.00 into the reserve account.

Ron Rohall moved to approve Susquehanna County's Conservation District Reserve Account request to include \$48,662 in additional funds. Motion seconded by Mike Flinchbaugh. Motion carried.

4. Chesapeake Bay Reboot Strategy Update – Secretary Russell Redding & Secretary John Quigley (NA)

Secretary Quigley reported that various state agencies are working together to reboot the program with a reasonably balanced WIP strategy for 2025. Penn State University is reaching out to farmers to collect data on nutrient management cost shared BMPs that farmers have installed to improve the Bay. Penn State designed a survey to send to 20,000 farmers in the Bay area.

Secretary Redding acknowledged that there are many farmers who have done the work to help meet goals. A sensible approach is necessary to carry the strategy forward to 2025. Meetings with conservation districts are essential and planned for implementation in moving forward to incorporate a compliance element in the state's strategy.

Public Comments

Mark Kimmel, York County Conservation District

Mark commented that smaller districts who may have to form a position to help with Bay practices may not have the funding for the position. And, would a third party entity be part of the solution to split the cost with districts? Conservation Districts need to be consulted in these discussions so their concerns may be addressed.

Ron Kopp, SCC

Ron commented that any compliance initiatives will change the dynamics between conservation districts and farming communities.

Denise Coleman, NRCS

Denise commented that NRCS has assisted in the implementation of over 90,000 BMPs in previous years and that NRCS would like to be a part of the discussions.

Mike Flinchbaugh, SCC

Mike commented if whether the strategy will develop a streamlined protocol for enforcement and what resources would be used for the enforcement.

5. Penn State Non-Cost Share Ag BMP Survey – Secretary Russell Redding and Karl Brown (NA)

Secretary Redding briefly discussed a survey that is being produced by Penn State to gather data on non-cost share BMPs that could be counted towards Chesapeake Bay program goals.

6. State Conservation Commission General Advisory Committee – Karl G. Brown, SCC

Karl introduced a proposal to create an advisory committee to the Commission to assist the Commission and program staff on the CDFAP Statement of Policy and other issues related to other Commission programs as they arise. The advisory committee will be comprised of district managers and district directors. A final proposal for the Commission's consideration would be presented at the February public meeting.

C. Cooperating Agency & Organization Reports

Denise Coleman, NRCS

Denise reported that a strategic plan is almost in its final form.

Dennis Calvin, PSU

Nothing to report

Deputy Secretary Greg Hostetter, PDA

Secretary Hostetter gave an update on High Path Avian Influenza. AI resurfaced in Indiana with a different strain. AI was the deadliest last year during March – May. PDA still remains on high alert.

Denise Brinley, DCED

Nothing to report.

Brenda Shambaugh, PACD

Nothing to report.

C. Written Reports

1. Program Reports

- a. Act 38 Delegated Conservation District Evaluation Report
- b. Act 38 Nutrient Management Program – 2015 Accomplishments
- c. Act 38 Facility Odor Management Program - Status Report on Plan Reviews
- d. Certification and Education Programs – 2015 Accomplishments
- e. REAP Program – 2015 Accomplishments
- f. Dirt Gravel, Low Volume Road Program – 2015 Accomplishments
- g. Conservation District Fund Allocation Program – 2015 Accomplishments

F. Adjournment

The meeting concluded at 3:00 p.m.

The next SCC public meeting is scheduled for a public meeting on February 9, 2016 at the Ramada Conference Center, State College at 1:45 p.m.



**COMMONWEALTH OF PENNSYLVANIA
STATE CONSERVATION COMMISSION**

DATE: January 29, 2016

TO: Members
State Conservation Commission

FROM: Frank X. Schneider
Director, Nutrient and Odor Management Programs

THROUGH: Karl G. Brown
Executive Secretary

SUBJECT: Formation of Nutrient Management and Manure Management Delegation Agreement Workgroup

Action Requested

Approval of the formation of a Nutrient Management and Manure Management Delegation Agreement Workgroup to negotiate a new five (5) year delegation agreement.

Background

The Commission and the Pennsylvania Department of Environmental Protection (DEP) entered into a joint five (5) year delegation agreement with select conservation districts for Fiscal Years 2012-2017 for Nutrient Management (NM) and Manure Management (MM). That delegation agreement concludes on June 30, 2017.

It is the intent of both the Commission and DEP to enter into another joint 5 year delegation agreement for NM and MM with select conservation districts for Fiscal Years 2017-2022.

The workgroup that is being proposed would include representatives from the following:

- SCC
- DEP
- Pennsylvania Association of Conservation Districts (PACD)
- Conservation Districts from the following locations:
 - SCC West Region / DEP NWRO Region
 - SCC West Region / DEP SWRO Region
 - SCC Northeast Region / DEP NCRO Region
 - SCC Northeast Region / DEP NERO Region
 - SCC Central Region / DEP SCRO Region

- SCC Central Region / DEP NWRO Region
- SCC Southeast Region / DEP SCRO Region
- SCC Southeast Region / DEP SERO Region

Over the course of Calendar Year 2016, it is proposed that the workgroup will meet several times through face to face meetings and conference call/webinars to negotiate a new joint delegation agreement and a new funding formula.

It is the intent of Commission staff to have a draft delegation agreement and funding formula developed prior to the end of 2016, so that every delegated conservation district can review and provide comments prior to asking the Commission for final action.

It is anticipated that SCC staff will ask for an action on the new joint delegation agreement at the April 2017 Commission meeting.

Attached are the proposed members of the Joint NM/MM Delegation Workgroup for your consideration.

Date: February 3, 2016

To: Members
State Conservation Commission

From: Karl G. Brown
Executive Secretary

RE: SCC General Advisory Committee

Action Requested: Appointments to the Commission's General Advisory Committee.

Background: In November 2015, the Commission approved the creation of a general advisory committee to assist the Commission in the review and evaluation of the mid and long term changes to the Conservation District Fund Statement of Policy (CDFAP) which would require districts to dedicate a portion of these funds to agricultural best management practices, and or document that CDFAP funds were successfully being utilized to leverage other grant funds for these purposes. Staff is recommending this general advisory committee be appointed to advise both on these specific changes to the CDFAP statement of policy, and also as an on-going advisory group to the commission, DEP and PDA on matters policy matters related to conservation district programs and operations.

Recommended Structure:

1. Up to twelve (12) members, including one conservation district director and one staff person from each of PACD's regions, where feasible.
2. Members are appointed by the Commission.
3. Terms will be staggered to ensure continuity on committee.
4. Terms limits of 3 years for members will help to ensure new blood.
5. Meet as necessary throughout the year and utilize conference calls where feasible to minimize travel.

Responsibilities:

1. The first priority of the General Advisory Committee will be to advise on revisions to the Conservation District Fund Allocation Program (CDFAP) statement of policy, and then perform other ongoing duties as appropriate.

2. Other duties may include:

- a. Advising on SCC policies and procedures;
- b. Advising on SCC on specific programs, issues or concerns;
- c. Forming limited-term subcommittees to deal with specific issues, problems or opportunities;
- d. Interfacing on a regional level with various agency regional offices (DEP, PDA, SCC and others) to improve communications and interactions.
- e. Other duties as determined appropriate by the SCC.

Proposed Membership: The following individuals are recommended for appointment for 2016 (calendar year).

<u>Region</u>	<u>Member</u>	<u>Initial Term Length</u>
NW	Sandy Thompson, Manager, McKean	(3x)
	Don Hoye, Director, Lawrence	(2x)
NC	Mary Ann Bower, Manager, Clinton	(1x)
	Rob Shannon, Director, Centre	(3x)
NE	Josh Longmore, Manager, Luzerne	(2x)
	Mary Ann Warren, Director, Susquehanna	(1x)
SW	Dave Rupert, Manager, Armstrong	(3x)
	Joseph Dietrick, Director, Westmoreland	(2x)
SC	Donna Fisher, Manager, Blair	(1x)
	Blaine Smith, Director, Blair	(3x)
SE	Chris Strohmaier, Manager, Chester	(2x)
	William Erdman, Director, Lehigh	(1x)

**FY17-22 NM/MM Delegation Agreement
Proposed Workgroup**

SCC/PDA:

Frank X Schneider (fschneider@pa.gov)
Johan Berger (joberger@pa.gov)
Karl Brown (kbrown@pa.gov)

DEP:

Ryan Kostival (rkostival@pa.gov)
Tom Juengst (tjuengst@pa.gov)
Kelly Heffner (kheffner@pa.gov)
Dave Jostenski (djostenski@pa.gov)
Others as advised

DEP Regional Offices:

Andrea Blosser (ablosser@pa.gov)
Patty Haven (phavens@pa.gov)

SCC Regional Coordinators:

Michael Walker (miwalker@pa.gov)

SCC West and DEP NWRO Region:

Shawn Hedglin - Mercer CD Tech (shedglin@mcc.co.mercer.pa.us)

SCC West and DEP SWRO Region:

Dan Griffith – Westmoreland CD Tech (dan@wcdpa.com)

SCC Northeast and DEP NCRO Region:

Erica Tomlinson – Tioga CD Manager (etomlinson@tiogacountypa.us)

SCC Northeast and DEP NERO Region:

Doug Deutsch – Wyoming CD Manager (ddeutsch@wycopa.org) – Not confirmed

SCC Central and DEP SCRO Region:

Rich Huether – Blair CD Tech (rhether@blairconservationdistrict.org)

SCC Central and DEP NWRO:

Deb Wilson – Jefferson CD Manager (iccd@windstream.net)

SCC Southeast and DEP SCRO Region:

Jeff Hill – Lancaster CD Tech (jeffhill@lancasterconservation.org)

SCC Southeast and DEP SERO Region:

Dan Miloser – Chester CD Tech (dmiloser@chesco.org) – Not confirmed

PACD:

Brenda Shambaugh – Executive Director (bshambaugh@pacd.org)

Nominate 1 Conservation District Board of Director Member

MEMO

TO Karl G. Brown
Executive Secretary
State Conservation Commission

FROM Karen L. Books *KLB*
Conservation District Support Section

DATE February 3, 2016

RE Review of District Audit Reports for Calendar Year 2014

ACTION REQUESTED: Accept report of district audits for calendar year 2014

Background

Since 1999, the State Conservation Commission has required conservation district financial records to be audited under the supervision of a certified public accountant. Those audits must be completed in accordance with generally accepted auditing standards and the standards applicable to "Financial Statement" audits contained in the latest revision of *Government Auditing Standards* issued by the Comptroller General of the United States.

Summary of Audit Findings

Since 1999, districts have consistently made positive efforts in addressing the recommendations and findings reported in their audits. Many of the more common findings identified during the initial years have been addressed; however two common findings which are not easily addressed by districts, due to their prudent staffing complements, continue to be noted. "*Insufficient experience preparing financial statements*" and/or "*lack of segregation of duties*" was noted in 39% of the audits. These findings comprised 49% of all findings noted. Explanations of these two findings are as follows:

"*Insufficient experience preparing financial statements*" is related to the employees who do the district's accounting, not having sufficient experience preparing financial statements in accordance with generally accepted accounting principles as applicable to local governments. Districts have determined that it is more cost effective to utilize the auditor's services to supplement the district's internal capabilities, as opposed to hiring a professional accountant.

"*Lack of segregation of duties*" is related to the small number of staff in some district offices. Due to this small number of staff, these districts cannot achieve the segregation of duties recommended for an efficient system of internal controls over their finances. As an interim measure, district auditors consistently recommend that conservation district directors take an active role in the financial functions of their district. This involvement is intended to minimize the possibility that any errors or irregularities that could occur.

To permanently address “*Insufficient experience preparing financial statements*”, districts would need to employ or acquire the services of a public accountant or auditor separate from their current auditor. To permanently address “*Lack of segregation of duties*”, districts would need to implement a policy for additional staff to oversee/review financial activities. Agency staff has been looking into this issue and plan to recommend some options in the future to help districts address these findings.

Summary of Compliance with the SCC Audit Policy

I am pleased to report that for the first time, all sixty-six conservation district audit reports were submitted by the December 31, 2015 deadline as stated the SCC audit policy and no time extensions beyond the December 31, 2015 deadline were necessary.

I am also pleased to report that the 2014 audits show most districts are following the guidelines approved by the Commission dealing with *Custodial Credit Risk*, for both bank deposits and investments. There are however two of districts who have a total of \$413,822 of unsecured funds that are exposed to Custodial Credit Risk. That is down from six districts in 2013 with a total of \$1,704,134. I will be following up with these districts for additional clarification as to what is stated in their audit concerning *Custodial Credit Risk* for bank deposits.

For new Commission members and those that need a refresher, the following is an explanation of *Custodial Credit Risk*.

Custodial Credit Risk is the risk a district assumes when its deposits over a certain federally insured amount, currently \$250,000, may or may not be available in the event of failure of the financial institution that has pledged securities as collateral to protect these funds. These deposits, in excess of \$250,000, are not covered by federal depository insurance, but are protected by collateral securities held by a pledging financial institution.

These securities are typically not held under the district’s name and in the event that the pledging institution would fail, the district may not be able to recover the full value of its investment or collateralized securities that are in possession of this institution.

To minimize the risk to bank deposits and investments that fall under the category of *Custodial Credit Risk*, the Commission recommended that districts follow the guidelines presented on the second page of the investment *Model Policy* approved by the Commission in May 2010 and distributed to all districts. The guidelines are as follows:

The Conservation District board should assure that:

- The District has a written agreement with the institution regarding the collateral pledge;
- The pledge is approved by the institution's board of directors or loan committee, and such approval is reflected in the institution's minutes and is kept continuously as an official record of the institution;

- The market value (not just the face value) of the pledged securities is tested frequently and is at least equal to the amount of the deposits plus accrued interest;
- The pledged securities are U.S. Government Securities; and
- The District receives, from the bank, monthly reports on the amount of this deposit, the identity of the collateral and the market value of the collateral.

At the February 2015 Commission meeting changes to the audit guidelines were approved that will require all districts to have an audit that is independent of the County starting with the 2015 audit. In 2014 five districts submitted County audit reports. Staff will remind these districts of this requirement to ensure they have time to meet this requirement.

Future Considerations

The Department continues to study the issue of *Custodial Credit Risk and Segregation of Duties*, and may have future recommendations for additional policies/statements to protect district bank deposits and investments in the future.

TO Karl G. Brown
Executive Secretary
State Conservation Commission

FROM C. Frederick Fiscus III 
Chief
Conservation District Support Section

DATE February 2, 2016

RE Approval for Special Deputy Secretary Kelly J. Heffner to sign on behalf of the Commission for CDFAP and approved Special Projects and Related Invoices

Action Requested: The Department of Environmental Protection (DEP) requests the Commission approve Special Deputy Secretary Kelly J. Heffner the authority to sign on behalf of the Commission for reimbursements associated with DEP's portion of the Conservation District Fund Allocation Program (CDFAP) and Commission approved Special Project agreements and related invoices.

The Special Project agreements and related invoices would only be those that the Commission has approved DEP's use of the Commission's Special Project Agreement for, such as, Chesapeake Bay Program Special Projects, Strategic Watershed Action Team Special Projects and Regional Agricultural Watershed Assessment Program Initiative Special Projects.

Background: Steve Taglang currently signs on behalf of the Commission for the DEP's CDFAP and approved Special Projects and related invoices. We believe the Commission approved Steve in 2006, but we have not been able to find that documentation. With the restructuring of the DEP's water management responsibilities on December 14, 2015, Steve is no longer the Division Chief responsible for conservation district programs. Special Deputy Secretary Kelly J. Heffner has agreed to take over this signature authority, replacing Steve as the DEP's representative.

DATE: February 2, 2016

TO: Members
State Conservation Commission

FROM: Karl G. Brown
Executive Secretary

SUBJECT: Update – Voluntary BMP Implementation Survey

Attached is information pertaining to the recently released ‘Pennsylvania Farm Conservation Practice Inventory’. This document was developed by a partnership of several agricultural and governmental organizations asking agricultural producers to document conservation practices they have implemented to promote water quality in the Chesapeake Bay watershed. Dr. James Shortle, Director for the Environment and Natural Resources Institute, College of Agricultural Sciences at Penn State University, will provide an update on the purpose, the distribution and anticipated analysis activities of responses from the survey.

Attachment

Farmers to be surveyed on use of conservation practices in Chesapeake Bay watershed

UNIVERSITY PARK, Pa. -- If you're a farm operator in the Chesapeake Bay watershed, you soon will have a chance to highlight what steps you and your fellow farmers have taken to protect and enhance water quality in the region.

Several agricultural and governmental organizations have partnered to develop a survey that will ask producers to document conservation practices they have adopted to promote water quality and soil health in the bay watershed.

"Pennsylvania agriculture has done much to improve water quality in our local rivers and streams and the Chesapeake Bay," said Matthew Royer, director of the Agriculture and Environment Center in Penn State's College of Agricultural Sciences. "Yet that positive story often is not told. We want to give farmers in the bay watershed a chance to tell that story."

More than half of Pennsylvania's land area drains to the Chesapeake Bay. The Susquehanna River, which flows through the state's most fertile farming region, is the bay's largest tributary.

The survey will be administered by the Penn State Survey Research Center, which soon will mail a letter to farmers in the watershed seeking their participation. College of Agricultural Sciences researchers will analyze the survey responses, and cumulative results will be provided to the Pennsylvania Department of Environmental Protection to document the practices farmers have adopted to conserve soil and water and to protect water quality.

Ten percent of the participants will be selected randomly for farm visits by Penn State Extension to assess inventory results and help researchers better understand the methods used and challenges encountered when adopting various management practices.

Responses will be kept completely confidential and never will be associated with a farmer's name or location, according to James Shortle, Distinguished Professor of Agricultural and Environmental Economics and the lead researcher for the survey.

"The results reported to the Department of Environmental Protection will be provided in summary form and will not include any names or locations of survey participants," Shortle said. "All inventory and farm visit results will be permanently anonymized to prevent identification of respondents."

Richard Roush, dean of the College of Agricultural Sciences, noted that many of the conservation practices that farmers have implemented over the years are not accounted for in tracking the progress made toward meeting priority water quality goals, including cleaning up the Chesapeake Bay.

"This is especially true where farmers have adopted these practices on their own initiative and by using their own dollars," Roush said. "This survey will allow farmers in the Chesapeake Bay watershed to report conservation practices implemented on their farms so the agricultural community can get the credit it deserves for improving water quality. We also hope it will help us set priorities for research and

extension educational programs that can assist producers in identifying and adopting appropriate best management practices."

Farmers will have the option of filling out the paper version of the survey or completing it online. Participants are asked to submit their responses by April 30.

The survey was developed collaboratively by Penn State, Pennsylvania Farm Bureau, PennAg Industries Association, Pennsylvania Farmers Union, Pennsylvania Association for Sustainable Agriculture, Professional Dairy Managers of Pennsylvania, the Pennsylvania Department of Agriculture, the Pennsylvania State Conservation Commission, the Pennsylvania Association of Conservation Districts and the Pennsylvania Department of Environmental Protection.

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EDITORS: For more information, contact Matt Royer at 814-863-8756 or mroyer@psu.edu.

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Pennsylvania Farm Conservation Practices Inventory

Instructions

Thank you for agreeing to participate in this inventory of conservation practices on Pennsylvania farms. Please have the individual with the best knowledge of the conservation practices used in your operations complete the inventory.

The inventory will be used to determine the amount of conservation practice adoption on Pennsylvania farms. Cumulative results will be provided to the Pennsylvania Department of Environmental Protection to document the practices that Pennsylvania farmers are doing to conserve soil and water, and protect water quality. Ten percent of the participants in this inventory will be randomly selected for farm visits by Penn State Extension to assess the accuracy of the overall inventory.

Please be assured that your responses will be kept completely confidential and your results will never be associated with your name or locational information. The results reported to the Department of Environmental Protection will be provided in summary form and will not include any names or locations of inventory participants. Names and addresses will be removed from all inventory and farm visit results to prevent identification of participants.

Please answer each question to the best of your knowledge. Where the question asks you to fill in a circle, please fill the circle completely. Where the question asks you to write an answer, please print legibly.

The first part of this inventory asks basic questions about your farming operations. The second part of the inventory asks whether you are practicing certain conservation practices in your farming operations, and then asks some additional questions about each practice. Some of the practices listed may not be applicable to your operation. If you do not utilize a practice, answer "No" and continue on to the next question.

Please submit your completed inventory to the Penn State Survey Research Center by April 30, 2016.

About Your Farming Operations

1. Please provide your name and the physical address of your farming operation.

First Name	I	Last Name

Number & Street Address

City	State	Zip Code

Municipality (township, borough, etc.)	County

Watershed, if known: Delaware Erie Genessee Ohio Potomac Susquehanna

2. How many acres is your farming operation? For purposes of answering this question and filling out the remainder of the survey, your farming operation includes all land which you manage for agricultural activities, including owned ground and rented ground.

					Number of acres
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3. For calendar year 2015, please indicate what crops you grew, how many acres of each, whether they were grown on owned or rented ground, and whether any of the acres grown were a double crop.

Crop	Acres on Owned Ground	Acres on Rented Ground	Acres Grown as a Double Crop
Corn Grain			
Corn Silage			
Soybeans			
Wheat			
Rye			
Barley			
Alfalfa			
Hay			
Other (please specify):			

4. Do you raise animals as part of your farming operation?

- No → Please proceed to Question 5.
- Yes → **4a. For calendar year 2015, please indicate what types of animals you had and the total annual head of each.**

Animal	Number	Animal	Number	Animal	Number	Animal	Number
Broilers		Nursery Pigs		Veal Calves		Beef Cattle	
Layers		Finisher Pigs		Dairy Heifers (12 mos. & younger)		Horses	
Turkeys		Sows		Dairy Heifers (older than 12 mos.)		Other _____	
Ducks		Boars		Cows (Milking and dry)		Other _____	

Your Conservation Practices

5. Do you have a nutrient management plan or manure management plan for your farming operations?

- No → Please proceed to Question 6.
- Yes → **5a. What type of plan do you have?**
 - Act 38 Nutrient Management Plan
 - NRCS 590 Nutrient Management Plan or Comprehensive Nutrient Management Plan
 - Manure Management Plan

5b. When was it written or last updated? / Month/Year

5c. Were any county, state or federal government funds used to develop your plan? No Yes

5d. From whom or where did you get information to assist you in preparing the plan? (select all that apply)

- Conservation District one-on-one assistance
- Conservation District workshop
- USDA NRCS
- Penn State Extension
- Private sector/nutrient management planner
- Certified crop advisor
- None
- Other (please specify): _____

5e. Indicate how many acres are covered by your nutrient management plan:

Land Type	Acres
Row Crops (corn, beans, small grains)	<input type="text"/>
Pasture	<input type="text"/>
Hay	<input type="text"/>

6. Do you perform nitrogen tests such as the Pre-side dress Nitrate Test (PSNT), Corn Stalk Nitrate Test (CSNT), Illinois Soil Nitrogen Test (ISNT), Fall Soil Nitrate Test (FSNT), or Variable N rate application?

- No → Please proceed to Question 7.
- Yes → **6a. Do you use the test results to change nitrogen application rates and/or timing?**

- No
- Yes → **6b. On how many acres of cropland do you use these nitrogen test methods to adjust recommendations?** Acres

7. Is any manure produced from your farming operation transported out of the county in which your farming operations are located?

- No → Please proceed to Question 8.
- Yes, and I know to which county or counties my manure is transported
- Yes, but I don't know the county or counties to which my manure is transported; a hauler or broker handles this for me.

7a. If you know to which county or counties your manure is transported, please list the top three counties and/or states that receive your manure. Indicate the type of manure transported, the county(ies) and state(s) to which your manure is transported, the approximate annual amount that is transported to each location, and whether you worked with a manure hauler or broker to transport your manure.

County and State to which manure is transported	Manure Type	Approximate annual amount transported	Unit	Did you work with a hauler or broker?
1.	<input type="radio"/> Dairy <input type="radio"/> Swine <input type="radio"/> Beef <input type="radio"/> Poultry		<input type="radio"/> Tons <input type="radio"/> Gallons	<input type="radio"/> No <input type="radio"/> Yes
2.	<input type="radio"/> Dairy <input type="radio"/> Swine <input type="radio"/> Beef <input type="radio"/> Poultry		<input type="radio"/> Tons <input type="radio"/> Gallons	<input type="radio"/> No <input type="radio"/> Yes
3.	<input type="radio"/> Dairy <input type="radio"/> Swine <input type="radio"/> Beef <input type="radio"/> Poultry		<input type="radio"/> Tons <input type="radio"/> Gallons	<input type="radio"/> No <input type="radio"/> Yes

8. Do you have any animal waste storage systems (manure storages) for your farming operations?

- No → Please proceed to Question 9.
- Yes → 8a. For each manure storage you have, indicate the type of manure it stores, the date it was constructed, the months of storage it provides, whether any county, state or federal government funds were used to construct it, and whether runoff from the storage is being controlled.

	Manure Type	Month/Year Constructed	# of Months of Storage Provided	Were county, state or federal funds used to construct your storage?	Is runoff controlled from your storage system?
1	<input type="radio"/> Dairy <input type="radio"/> Swine <input type="radio"/> Beef <input type="radio"/> Poultry	□□ / □□□□□□	□□	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
2	<input type="radio"/> Dairy <input type="radio"/> Swine <input type="radio"/> Beef <input type="radio"/> Poultry	□□ / □□□□□□	□□	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
3	<input type="radio"/> Dairy <input type="radio"/> Swine <input type="radio"/> Beef <input type="radio"/> Poultry	□□ / □□□□□□	□□	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
4	<input type="radio"/> Dairy <input type="radio"/> Swine <input type="radio"/> Beef <input type="radio"/> Poultry	□□ / □□□□□□	□□	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
5	<input type="radio"/> Dairy <input type="radio"/> Swine <input type="radio"/> Beef <input type="radio"/> Poultry	□□ / □□□□□□	□□	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes

9. Do you have any barnyards?

- No → Please proceed to Question 10.
- Yes → 9a. Do you have any barnyard runoff controls on these barnyards? (This includes practices such as roof runoff control, diversion of clean water from entering the barnyard, and control of runoff from barnyard areas.)
 - No → Please proceed to Question 10.
 - Yes → 9b. Indicate what kind of runoff control practices you have, when they were built, and whether any county, state or federal government funds were used to construct them.

Runoff Control Practice	Do you have this practice?	Month/Year Constructed	Were county, state or federal funds used to construct the practice?
Roof runoff structures (gutters, downspouts, outlets)	<input type="radio"/> No <input type="radio"/> Yes	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes
Concrete barnyards	<input type="radio"/> No <input type="radio"/> Yes	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes
Curbs	<input type="radio"/> No <input type="radio"/> Yes	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes
Collection system and/or pumps	<input type="radio"/> No <input type="radio"/> Yes	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes
Barnyard runoff filter strip	<input type="radio"/> No <input type="radio"/> Yes	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes

10. Do you have any Agricultural Erosion & Sedimentation Control Plans (E&S Plans) or Conservation Plans for your farming operations?

- No → Please proceed to Question 11.
- Yes → 10a. For each plan you have, indicate the type of plan, when it was written or last updated, whether any federal government funds were used to develop your plan, and the acres of each land type covered by your plan:

Plan Type	Month/Year Written or Updated	Were Federal funds used to develop your plan?	Type and Number of Acres Covered by Plan			
			Land Type	# of Acres	Land Type	# of Acres
1 <input type="radio"/> E&S Plan <input type="radio"/> NRCS Conservation Plan	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes	Row Crops	□□□□	Hay	□□□□
			Pasture	□□□□	Barnyard	□□□□
2 <input type="radio"/> E&S Plan <input type="radio"/> NRCS Conservation Plan	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes	Row Crops	□□□□	Hay	□□□□
			Pasture	□□□□	Barnyard	□□□□
3 <input type="radio"/> E&S Plan <input type="radio"/> NRCS Conservation Plan	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes	Row Crops	□□□□	Hay	□□□□
			Pasture	□□□□	Barnyard	□□□□
4 <input type="radio"/> E&S Plan <input type="radio"/> NRCS Conservation Plan	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes	Row Crops	□□□□	Hay	□□□□
			Pasture	□□□□	Barnyard	□□□□
5 <input type="radio"/> E&S Plan <input type="radio"/> NRCS Conservation Plan	□□ / □□□□	<input type="radio"/> No <input type="radio"/> Yes	Row Crops	□□□□	Hay	□□□□
			Pasture	□□□□	Barnyard	□□□□

11. Did you practice no till or minimum till in calendar year 2015?

No → Please proceed to Question 12.

Yes → 11a. Indicate how many acres meet the following amounts of residue left in the field at the time of planting:

Amount of Residue	Acres
60% or greater	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
30% or greater, but less than 60%	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

11b. How many of your acres have been in continuous no till for the last five years? Acres

12. Did you plant cover crops in calendar year 2015?

No → Please proceed to Question 13.

Yes → 12a. Fill out the chart below to indicate what species you planted, when they were planted, number of acres for each, whether they received a nutrient application, and whether you harvested or plan to harvest them:

Species	Date of Planting	Acres Planted	Nutrient Application?	Harvesting?
Rye	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> 1 5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
Wheat	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> 1 5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
Barley	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> 1 5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
Oats	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> 1 5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
Annual Rye grass	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> 1 5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
Annual Legumes	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> 1 5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
Triticale	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> 1 5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
Mixture (specify):	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> 1 5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes
Other (specify):	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> 1 5	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes

13. Is there any stream bank fencing on land that is part of your farming operation?

No → Please proceed to Question 14.

Yes → 13a. How many total linear feet of stream bank fencing do you have? (If fencing is on both sides of the stream, include each side as part of this total.) feet

13b. What is the average distance from the stream to the fence? feet

13c. Were any county, state or federal government funds used to construct this fencing?

No → Please proceed to Question 14.

Yes → 13d. How many linear feet of stream bank fencing was funded using county, state or federal government funds?

feet

14. Do you have any streamside riparian buffers on land that is part of your farming operation?

No → Please proceed to Question 15.

Yes → 14a. How many acres is the buffer? acres

14b. What is the average width of the buffer? feet

14c. Are trees and/or shrubs growing in the buffer? No Yes

14d. Were any county, state or federal government funds used to construct this buffer?

No → Please proceed to Question 15.

Yes → 14e. How many acres of buffer was funded using county, state or federal government funds? acres

15. Excluding any riparian buffers identified in your answer to Question 14, have you retired any cropland from your farming operation to permanent vegetation such as perennial grasses, trees or shrubs?

No → Please proceed to Question 16.

Yes → 15a. Indicate what year you retired your cropland, how many acres have been retired, and whether trees and/or shrubs are growing in the retired acreage.

Year	Acres	Are trees and/or shrubs growing?
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="radio"/> No <input type="radio"/> Yes

15b. Were any county, state or federal government funds used to retire this acreage?

No → Please proceed to Question 16.

Yes → 15c. How many acres of retired cropland was funded using county, state or federal government funds? acres

16. Please feel free to share any comments, thoughts or questions you may have.

A large empty rectangular box for providing comments, thoughts, or questions. A large, light gray watermark reading "SAMPLE" is diagonally overlaid across the box.

*****END OF SURVEY*****

**Please place survey in postage paid envelope and return to
Penn State Survey Research Center
105 The 330 Building
University Park, PA 16802**

Thank You!

DATE: February 2, 2016

TO: Members
State Conservation Commission

FROM: Karl G. Brown
Executive Secretary

SUBJECT: Growing Greener III Initiative

Please find attached information recently released regarding a proposed Growing Greener III initiative. Erin Smith, PDA Policy Director, will provide a brief update on this proposed initiative at the February 9, 2016 public meeting of the State Conservation Commission.

Attachments



Growing Greener

From the shore of Lake Erie and the vistas of the Delaware Water Gap, to the ridgelines of the Appalachians and farmlands of Lancaster County, Pennsylvania is blessed with a natural heritage second to none. These are the places we swim in the summer, and ski in the winter, where families bond over a hike and children learn to appreciate time outdoors. This wealth of outdoor spaces supports our economy, attracting tourists to enjoy the foliage of the fall, or a float on a lazy river in the summer.

However for all their natural beauty, the Commonwealth's wealth of outdoor spaces also require ongoing stewardship and continued investment to address past contamination, conserve and protect natural lands, and provide the recreational opportunities Pennsylvanians expect. In particular, there is a pressing need to focus renewed attention on our state's streams, rivers, lakes and watersheds. Our state has more water resources than any state other than Alaska.



With a **\$900 million** investment over the next six years, a renewed Growing Greener program will continue to advance critical environmental priorities, with a particular focus on providing nature-based solutions to prevent pollution and protect drinking water resources. New funding will advance initiatives in four priority areas: protecting local water quality; promoting outdoor recreation; investing in land conservation and preservation; and revitalizing communities through green investments.



- **Protecting Local Water Quality.** A **\$333 million** investment over six years will help address critical local water quality issues including nutrient and sediment loading to streams and rivers, prevent acid mine drainage, and repair sensitive wetlands and headwaters.
- **Promoting Outdoor Recreation.** Pennsylvania's state parks, forests, game lands and local parks and trails require constant investment to ensure they are safe and accessible, facilities are

in good repair, and they provide the opportunities to hunt, fish, hike and play that Pennsylvanians expect. An investment of **\$277 million** over six years will allow us to upgrade existing parks and game lands, develop new parks, water-access points and trails, including those in urban communities, and repair dam infrastructure on lakes and rivers across the state.

- **Investing in Land Conservation and Preservation.** A **\$160 million** investment in protecting new farms and making priority natural-land and water acquisitions will help preserve working farms and natural places for future generations of Pennsylvanians. By protecting land around rivers, lakes and streams, we will keep pollution from flowing into these waters and eventually contaminating our drinking water.
- **Revitalizing Communities through Green Investments.** The health and sustainability of our communities is critical to the quality of life of millions of Pennsylvanians. An investment of \$107 million in nature-based and other infrastructure will help address stormwater runoff, revitalize core communities, bring brownfields back into productive use, and promote renewable energy resources.

Pennsylvanians overwhelmingly support this effort. In a poll conducted last year, over 90% of Pennsylvanians indicated that they support increasing state funds to conserve and protect open space, clean water, natural areas, wildlife habitats, parks, historic sites, forests, and farms.

Protecting Local Water Quality



- **Farming for Our Next Generation**
\$175,000,000



Conservation has everything to do with sustaining Pennsylvania's agricultural heritage for the next generation. When we have healthy, viable farms, we have healthy, viable watersheds. One does not exist without the other. The Department of Agriculture, in cooperation with the State Conservation Commission, is proposing a significant investment for the protection of our Commonwealth's soil, water and air resources. Under a new Pennsylvania Agricultural Conservation Excellence (ACE) Program, financial and technical assistance will be provided in partnership with county conservation districts and other partners for the protection of local water quality and improvement of our soil, water and air resources

over the course of the next six years. The program will assist farm and land owners to install priority Best Management Practices (BMPs) to help improve the quality of their soil, water and air resources.



- **Leveraging Local Experience to Protect Local Waterways**
\$90,000,000



Despite great advancements in watershed protection efforts over the last two decades, 30 percent of Pennsylvania’s streams remain impaired. Watershed protection grants have historically funded watershed groups, stream buffers, and watershed restoration efforts, amongst other things. Eligible projects may include stormwater management wetlands, riparian buffer fencing and planting, and streambank restoration. An additional \$90 million will support up to 550 additional projects throughout the Commonwealth, leading to increased water quality and the expansion of recreational opportunities.

- **Reclaiming Abandoned Mine Lands and Preventing Acid Mine Drainage**
\$55,000,000

Pennsylvania’s legacy of coal mining drove the industrial revolution but also left the state with thousands of acres of abandoned mine lands. Acid mine drainage is one of the top two sources of pollution to our commonwealth’s waterways. Pennsylvania has over 5,000 miles of AMD-polluted streams and more acreage of abandoned mine lands than any other state. These acres of hazardous, unproductive land create environmental harms like acid mine drainage. The price tag to clean up high priority



AML and AMD sites across Pennsylvania has been estimated at as much as \$15 billion. A \$55 million investment will lead to the reclamation of roughly 2,500 acres of mine lands.

- **Protecting Rivers and Streams with Riparian Forest Buffers**

\$10,000,000



Riparian forested buffers provide multiple benefits and are listed by the Chesapeake Bay Program as the most cost-effective method of addressing nutrient loading and water quality protection in the Bay watershed. The Chesapeake Bay Program goal for new riparian forested buffer implementation requires planting almost 10,000 acres per year of new riparian forested buffer in the Bay watershed over the next ten years. The recent rate at which riparian forested buffers are being created is less than 300 acres per year. A new state-level investment in buffer establishment to complement existing federal programs would help Pennsylvania meet its 95,000-acre Bay goal.



- **Addressing Water Quality on State Game Lands**

\$3,000,000



Pennsylvania Game Commission will rehabilitate up to sixty water control structures which currently exist on State Game lands. These efforts are focused on repairing/replacing structures to allow the agency to provide for quality wetland habitat to support waterfowl and other wetland wildlife and meet goals for water quality.

Promoting Outdoor Recreation



- **Modernizing Community Parks and Greenways**

\$35,000,000



There are more than 5,000 community/local parks across the Commonwealth. Many of these parks were developed originally in the 1960s and 1970s when federal Land and Water Conservation Funding was more plentiful. Today, a substantial

number are in great need of upgrades to promote accessibility, safety, facility modernization and to accommodate new recreational demands. In addition, community parks not only provide needed places to recreate and promote health and fitness, but can provide multiple environmental benefits. The City of Philadelphia uses pocket parks to enhance stormwater management, limiting flooding and improving water quality. Lancaster City uses green parks, roofs and alleys to lower stormwater management costs. With a new investment of \$35 million in community parks, DCNR will be able to leverage additional funding through its competitive grants program to modernize nearly 250 community parks to assure that they are safe, accessible and ready-to-use.

- Investing in Overdue State Forest and Park Repair and Efficiency Upgrades**
\$70,000,000


 State parks and state forests cover 2.6 million acres of outstanding natural lands in Pennsylvania, a vast resource that requires ongoing maintenance and improvements. DCNR currently maintains 121 dams, over 824 bridges, 3,384 miles of roadway, 6,200 miles of trails, 6,537 campsites, 349 cabins, cottages, lodges and inns, 16 swimming pools, 4 ski areas, 4 marinas, and 2 golf courses, with a documented needs list of more than \$800M. DCNR will use new Growing Greener funding to address the most pressing infrastructure needs in the state forest and park system. In the process of these upgrades, DCNR will focus on greening its infrastructure to use less energy, lower costs to operate, and improve water quality. Engineers are designing sustainability into every aspect of the 121 state parks and 20 forest districts DCNR manages for the public. Saving energy, saving money, and showcasing responsible sustainable operations will be a hallmark of these GG3 funds.



- Closing Gaps and Enhancing Access in the PA Trail Network**
\$30,000,000


 Pennsylvania boasts over 11,000 miles of open trails and is home to 5 of the top 20 most popular trails in the U.S. However, maintenance is constantly needed and for

many of the most popular trails, which are several decades old, major renovations are needed in the near future. Costs for renovation projects can vary from \$100,000 to \$200,000 per mile, so a \$30 million investment could renovate approximately 200 miles of trail. With matching funds leveraged through competitive grants, that number of trail miles could rise to 600 or more. In addition, completion of Pennsylvania’s state system of trails—with a particular focus on “gaps” in long trail systems—is a key priority for DCNR. DCNR has a goal of providing a trail within fifteen minutes’ drive of every Pennsylvania resident. Pennsylvanians surveyed through the state recreation plan identified Top 10 Trail Gaps for closure by 2019.

- **Creating New Connections to State Waterways**

\$20,000,000



Pennsylvania has over 900 public fishing and boating access areas that serve as anglers’ and boaters’ connections and gateways to the Commonwealth’s water resources. Local fishing and boating clubs, municipalities, and other partners offer access to about 600 specific sites or stretches of water while the Pennsylvania Fish and Boat Commission (PFBC) manages nearly another 300 fishing and boating access sites. Many of these access points have suffered from years of deferred maintenance or have been closed due to public safety concerns. For every \$1 million of investment, up to twenty access areas can be improved or added. Strategic investments include upgrades to multiple access areas on an individual waterway, as part of dam rehabilitations, and/or at targeted access sites that, in many cases, offer the only local connection to the water for anglers, boaters, and emergency response personnel. PFBC grants to local partners have historically yielded \$1.40 in matching funds for each dollar of state or federal investment, more than doubling the number of projects that could be completed.



- **Supporting the PA Heritage Areas Program**

\$15,000,000



The Pennsylvania Heritage Area program has been an extremely popular program for both conservation and economic development focused on the unique cultural assets of each of twelve Heritage regions across the state. DCNR’s investment would advance the acquisition, implementation and construction of key recreation, cultural and historic assets and associated business development to enhance Pennsylvania’s heritage-area communities.

- **Developing New Urban Parks, Trails and Riverfronts**

\$30,000,000



Parks and open space are a catalyst for sustainable community development. Growing Greener funding will assist the creation of open space, bike/pedestrian connections, and riverfront access in Pennsylvania’s core communities, particularly in urban areas with more than 10,000 residents. The creation of new parks, trails and riverfronts will act as a catalyst for broader community redevelopment. New Growing Greener funding will leverage both public dollars, such as multimodal funding, but also private business and philanthropic funding. Given the nature of these projects, numerous funding sources would have strong interest in collaborating.

- **Rehabilitating At-Risk Dams and Water Control Structures**

\$20,000,000



The 56 Commonwealth-owned lakes managed by the PFBC provide excellent fishing and boating opportunities and are signature local and regional amenities. Since 2008, the PFBC has made or received commitments to address twenty-four dams at lakes that are classified as high-hazard, unsafe through a variety of funding sources, including Growing Greener 2; H2O PA; Act 89; the capital budget; and the general fund. The PFBC has prioritized an additional 11 high-hazard dams and four low-hazard dams with significant recreational value that require repairs before they deteriorate to the point of being unsafe. These facilities require maintenance and rehabilitation to bring them up to current dam safety standards and would benefit from targeted capital investments.



When the lakes are drawn down for repairs, PFBC staff work collaboratively with local partners to install habitat enhancements and improve access to the facilities, resulting in improved fish and other aquatic life populations and better fishing opportunities while rectifying public safety concerns. Recent and ongoing examples of such comprehensive projects include Glade Run Lake (Butler County), Lake Nessmuk (Tioga County), Opossum Lake (Cumberland County), and Speedwell Forge Lake (Lancaster County).



- **Upgrading and Improving State Fish Hatcheries**

\$15,000,000



Pennsylvania’s fourteen state fish hatcheries supplement naturally occurring fish populations with over fifty million warmwater fish like walleye, muskellunge, bass, catfish, and American shad; 3.2 million adult trout; one million steelhead smolts; and one million eggs and fingerlings raised and stocked by cooperative nurseries. These fish are stocked

in waters open to public fishing and form the core of recreational opportunities across Pennsylvania, including streams and lakes in over 70 state parks. The PFBC has prioritized capital investments required to maintain fish production levels while meeting water quality standards and identified multiple opportunities to increase energy efficiency at the hatcheries, reducing long-term operational costs while minimizing the environmental footprint of the facilities. Additionally, an augmentation of grants and/or direct funding to 162 cooperative nurseries statewide could be matched with local contributions to help sustain this important public-private partnership.

- **Promoting Healthy Fish Populations through Habitat Enhancement**

\$5,400,000



Fish habitat is the natural infrastructure at the heart of the Commonwealth's 86,000 miles of streams and rivers and nearly 4,000 lakes. The PFBC has identified prioritization criteria and specific watersheds in which to focus projects that will maximize ecological and recreational benefits of stream and lake habitat projects. An investment of \$1 million a year could result in targeted small dam removals, instream habitat, and riparian buffer work in specific watersheds that have public safety, local and downstream water quality, fish passage, climate change mitigation, and recreational benefits. The PFBC also completes fish habitat improvements in lakes open to public fishing to improve fish and other aquatic life populations and provide better fishing opportunities. Lake habitat projects are especially efficient and productive when integrated into regularly scheduled draw-downs and when lakes are drained to conduct dam repairs.



- **Improving Access and Upgrading Facilities on State Game Land**

\$31,000,000



Access to State Game Lands is a key priority, especially for individuals with disabilities and older individuals who would like to enjoy our State Game Lands but require better access. The Game Commission will use new Growing Greener funding to create and improve road access, upgrade and replace gates to allow access for disabled individuals, and create new opportunities for individuals to better take advantage of our State Game Lands. These investments also include updating/contracting several buildings used in managing our

State Game Lands, and construction of two wildlife conservation education centers, one in Pymatuning and another in State College.

- **Repairing Damaged Ecosystems on State Game Lands**

\$5,800,000



The Commonwealth's system of State Game Lands is managed with a primary focus on creating high-quality wildlife habitat. Management on these 1.5 million acres extends far beyond management of game species. The Pennsylvania Game Commission is charged

with the management of all wild birds and mammals in the state. However, due to historical practices such as fire exclusion and the spread of invasive species, significant acreage is in need of targeted restoration. The Game Commission will target 300,000 acres to manage invasive species and treat using prescribed fire to restore these ecosystems. New Growing Greener funding will also be used to replace/upgrade/purchase heavy equipment used by our Food and Cover crews throughout the state to conduct



targeted habitat management within the 1.5 million acres of State Game Lands and 2.5 million acres of private lands enrolled in our private land access program.

- **Restoring Native Wildlife Habitat**

\$6,600,000



The majority of Pennsylvania's lands are privately owned. These lands directly impact ecosystem services and the state's economy. However, the ability of these lands to function from an environmental perspective is often severely compromised. The Wildlife Habitat Restoration Initiative works primarily with private landowners enrolled in the Pennsylvania Game Commission's 2.5-million-acre private lands access program to improve the land's capacity to benefit water quality, clean air and wildlife habitat. This work is carried out through a multitude of state, federal and private partners such as the Natural Resources Conservation Service, Farm Service Agency, Pheasants Forever, and the National Wild Turkey Federation. New Growing Greener funding will enhance 30,000 acres of riparian and grassland habitats on highly erodible farmlands to benefit wildlife and water quality. The agency has been implementing the Wildlife Habitat Restoration initiative for decades and has made significant strides to improve private lands for wildlife.

Investing in Land Conservation and Preservation



- **Conserving Public and Private Land**

\$90,000,000



In a study conducted several years ago by DCNR, the Game Commission, and partners, researchers found that sprawl development converted three acres of natural land for every one acre saved through conservation. This “conservation gap” means loss of natural places that define Pennsylvania. Natural lands also make our state an appealing place to live and attract new businesses. DCNR Bureau of Forestry’s list of priority land and water acquisitions alone includes twenty potential projects from twelve different counties, total 44,973 acres, with a total price of \$65,198,000. Many include lakes and streams as well as outstanding natural lands, and rank highly as strategic connectors between other protected parcels, or as augmentations to existing state forests. New Growing Greener funding will support acquisition and conservation of forest land to help prevent further fragmentation and parcelization, and, where appropriate, allow continued access for sustainable timber harvesting and wood products.

Additionally, lands conserved in partnership with local communities and land trusts across the commonwealth provide a multitude of benefits. Over the last twenty years, nearly \$680 million has been requested by local Land Trusts and communities. In the last year alone, \$34 million was requested through 63 applications. These grant awards leverage local investment and support for land conservation. For many land conservation projects, especially large ones, Growing Greener investment has leveraged two to three dollars for every grant dollar awarded. Local land conservation projects support close-to-home outdoor recreation, watershed and rivers conservation and critical habitat protection. With the recognition that local recreation and green assets make communities more attractive, livable and competitive, the demand for land conservation investments remains very high.

- **Preserving Productive Farmland**

\$45,000,000



Conservation goes hand in hand with preservation. With the nation’s leading farmland preservation program, Pennsylvania gets this right. Month after month, farmers choose to enter into a covenant – to preserve and conserve their farmland –

in perpetuity. This is the ultimate way to conserve natural resources and sustain Pennsylvania's great agricultural heritage for the next generation. The estimated cost of purchasing easements on 1,500 farms that remain on county backlog lists is \$458 million (based on average farm size and average easement purchase price across the state). Given current dedicated funding sources of cigarette taxes and Environmental Stewardship monies (\$30 million/year) it will take over fifteen years to preserve all farms on county backlog lists. A new Growing Greener round will help accelerate the rate of preservation and enable the commonwealth and counties to purchase more easements with fewer dollars at today's value. \$45 million over a period of six years will help preserve an estimated 18,000 acres of farmland.

- **Encouraging New Farmers**

\$5,000,000



Roughly 1,500 preserved farms have transferred to new owners and this number will increase exponentially over the next decade. The average age of the Pennsylvania farmer is 58 years old. Young farmers often do not have access to land or the capital to purchase land even at its restricted value. Incentives are needed to enable young farmers to invest in purchasing a preserved farm. The Preserved Farmland Incentive Program will help assure the viability of preserved farms by incentivizing a young and skilled workforce to invest in preserved farmland.



Under this proposed program, the Department of Agriculture would seek participating lenders and subsidize the interest on fixed loans for qualifying buyers for a period of 5-10 years— helping young farmers make the large upfront investment required. \$5 million over a period of six years help to achieve the pilot program's goal of assisting 250 young farmers with an estimated \$20,000 in interest paid per applicant.

- **Preserving Land through Land Trust Agricultural Conservation Easements**

\$20,000,000



Private organizations often preserve farms on county backlog lists that otherwise may not be eligible for funding. Pennsylvania's land trusts facilitate transactions with landowners reluctant to participate with non-governmental entities. A \$20 million investment over a period of six years would allow the Department of Agriculture to offer grants to land trust organizations for easement purchase— preserving an estimated 8,000 acres of farmland.

Revitalizing Communities through Green Investments



- **Reinvesting in Sustainable Downtowns**

\$27,000,000



New Growing Greener funding will support investments in downtowns to create attractive, livable communities by revitalizing surrounding neighborhoods. Infill development, community planning and capacity building, neighborhood services, and elimination of blight through enhanced local and state coordination will be supported. These efforts will improve the quality of life and economic competitiveness of communities and assist local governments to maintain fiscal stability and efficient, effective delivery of basic services.

- **Greening Neighborhoods through Nature-Based Technologies**

\$30,000,000



Growing Greener offers the opportunity to incorporate environmental stewardship and community development while accelerating technological innovation and creating opportunities for public private partnerships. Funding will be used to allow older urban communities to capitalize on their rich natural, cultural and historical resources through streetscape upgrades, and by redeveloping anchor facilities that can serve as demonstration spaces for new green technologies that go well beyond LEED. Growing Greener funding will facilitate implementation of new technologies in core urban communities, laying the groundwork for these communities to integrate practices that promote walkable, livable urban spaces. Growing Greener funding will also be used to support streetscape projects that mitigate sewer and stormwater runoff, support the integration of environmental design principles like bioswales and permeable paving.

- **Helping Local Government Upgrade Sewer and Drinking Water Infrastructure**

\$10,000,000



The backlog of drinking water and sewage projects throughout the state totals in the billions of dollars. This program, funded at \$10 million, will encourage operators of drinking water and sewage systems to explore innovative technologies to reduce the costs of providing services to ratepayers in the state.

- **Investing in Local Small Scale Renewable Energy Sources**

\$45,000,000

 Reducing energy costs allows farmers and small businesses to devote more resources to managing their operations. Through Energy Harvest grants, organizations can purchase renewable energy systems or install energy efficient products. If just half of the \$45 million invested in Energy Harvest were used for solar panels, over forty megawatts of solar could be installed.

- **Bringing Brownfields Back into Productive Use**

\$10,000,000

 Abandoned industrial properties or brownfields produce environmental harms (like groundwater and soil contamination). They also represent a drag on economic development within a community. Brownfields grants are made available for site characterization and remediated to eliminate environmental hazards. A \$10 million investment could bring forty properties across the state back into productive use.

- **Making Communities Safer through Dam Upgrades and Floodplain Protection**

\$5,000,000

 Pennsylvania has a number of dams across the state that require everything from emergency action plans to repair and rehabilitation. Additionally, a number of communities subject to flooding can have the impacts mitigated through flood protection projects. A \$5 million investment in dams and flood protection projects will allow important work to occur leading to infrastructure improvements throughout the state.

- **Addressing Pollution from Abandoned Oil and Gas Wells**

\$10,000,000

 An abandoned, unplugged oil or gas well can lead to environmental hazards including air, water or soil contamination. It is estimated there may be as many as 350,000 abandoned or orphan wells in Pennsylvania, but over the last four years, DEP's plugging program has averaged less than 100 wells plugged each year given available resources. An investment of \$10 million into the program will result in between 1,000 and 2,000 additional wells being plugged.

February 2, 2016

TO: Members
State Conservation Commission

FROM: Karl G. Brown
Executive Secretary

SUBJECT: NRCS 2011-2015 Strategic Plan Results and Future Planning Update

Attached is a copy of the 'Pennsylvania NRCS Strategic Plan FY 2011-2015 Results' recently completed by the Pennsylvania State Office of NRCS. This report describes Pennsylvania NRCS's conservation accomplishments from October 1st, 2011 to September 30th, 2015. Results are organized by major land use, their priority natural resource concerns, and the objectives established for conserving them.

Denise Coleman, State Conservationist will discuss the results described in the report and update the Commission on the development of the next Statewide Strategic Plan that builds on the accomplishments made under the 2011-2015 plan.

Attachments



PENNSYLVANIA NRCS Strategic Plan FY 2011-2015 Results

Foreword

Dear Fellow Conservationists:

Five years ago we developed a Statewide Strategic Plan for conserving natural resources in the Commonwealth of Pennsylvania. The plan established direction on where Pennsylvania NRCS needed to focus its future efforts. As Conservationists, our mission is to create a healthy environment so that we can have productive and sustainable lands, not only for today but for future generations.

This report describes Pennsylvania NRCS's conservation accomplishments from October 1st, 2011 to September 30th, 2015. Just like the plan, results are organized by major land use, their priority natural resource concerns, and the objectives established for conserving them. The count of each priority practice indicative of positively impacting resource concerns under each objective is reported for the high priority targeted area, the counties within each administrative area that make it up, as well as the total accomplished statewide.

Fifty years from now, people will benefit from our commitments to natural resources. When we wrote the last Strategic Plan, I challenged each of you to create a lasting conservation legacy. You answered the challenge by installing and enabling producers and forest landowners to implement more than 95,000 conservation practices. Take a look inside and reflect on the substantial difference you made so that future generations benefit from healthy soils, clean water and air, clean energy, an abundant water supply, and healthy plant and animal communities. With deepest respect, thank you for all you have done to deliver excellent conservation assistance.

We have already begun to develop the next Statewide Strategic Plan that builds on the accomplishments made under this one. I look forward to your input.

Yours in Conservation,



Denise Coleman

I. Livestock Production Areas

Priority Natural Resource Concerns

Pennsylvania consistently ranks in the top five states in the nation for dairy and egg layer production and in the top ten for turkey and horse populations. Livestock on farms may result in:

- an imbalance of nutrients on the farm operation;
- unrestricted access to streams by livestock;
- emissions of odors and air pollutants; and
- a need for more efficient energy use.

Strategic Goals and Results

NRCS prioritized conservation assistance for livestock producers ready and willing to protect air and water resources and or conserve energy. Four strategies were established to:

- guide financial assistance;
- align technical assistance staffing and partner agreements; and
- guide educational and outreach efforts.

A.1. Implement Comprehensive Nutrient Management on Farmsteads

Comprehensive Nutrient Management Plans (CNMPs) assist farmers properly manage commercial fertilizer and nutrients from manure and agricultural wastewater. These plans often prescribe conservation practices that improve collection, handling, storage, and treatment of manure and wastewater. By implementing and installing practices like those listed in Table I.A.1, farmers improve water and air quality.

High Priority Assistance for CNMPs: Twenty-six counties with greater than 30,000 total animal units (1,000 pounds) of dairy and beef cattle, chickens and turkeys, horses, pigs, sheep and goats were targeted for implementing CNMPs:

- SE (9) Franklin, Lancaster (Very High), Berks, Chester, Cumberland, Lebanon, York (High), Adams, Perry (Medium)
- NE (8) Bradford (High), Centre, Juniata, Mifflin, Snyder, Susquehanna, Tioga, Union (Medium)
- West (9): Bedford, Blair, Crawford, Huntingdon, Indiana, Mercer, Somerset, Washington, Westmoreland (Medium)

NRCS prioritized assistance through the Chesapeake Bay Watershed Initiative (CBWI), Conservation Technical Assistance (CTA), and the

Environmental Quality Incentives Program (EQIP) to implement CNMPs in the targeted area resulting in the practices applied in Table I.A.1.

Table I.A.1: Comprehensive Nutrient Management Plans

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
	9	8	9	26		
CNMP Applied (103)	83	34	15	132	81%	163
CNMP Written (102)	138	186	69	393	69%	566
Waste Storage Facility (313)	352	131	67	550	72%	769
Compost Facility (317)	7	3	0	10	59%	17
Anaerobic Digester (366)	3	1	0	4	80%	5
Roofs and Covers (367)	64	47	31	142	60%	235
Heavy Use Area (561)	405	215	177	797	71%	1,115
Feed Management (592)	79	12	4	95	71%	133
Waste Treatment (629)	3	0	0	3	75%	4
Waste Separation Facility (632)	11	2	1	14	82%	17
Waste Transfer (634)	350	113	41	504	87%	579
Vegetative Treatment Area (635)	64	29	3	96	81%	119

A.2. Reduce Unrestricted Stream Access

Streambank fencing is a good practice to reduce erosion and prevent manure deposits into the stream. Filter strips along riparian areas take up nutrients and minimize sediments and nutrients entering streams. Riparian forest buffers improve water quality. These trees and shrubs along the bank contribute shade and in-stream nutrient cycling.

High Priority Assistance for Streambank Fencing (See Crop and Streams sections for Better and Best Alternatives): Twenty-three counties with greater than 30,000 grazing animal units (1,000 pounds) of cattle, horses, sheep and goats and agriculturally impaired streams were targeted as priority areas for streambank fencing:

- SE (9) Franklin, Lancaster (Very High), Berks, Cumberland, Lebanon (High), Adams, Chester, Perry, York (Medium)
- NE (4) Bradford (High), Centre, Mifflin, Tioga (Medium)
- West (10) Jefferson (Very High), Bedford, Blair, Crawford, Huntingdon, Indiana, Mercer, Somerset, Washington, Westmoreland (Medium)

NRCS prioritized assistance through CBWI, Conservation Reserve Program(CRP), CTA, and EQIP to restrict livestock access to streams in the targeted area resulting in the conservation practices applied in Table I.A.2. Other practices such as Fence (382) and Prescribed Grazing (528) were also applied in targeted areas, but no data exists to indicate if the purpose of the practice restricted stream access.



A.3. Reduce Air Quality Impacts

Air quality is protected and improved when practices are applied on farmsteads to reduce emissions of:

- odors;
- ammonia;
- fine particulates;
- methane; and
- nitrous oxide.

High Priority Assistance for Reducing Air Quality Impacts from Farmsteads: Twenty-two counties listed by the US Environmental Protection Agency (EPA) as non-attainment for fine particulate matter (PM_{2.5}) in 2010 were targeted to implement practices on farmsteads to improve air quality. Additionally, livestock operations with greater than 50 percent of their resource concerns impacting air quality were ranked as high priority for funding:

- SE (12) Bucks, Chester, Cumberland, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, York
- West (10) Allegheny, Armstrong, Beaver, Butler, Cambria, Greene, Indiana, Lawrence, Washington, Westmoreland

Using CBWI, CTA, and EQIP, NRCS assisted farmers to install conservation practices that reduce emissions from farmsteads and livestock production areas. The practices applied in Table I.A.3 included:

- Air Quality Conservation Activity Plans (126);
- Anaerobic Digester (366);
- Air Filtration and Scrubbing (371);
- Combustion System Improvement (372);
- Wind Breaks (380);
- Hedgerows (422);

Table I.A.2: Livestock Stream Exclusion

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
	9	4	10	23		
Stream Crossing (578)	208	42	86	336	71%	476
Access Control (472)	43	211	277	531	68%	781

- Amendments for Ag Waste (591);
- Feed Management (592);
- Waste Treatment (629);
- Animal Mortality Facility (316);
- Composting Facility (317);
- Roofs and Covers (367);
- Solid Liquid Separation (632);
- Vegetative Treatment Area (635); and
- Waste Facility Closure (360).



Perry County farmer Lloyd Byers uses a machine (Top) to extract sunflower and canola oil that he uses to fuel his farm equipment, heat his house, and cook. (CIG Project)

Table I.A.3: Air Quality Practices					
Practice Name (Code)	Target Counties		Target Total	Percent in Target Area	State Total
	SE	W			
	12	10	22		
Air Quality Practices on Farmsteads (see text for list)	224	18	242	38%	633

B.1. Conserve Energy

Increasing energy efficiency of equipment and facilities reduces energy expenses on the farm while at the same time decreases greenhouse gas emissions.

High Priority Assistance for Conserving Energy: The same 26 counties with greater than 30,000 animal units were targeted for conserving energy and greenhouse gas emissions reductions.

NRCS prioritized assistance through EQIP to conserve energy on farmsteads in the targeted area resulting in the practices applied in Table I.B.1.a.

NRCS assistance provided through CSP to conserve energy resulted in the Stewardship Enhancements applied in Table I.B.1.b.

Table I.B.1.a: Energy Conservation Practices						
Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
	9	8	9	26		
Agriculture Energy Management Plan CAP (122)	19	8	5	32	56%	57
Farmstead Energy Improvement (374)	5	6	0	11	58%	19

Table I.B.1.b: Energy Conservation Stewardship Enhancements		
Code	Enhancement Name	Total Number
ENR04	Recycle 100% of farm lubricants	11
ENR05	Locally grown and marketed farm products	2

II. Cropland

Priority Natural Resource Concerns

Sustaining crop production on Pennsylvania’s 7.2 million acres of farmland requires healthy soils. About one third of Pennsylvania’s farms (22,000) apply manure as a source of nutrients to 1.2 million acres of crops and pasture.

Strategic Goals and Results

NRCS prioritized conservation assistance for field and forage crop producers to:

- improve soil health;
- protect water and air resources;
- reduce pesticide risks;
- increase water use efficiency; and
- improve energy efficiency.

Organized under eight goals, strategies were established to:

- guide financial assistance;
- align technical assistance staffing and partner agreements; and
- guide educational and outreach efforts.

A.1. Improve Soil Health for Field and Forage Crop Producers

Improving soil health to sustain essential soil functions assists field and forage crop producers meet multiple business and conservation objectives. Conservation practices that:

- cover the soil;
- minimize soil disturbance;
- grow a living root;
- provide biodiversity; and
- integrate animals into the crop production system;



are the keys to achieving and maintaining healthy soils.

These practices:

- improve water infiltration and drainage;
- enhance nutrient cycling;
- buffer against extreme weather changes; and
- filter toxins.

High Priority Area for Improving Soil Health: Forty counties with watershed streams impaired by agricultural sediment and at least 5,000 acres of corn silage and or soybeans harvested annually were targeted as priority areas for improving soil health:

- SE (14) Adams, Berks, Bucks, Chester, Cumberland, Dauphin, Franklin, Lancaster, Lebanon, Lehigh, Northampton, Perry, Schuylkill, York
- NE (12) Bradford, Centre, Clinton, Columbia, Juniata, Lycoming, Mifflin, Montour, Northumberland, Snyder, Tioga, Union
- West (14) Armstrong, Bedford, Blair, Butler, Crawford, Erie, Fayette, Fulton, Huntingdon, Indiana, Lawrence, Mercer, Somerset, Westmoreland

NRCS prioritized assistance through CBWI, CTA, and EQIP to improve soil health. Table II.A.1. identifies the practices applied.

Table II.A.1: Soil Health Practices						
Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
Deep Tillage (324)	14	12	14	40		
Conservation Crop Rotation (328)	9	0	44	53	100%	53
Residue and Tillage Management (329)	7,692	3,507	2,664	13,863	76%	18,130
Cover Crop (340)	4,836	2,329	1,849	9,014	77%	11,760
Stripcropping (585)	2,060	1,166	930	4,156	77%	5,427
Nutrient Management (590)	48	32	178	258	54%	475
	4,468	2,361	2,478	9,307	84%	11,073

A.2. Control Water Runoff and Gully Erosion

Structural practices slow the velocity of water runoff and divert or convey water to safe outlets without causing concentrated flow erosion.

High Priority Area for Controlling Water Runoff and Gully Erosion: The 40 counties targeted for improving soil health were also targeted for controlling water runoff and gully erosion.

NRCS prioritized assistance through CBWI, CTA, and EQIP to control water runoff and gully erosion in the targeted area resulting in the practices applied in Table II.A.2.

Practice Name (Code)	Target Counties			Target Total 40	Percent in Target Area	State Total
	SE 14	NE 12	W 14			
Diversion (362)	215	105	68	388	90%	433
Stabilization Structures (410)	6	0	1	7	88%	8
Grass Waterways (412)	919	184	185	1,288	94%	1,373
Lined Waterways (468)	235	98	27	360	92%	392
Terraces (600)	246	24	0	270	98%	276

A.3. Protect Prime Farmland

Protecting farmland from conversion to developed land:

- secures the nation’s food supply;
- supports state and local economies; and
- protects a cherished way of life for future generations.

High Priority Targeted Area for Farmland Protection: Fourteen counties with prime farmland under threat from urbanization were targeted for farmland protection:

- SE (14) Adams, Berks, Bucks, Chester, Cumberland, Dauphin, Franklin, Lancaster, Lebanon, Lehigh, Northampton, Northumberland, Perry, York

NRCS provided assistance to protect farmland through the Farm and Ranchland Protection Program (FRPP) and the Agriculture Land Easement (ALE) Program. Table II.A.3. identifies the agricultural land easements closed and acres obtained throughout Pennsylvania.

NRCS also provided assistance through EQIP for high tunnels. High tunnels improve crop health and vigor by protecting them from excessive rainfall, cold and wind or by shading them from excessive sunlight. High Tunnels also extend the growing season. Extended growing seasons also help to achieve USDA’s goals to secure the nation’s food supply and protect farmland from conversion to development. Through EQIP, 306 Seasonal High Tunnels (798) were installed, of which 124 (40% of the state total) were in located in the SE.

Practice Name (Code)	SE	NE	W	State Total
Number of Agriculture Land Easements Closed (FRPP)	119	9	21	149
Acres of Agriculture Land Easements Obtained (FRPP)	12,375	1,622	2,354	16,351



Farmland preserved in Adams County, PA.

B1. Reduce Pesticide Risks for Specialty Crop Producers

Reducing pesticide risks for specialty crop producers:

- protects human health;
- improves water quality and aquatic habitat; and
- enhances native pollinators and other beneficial wildlife.

High Priority Targeted Area for Reducing Pesticide Risks for Specialty Crop Producers: Twenty-six counties with more than 1,000 acres of cropland devoted to vegetable, tree fruit, vineyards, berry or nut production were targeted for reducing pesticide risks.

- SE (13) Adams, Berks, Bucks, Chester, Cumberland, Franklin, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Schuylkill, York
- NE (6) Centre, Columbia, Luzerne, Lycoming, Northumberland, Snyder
- West (7) Bedford, Butler, Cambria, Erie, Indiana, Washington, Westmoreland

NRCS prioritized assistance in EQIP and CTA to reduce pesticide risks for specialty crop producers in the targeted area resulting in the practices applied in Table II.B.1.



Adams County orchard producer uses Integrated Pest Management (IPM).

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
Conservation Plan Support Organic Transition (138)	6	1	2	9	56%	16
Integrated Pest Management Plan (595)	458	85	611	1,154	59%	1,949
Agri-Chemical Handling Facility (309)	21	4	3	28	78%	36

C1. Protect Water and Air with 4Rs of Nutrient Application Stewardship

Air and water resources are protected when crop producers use a comprehensive approach to manage nutrient applications. Known as the 4Rs, this comprehensive approach encourages producers to apply the right source of nutrients in the right amount, in the right place and at the right time.

High Priority Targeted Area for Protecting Water and Air: Forty-three counties with watershed streams impaired by excess nutrients and more than 20,000 acres treated with manure or commercial fertilizers were targeted to increase the use of the 4Rs of nutrient application stewardship:

- SE (14) Adams, Berks, Bucks, Chester, Cumberland, Dauphin, Franklin, Lancaster, Lebanon, Lehigh, Northampton, Perry, Schuylkill, York
- NE (13) Bradford, Centre, Clinton, Columbia, Juniata, Luzerne, Lycoming, Mifflin, Northumberland, Snyder, Susquehanna, Tioga, Union
- West (16) Armstrong, Bedford, Blair, Butler, Cambria, Clarion, Crawford, Erie, Fayette, Fulton, Huntingdon, Indiana, Lawrence, Mercer, Somerset, Westmoreland

NRCS prioritized assistance in CTA, CBWI, and EQIP to increase comprehensive 4R nutrient application stewardship in the targeted area. This assistance resulted in the practices applied in Table II.C.1.

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
CNMP CAP (102)	157	251	124	532	87%	613
NM CAP (104)	4	2	6	12	80%	15
Nutrient Management (590)	5,231	3,320	3,275	11,826	90%	13,089

C2. Improve Water Protection with Edge-of-Field Practices

Water resource protection is improved when crop producers use edge-of-field practices in upland areas to reduce transport of nutrients and sediment.

High Priority Targeted Areas for Protecting Water and Air with Edge-of-field Practices: The same 43 counties targeted to increase the use of the 4Rs in II.C.1. were also targeted to increase the use of edge-of-field practices.

NRCS prioritized assistance in CWBI, CTA, and EQIP to increase edge-of-field practices in the targeted area resulting in the priority practices applied in Table II.C.2.

D1. Conserve Water

Increasing water use efficiency for irrigated specialty crop producers reduces agriculture’s water consumption.

High Priority Targeted Area for Conserving Water for Irrigated Specialty Crops: The same 26 counties targeted for reducing pesticide risks for specialty crop production were targeted for conserving water.

NRCS prioritized assistance in AMA, CTA, and EQIP to conserve water in the targeted area resulting in the priority practices applied in Table II.D.1.

E1. Increase Energy Efficiency of Field Operations

Field operations involved in applying conservation practices that improve:

- soil health;
- nutrient application stewardship;
- pesticide application stewardship; and
- irrigation water use efficiency;

may also provide energy savings by reducing fuel use.

High Priority Targeted Area for Increasing Energy Use Efficiency of Field Operations: With more than 7.5 million acres of farmland in Pennsylvania, all counties were targeted for increasing energy use efficiency of field operations.

NRCS assistance for increasing energy use efficiency of field operations is not easily measurable. RUSLE2 may be used to generate fuel and cost savings for tillage practices. However, this tool has not been used to document energy savings on each farm.

Table II.C.2: Edge-of-Field Practices

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
Field Border (386)	56	51	47	154	91%	169
Riparian Herbaceous Cover (390)	26	39	19	84	88%	95
Riparian Forest Buffer (391)	138	409	121	668	90%	745
Filter Strip (393)	35	9	21	65	94%	69

Table II.D.1: Water Conservation Practices

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
Irrigation Water Management Plan CAP (118)	0	1	0	1	100%	1
Irrigation System, Micro-irrigation (441)	67	30	0	97	84%	115
Irrigation Water Management (449)	109	29	1	139	84%	165
Residue Tillage Management (329)	4,530	1,378	1,200	7,108	60%	11,923
Cover Crops (340)	2,121	613	602	3,336	61%	5,498

F1. Increase Stewardship Enhancements on Cropland

NRCS provided assistance through the Conservation Security Program (CSP) and the Conservation Stewardship Program (CStP) to improve natural resources on cropland. This assistance resulted in the Stewardship Enhancements applied in Table II. F.1.



Table II.F.1. Stewardship Enhancements on Cropland

Code	Enhancement Name	Total No.	Code	Enhancement Name	Total No.
AIR02	Nitrogen stabilizers for air emission control	49	PLT20	High residue cover crop for weed suppression and soil health	1
AIR03	Replace burning of prunings with non-burning alternatives	7	SOE01	Continuous no-till with high residue	22
AIR04	Use drift reducing nozzles, low pressures, lower boom height and adjuvants to reduce pesticide drift	294	SOE04	Continuous no-till	5
AIR07	GPS, targeted spray application (SmartSprayer), or other chemical application electronic control	89	SOE05	Intensive no-till (organic or non-organic systems)	1
AIR08	Nitrification or urease inhibitors	48	SQL01	Controlled traffic system	4
ANM07	Extending existing field borders for water quality protection and wildlife habitat	1	SQL02	Continuous cover crops	48
ANM08	Improve the plant diversity and structure of non-cropped areas for wildlife food and habitat	2	SQL04	Use of cover crop mixes	212
ANM10	Harvest hay in a manner that allows wildlife to flush and escape	91	SQL05	Use deep rooted crops to breakup soil compaction	89
ANM18	Retrofit watering facility for wildlife escape	2	SQL06	Conversion of cropped land to grass-based agriculture	1
ANM19	Wildlife corridors	3	SQL8	Intercropping to improve soil quality and increase biodiversity	2
ANM23	Multi-species native perennials for biomass/wildlife habitat	2	SQL10	Crop management system on crop land acres recently converted	4
ANM24	Forest wildlife structures	3	SQL12	Intensive cover cropping	7
ANM27	Wildlife friendly fencing	1	WQL04	Plant tissue testing and analysis to improve nitrogen management	252
ANM32	Extend existing filter strips or riparian herbaceous cover for WQ protection and wildlife habitat	1	WQL05	Apply nutrients no more than 30 days prior to planting date	6
ANM34	Leave standing grain crops unharvested to benefit wildlife	3	WQL06	Apply controlled release nitrogen fertilizer	121
ANM35	Enhance habitat on expired CRP acres or acres with perennial vegetation managed as hayland	1	WQL07	Split nitrogen applications 50% after crop/pasture emergence/green up	22
BCR01	Crop technology bundle #1	8	WQL08	Apply split nitrogen applications of nitrogen based on a pre-side dress nitrogen test on cropland	10
BCR04	Crop technology bundle #4	1	WQL09	Apply phosphorus fertilizer below soil surface	3
BCR06	Crop technology bundle #6 (improve nutrient and pesticide application and widen buffers)	1	WQL10	Plant an annual grass-type cover to scavenge residual nitrogen	83
BDR09	Crop technology bundle #9 (orchard and vineyard concerns)	1	WQL11	Precision application technology to apply nutrients	2
CCR99	Resource-conserving crop rotation	82	WQL13	High level IPM to reduce pesticide environmental risk	8
ENR01	Fuel use reductions for field operations	1	WQL14	Land application of treated manure	3
ENR04	Recycle 1005 of farm lubricants	23	WQL15	Residue the concentration of nutrients on livestock farms	18
ENR05	Locally grown, marketed farm	34	WQL16	Use of legume cover crops as a nitrogen source	17
ENR12	Use of legume cover crops as a nitrogen source	15	WQL17	Use of non-chemical methods to kill cover crops	5
FRD01	On farm research and demonstration	31	WQL22	On-farm composting of farm organic waste	1
PLT01	Establish pollinator habitat	35	WQL24	Apply enhanced efficiency fertilizer products	15
PLT08	Habitat development for beneficial insects	10	WQL25	Split applications of nitrogen based on a PSNT	4
PLT15	Establish pollinator and/or beneficial insect habitat	3	WQT02	Mulching for moisture conservation	1
PLT19	Herbicide resistant weed management	3			

III. Permanent Pasture, Grazing and Forage Lands

Priority Natural Resource Concerns

In Pennsylvania 1.7 million acres are permanent forage lands. To address resource concerns on these lands, NRCS assists producers to:

- distribute nutrients away from concentrated livestock areas;
- reduce fuel inputs needed to produce feed;
- restore sensitive lands degraded by crop production; and
- control invasive plants and pasture weeds.

Permanent forage lands include:

- all lands used to grow forages without crop rotation;
- marginal pasture land; and
- grazed lands suitable but not used for crop production.

Strategic Goals and Results

NRCS provides conservation assistance for pasture and forage land managers to:

- convert cropland to pasture;
- improve water systems to eliminate animal concentration areas;
- rotate pastures to improve animal health; and
- restore native grasslands.



A1. Convert Cattle Feeding to Prescribed Grazing

Converting an Animal Feeding Operation to a prescribed grazing system:

- protects water and air resources;
- improves soil health; and
- improves farmer quality of life and profitability.

High Priority Targeted Area for Converting AFOs to Grazing Systems: Due to the high level of benefits, all counties were targeted for converting animal feeding operations to grazing systems.

NRCS prioritized assistance through CBWI, CRP, CTA, and EQIP to convert animal feed operations to grazing systems through program screening and ranking tools. Typical practices applied include:

- Fence (382);
- Livestock Pipeline (516);
- Prescribed Grazing (528);
- Animal Trails and Walkways (575);
- Watering Facilities (614); and
- Forage Establishment (512).

NRCS assistance provided through CSP to animal feeding operations resulted in the Stewardship Enhancements applied in Table III.A.1.

Table III.A.1: Stewardship Enhancements to Animal Feeding Operations

Code	Enhancement Name	Total Number
ANM17	Monitoring nutritional status of livestock using the NUTBAL PRO system	3
WQL03	Rotation of supplement and feeding areas	31
WQL18	Non-chemical pest management for livestock	7
WQL19	Transition to organic grazing systems	1

A2. Convert Vulnerable Cropland to Grazed Pasture

Converting cropland most vulnerable to nutrient loss to grazed pastures protects water and air resources. Protecting soils at risk of high runoff with permanent forage cover prevents erosion and reduces sediment and nutrient loss to streams.

Growing deep-rooted forages prevents nutrients from leaching into groundwater. Properly grazing pastures builds soil organic matter, removes carbon dioxide from the atmosphere, and eliminates the need to use fuel to harvest and transport feed to cattle, further reducing greenhouse gas emissions.

High Priority Targeted Area for Converting Vulnerable Cropland to Grazed Pasture: Nineteen counties with greater than 25% of their field crops grown on soils at risk of nutrient loss from high leaching or runoff were targeted for converting cropland to grazed pasture:

- SE (7) Adams, Berks, Cumberland, Franklin, Lancaster, Lebanon, Lehigh
- NE (3) Montour, Snyder, Union
- West (9) Armstrong, Beaver, Butler, Crawford, Erie, Indiana, Lawrence, Mercer, Westmoreland

NRCS prioritized assistance through CBWI, CRP, CTA and EQIP to improve existing grazed pasture in targeted area resulting in the practices applied in Table III.A.2.

B1. Improve Existing Grazed Pasture

Improving existing grazed pastures further improves plant condition and diversifies plant community structure leading to improved health and productivity of the pasture, improved water and air quality, healthier livestock, and improved wildlife habitat.

High Priority Targeted Area for Improving Existing Grazed Pasture: Forty-four counties with greater than 10,000 acres of pasture on farms were targeted for improving existing grazed pasture:

- SE (10) Adams, Berks, Chester, Cumberland, Dauphin, Franklin, Lancaster, Lebanon, Perry, York
- NE (12) Bradford, Centre, Columbia, Juniata, Lycoming, Mifflin, Northumberland, Snyder, Susquehanna, Tioga, Wayne, Wyoming

- West (22) Armstrong, Beaver, Bedford, Butler, Cambria, Clarion, Crawford, Erie,
- Fayette, Fulton, Greene, Huntingdon, Indiana, Jefferson, Lawrence Mercer, Somerset, Warren, Washington, Westmoreland

NRCS prioritized assistance through CBWI, CRP, CTA, and EQIP to convert vulnerable cropland to grazed pasture in the targeted area. This resulted in the practices applied in Table III.B.1.a.

Table III.A.2: Conversion of Vulnerable Cropland to Grazed Pasture

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
	7	3	9	19		
Forage and Biomass (512)	131	64	255	450	49%	922
Pipeline (516)	162	28	268	458	39%	1,170
Prescribed Grazing (528)	419	45	264	728	35%	2,107
Animal Trails and Walkways (575)	102	16	170	288	44%	655
Watering Facility (614)	184	33	288	505	37%	1,352

Table III.B.1.a: Practices for Grazed Pasture

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
	10	12	22	44		
Brush Management (314)	65	247	188	500	67%	747
Herbaceous Weed Control (315)	51	38	731	820	91%	904
Forage and Biomass (512)	236	241	186	663	72%	922
Pipeline (516)	233	306	412	951	81%	1,170
Prescribed Grazing (528)	650	703	588	1,941	84%	2,312
Animal Trails and Walkways (575)	210	223	127	560	85%	655
Watering Facility (614)	243	326	560	1,129	84%	1,352

NRCS assistance provided through CSP to improve existing grazed pasture resulted in the Stewardship Enhancements applied statewide in Table III.B.1.b.

Table III.B.1.b: Stewardship Enhancements for Grazed Pasture		
Code	Enhancement Name	Total Number
AIR02	Nitrogen stabilizers for air emissions control	3
AIR04	Use drift reducing nozzles, low pressures, lower boom height, and adjuvants to reduce pesticide drift	1
ANM08	Improve the plant diversity and structure of non-cropped areas for wildlife food and habitat	1
ANM09	Grazing management to improve wildlife habitat	1
ANM18	Retrofit watering facility for wildlife escape	45
ANM25	Stockpiling forages to extend grazing season	6
ANM26	Managing calving to coincide with forage availability	10
ENR02	Solar powered electric fence charging systems	8
ENR03	Pumping plant powered by renewable energy	1
ENR10	Using N provided by legumes, animal manure, and compost to supply 90 to 100 percent of N needs	1
PLT01	Establish pollinator habitat	2
PLT02	Monitor key grazing areas to improve grazing management	45
PLT10	Intensive management of rotational grazing	4
PLT15	Establish pollinator and/or beneficial habitat	2
PLT18	Increasing on-farm food production with edible woody buffer landscapes	1
WQL01	Biological suppression and other non-chemical techniques to manage brush invasive species	13
WQL06	Apply controlled release nitrogen fertilizer	2
WQL07	Split nitrogen applications 50% after crop/pasture emergence/green up	2

C1. Maintain Permanent Hay and Established Grasslands

Maintaining permanent grassland cover protects water quality, while producing hay and biomass crops.

High Priority Targeted Area for Improving and Protecting Permanent Grasslands: Sixty counties within the Chesapeake Bay and Ohio River drainage basins were targeted for improving and protecting permanent grasslands:

- SE (12) Adams, Berks, Bucks, Chester, Cumberland, Dauphin, Franklin, Lancaster, Lebanon, Perry, Schuylkill, York
- NE (19) Bradford, Carbon, Centre, Clinton, Columbia, Juniata, Lackawanna, Luzerne, Lycoming Mifflin, Montour, Northumberland, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne, Wyoming
- West (29) Allegheny, Armstrong, Beaver, Bedford, Blair Butler, Cambria, Cameron, Clarion, Clearfield, Crawford, Elk, Erie, Fayette, Forest, Fulton, Greene, Huntingdon, Indiana, Jefferson, Lawrence, McKean, Mercer, Potter, Somerset, Venango, Warren, Washington, Westmoreland

NRCS prioritized assistance to improve and protect permanent grasslands not re-enrolled into CREP contracts in the targeted area.

Scenarios for:

- Conservation Cover (327); and
- Upland Wildlife Habitat Management (645)

indicate acres in:

- CREP Conservation Practice 1, (Establishment of Permanent Introduced Grass); and
- CREP Conservation Practice 10, (Already Established Grass Cover).

Nineteen fields were treated through CTA or CRP by Prescribed Burning (338) and one by Forage Harvest Management (511).



C2. Restore and Manage Native Grasslands

When herbaceous cover predominately includes native grasses and forbs, it provides vital habitat for grassland songbird species of concern such as:

- barn owl;
- dickcissel;
- eastern meadowlark;
- grasshopper sparrow;
- Henslow’s sparrow;
- marsh wren;
- northern bobwhite quail; and
- northern harrier hawk.

High Priority Targeted Area for Restoring and Managing Native Grasslands: Since all counties, except Pike, have known populations of grassland songbirds according to the PA Breeding Bird Atlas, the entire state was targeted for restoring and managing native grasslands.

NRCS assistance provided through CBWI, CTA, CRP, EQIP, and WHIP to restore and manage native grasslands in the targeted area resulted in the practices applied in Table III.C.2.a.

NRCS assistance provided through CSP and CStP to restore and manage native grasslands resulted in the Stewardship Enhancements applied statewide in Table III.C.2.b.

Table III.C.2.a: Practices to Restore and Manage Native Grasslands		
Practice Name	(Code)	State Total
Conservation Cover	(327)	1,451
Upland Wildlife Habitat	(645)	4,532

Table III.C.2.b: Stewardship Enhancements for Native Grasslands		
Code	Enhancement Name	Total Number
ANM03	Incorporate native grasses and/or legumes into 15% or more of the forage base	36
ANM23	Multi-species native perennials for biomass/wildlife habitat	3

IV. Streams and Wetlands

Priority Natural Resource Concerns

Threats to Pennsylvania’s 85,000 miles of streams and 500,000 acres of remaining wetlands include:

- lack of forest buffers along streams;
- excessive channelization;
- legacy sediments;
- loss of stream and wetland habitat for species of concern; and
- loss of wetland functions.

Strategic Goals and Results

NRCS prioritized conservation assistance for private land managers to:

- protect and improve streams and wetlands in crop and pasture lands; and
- protect watersheds from storm damage.

Eight strategies were established to:

- guide financial assistance;
- align technical assistance staffing and partner agreements; and
- guide educational and outreach efforts.

A1. Establish New and Maintain Existing Riparian Forest Buffers

Forested riparian buffers protect streams by preventing pollutants from reaching them. They are most effective when an herbaceous filter strip is placed adjacent to field crops.

High Priority Targeted Area for Protecting Streams with Riparian Forest Buffers: Due to the large extent of watersheds with an impaired stream, the entire state was targeted for establishing new and maintaining existing riparian forest buffers.

NRCS assistance provided through CBWI, CRP, EQIP and Wildlife Habitat Incentive Program (WHIP) to protect streams with riparian forest buffers in the targeted area resulted in the practices applied in Table IV.A.1.



A stream improvement project on a stretch of West Branch Antietam Creek, in Franklin County included installing structures for fish habitat and erosion control and planting a riparian forest buffer.

Table IV.A.1: Riparian Forest Buffers				
Practice Name (Code)	SE	NE	W	State Total
Herbaceous Weed Control (315)	41	59	791	891
Riparian Forest Buffer (391)	138	472	135	745

A2. Stabilize Newly Disrupted Streams

Disastrous storm events erode streambanks and channels and cause flood damage to utilities, roads, homes, or other facilities adjacent to the stream. Emergency protection of the watershed is essential to prevent further damage from subsequent storms.

High Priority Targeted Area for Stabilizing Newly Disrupted Streams: Due to the unpredictability of natural disasters, the entire state is eligible for emergency watershed protection operations.

NRCS provided Emergency Watershed Protection (EWP) assistance to stabilize newly disrupted streams during two major storm events between 2011 and 2015.

A3. Demonstrate One Legacy Sediment Removal and Stream Restoration Project

Reducing the impact of legacy sediments protects and improves streams and floodplain functions. Stable banks and channels prevent movement of the legacy sediments further downstream where they can cause more damage. Reconnecting the stream with groundwater and adjacent wetlands restores the floodplain slowing down the velocity and reducing the volume of storm water flow.

High Priority Targeted Area for Demonstrating One Legacy Sediment Removal Project: Historic mill dams and other associated structures trapped sediments throughout Pennsylvania’s history, leaving a legacy of impaired streams across the state. The expense of a sediment removal project also makes finding partners challenging. Therefore, the target to implement one project was statewide.

NRCS provided assistance through WHIP to remove legacy sediments by installing three Aquatic Organism Passages (396) in Chester and Montgomery counties.

A4. Improve Eastern Brook Trout Habitat

When riparian areas grow to mature forests, they shade the stream and provide leaves and woody sources of organic matter, the key to in-stream nutrient cycling that removes pollutants and supplies food for aquatic organisms. Pennsylvania’s state fish, the Eastern Brook Trout, is not only important to recreational angling, it is an excellent indicator of clean water and healthy aquatic ecosystems.

High Priority Targeted Area for Improving Eastern Brook Trout Habitat: All but five counties in the southwest corner of the state have watersheds with reduced and declining populations of Eastern Brook Trout.

NRCS assistance provided through CTA, CBWI, CRP, EQIP and WHIP to benefit Eastern Brook Trout habitat resulted in the practices applied in Table IV.A.4.

Practice Name (Code)	SE	NE	W	State Total
Riparian Forest Buffer (391)	138	472	135	745
Stream Habitat (395)	7	20	12	39
Streambank Protection (580)	30	31	3	64

B1. Create Wetland Habitat Suitable for Bog Turtles or Eastern Massasauga Rattlesnake

Due to stream channelization and overall wetland loss, bog turtle populations have significantly declined in their native range of southeastern Pennsylvania. Eastern Massasauga Rattlesnakes, which depend on wet meadows for part of their life cycle, only remain on a few known sites. Both species are indicators of the overall health of their environment, the turtle for non-forested wetlands, and the snake for biodiversity that comes from a close proximity of wetlands and adjacent upland meadows.

High Priority Targeted Area for Creating Suitable Wetland Habitat for Eastern Massasauga Rattlesnakes: Butler and Venango counties were targeted for Eastern Massasauga Rattlesnake habitat assistance.

NRCS assistance was provided through WRP to create suitable wetland habitat for Eastern Massasauga Rattlesnakes in the targeted area. Wetland Reserve Program (WRP) assistance resulted in two easements for a total of 80.37 acres and the practices applied in Table IV.B.1.a.

Practice Name (Code)	Target Area
Conservation Cover (327)	2
Upland Wildlife Habitat Management (645)	1
Early Successional Habitat Development/Management (647)	2
Wetland Enhancement (659)	5
Number of Rattlesnake Easements Closed (WRP)	2

High Priority Targeted Area for Creating Suitable Wetland Habitat for Bog Turtles: Fifteen counties suitable for bog turtle habitat were targeted for assistance

- SE (13) Adams, Berks, Bucks, Chester, Cumberland, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Schuylkill, York
- NE (2) Carbon, Monroe

NRCS assistance was provided through WRP, Wetland Reserve Easement (WRE), and CTA to create suitable wetland habitat for bog turtles in the targeted area. WRP and CTA assistance resulted in 43 easements for a total of 920.42 acres and the priority practices applied in Table IV.B.1.b.



their soils classified as poorly or very poorly drained were targeted for wetland restoration assistance:

- SE (4) Adams, Bucks, Lehigh, Montgomery
- NE (4) Bradford, Montour, Susquehanna, Tioga
- West (8) Butler, Clarion, Crawford, Erie, Lawrence, Mercer, Venango, Warren

NRCS assistance provided through CRP, CTA, and WRP to restore wetlands in the targeted area resulted in the priority practices applied in Table IV.B.2.a.

In addition, NRCS assistance statewide resulted in 116 enrollments for 5,001 acres enrolled, and 45 wetland easements closed for a total of 3,178 acres as indicated in Table IV.B.2.b.

Practice Name (Code)	Target Counties		Target Total	Percent in Target Area	State Total
	SE	NE			
Riparian Herbaceous Cover (390)	23	0	23	24%	95
Stream Habitat (395)	8	0	8	21%	39
Restoration of Rare and Declining Habitats (643)	2	0	2	100%	2
Wetland Wildlife Habitat Management (644)	31	0	31	31%	100
Wetland Restoration (657)	11	10	21	38%	55
Wetland Enhancement (659)	51	13	64	36%	176
Number of Bog Turtle Easements Closed (WRP/WRE)	34	9	43	100%	43
Acres of Bog Turtle Easements Obtained (WRP/WRE)	590.27	330.15	920.42	100%	920.42

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
Wetland Wildlife Habitat Management (644)	0	12	22	34	77%	44
Wetland Restoration (657)	4	11	10	25	45%	55
Wetland Enhancement (659)	13	2	66	81	46%	176

B2. Restore Wetlands

Wetlands occur in various parts of the landscape, recharging surface and ground water, treating runoff, reducing flooding, and providing habitat.

High Priority Targeted Area for Restoring Wetlands: Sixteen counties with greater than five percent of

Indicator	State Total
Number of Easements Closed (WRP)	45
Acres of Easements Obtained (WRP)	3,178

C1. Provide Assistance for Flood Control Dams to Protect and Restore Watersheds from Storm Damage

Flood control dams were built to protect and restore 29 watersheds from damage caused by erosion, floodwater, and sediment. More than 80 dams protect Pennsylvania’s rural communities from flooding.

High Priority Targeted Area for Assessing the Condition of Flood Control Dams Includes Watersheds in 20 Counties:

- SE (4) Bucks, Chester, Montgomery, Schuylkill
- NE (9) Bradford, Carbon, Columbia, Monroe, Pike, Snyder, Susquehanna, Tioga, Wayne
- West (7) Crawford, Fayette, Greene, Mercer, Venango, Washington, Westmoreland

NRCS assistance provided through the Small Watershed and Flood Prevention Program (PL566) to assess existing dams in the targeted area and plan, design, or construct new dams statewide is provided in Table IV.C.1.

Indicator	State Total
Assessment of Existing Dams	13
Plans	3
Designs	0
Construction	1

C2. Encourage New Watershed Protection Projects

Increasing outreach efforts develops new partnerships to encourage the protection and sustainable use of watershed resources.

High Priority Targeted Area for Encouraging New Watershed Protection Projects: Statewide.

NRCS assistance provided through PL566 to encourage new watershed protection projects in the targeted area is provided in Table IV.C.2.

Indicator	State Total
New Sponsors	12
Previous Sponsors Conducting Rehabilitation	21



EWP streambank stabilization project.

V. Forests

Priority Natural Resource Concerns

Concerns for natural resources used and impacted by managing Pennsylvania’s 12 million acres of privately owned forests include declining habitat for at-risk wildlife species and degraded health of forests and woodlands.

The Golden Winged Warbler, an indicator species of the health of early successional habitat, is declining dramatically in the northeast. The Indiana Bat, an endangered species indicative of interior forest health, is vulnerable to human disturbance of its roosting sites.

Healthy forests provide a broad range of services including:

- clean air and water;
- wildlife habitat;
- reduced fire danger;
- timber and forest products; and
- recreation.

The intentional integration of agricultural production and forestry may create more diverse and sustainable land use systems.

Strategic Goals and Results

NRCS prioritized conservation assistance for forests to increase habitat for at-risk and declining species and to improve the health of forests and woodlots. Four strategies were established to:

- guide the obligation of financial assistance;
- align technical assistance staffing and partner agreements; and
- guide educational and outreach efforts.

A1. Increase Early Successional Habitat for Golden Winged Warblers

Creating patches of young forests and other early successional plant communities within forested landscapes provides suitable nesting habitat for Golden Winged Warblers and a wide range of other forest edge species. Creating young forests improves overall forest resiliency and diversity.

High Priority Targeted Area for Increasing Early Successional Habitat for Golden Winged Warblers:
Thirty-three counties identified by the Golden

Winged Warbler working group were targeted for creating young forests:

- SE (4) Cumberland, Franklin, Perry, Schuylkill
- NE (17) Bradford, Carbon, Centre, Clinton, Columbia, Juniata, Lackawanna, Luzerne, Lycoming, Mifflin, Monroe, Northumberland, Pike, Sullivan, Tioga, Wayne, Wyoming
- West (12) Bedford, Blair, Cambria, Cameron, Clearfield, Elk, Fayette, Fulton, Huntingdon, Indiana, Potter, Westmoreland

NRCS assistance provided through EQIP to increase early successional habitat for Golden Winged Warblers in the targeted area resulted in the practices applied in Table V.A.1.

Table V.A.1: Habitat for Golden Winged Warbler

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE	NE	W			
	4	17	12	33		
Forest Management Cap (106)	20	107	78	205	59%	345
Brush Management (314)	7	308	167	482	65%	747
Herbaceous Weed Control (315)	6	49	367	422	47%	904
Conservation Cover (327)	49	470	211	730	47%	1,544
Critical Area Planting (342)	24	174	141	339	46%	743
Field Border (386)	7	37	18	62	37%	169
Tree/Shrub Establishment (612)	2	209	77	288	60%	481
Wetland Wildlife Habitat Management (644)	7	6	15	28	28%	100
Upland Wildlife Management (645)	57	2,438	497	2,992	60%	4,984
Early Successional Habitat (647)	3	179	152	334	69%	483
Forest Stand Improvement (666)	12	11	203	226	33%	678

A2. Create Indiana Bat Habitat

Protecting old growth forests near hibernation sites and maintaining summer roost and forage areas improve the prospects for the endangered Indiana Bat.

High Priority Targeted Area for Creating Indiana Bat Habitat: Twelve counties with Indiana Bat populations were targeted to create, enhance, and protect additional habitat for Indiana Bats:

- SE (3) Adams, Berks, York
- NE (3) Centre, Mifflin, Snyder
- West (6) Armstrong, Beaver, Bedford, Blair, Cambria, Huntingdon

NRCS assistance provided through EQIP, WHIP, and CTA to benefit Indiana Bat habitat in the targeted area resulted in the following priority practices applied on forest land in Table V.A.2.



NRCS assistance provided through EQIP, WHIP, and CTA to increase implementation of forest management plans in the targeted area resulted in priority practices applied on forest land in Table V.B.1.a.

Table V.A.2: Habitat for Indiana Bat

Practice Name (Code)	Target Counties			Target Total	Percent in Target Area	State Total
	SE 3	NE 3	W 6			
Forest Management CAP (106)	19	56	39	114	33%	345
Brush Management (314)	14	10	16	40	19%	208
Herbaceous Weed Control (315)	31	9	31	71	44%	161
Tree/Shrub Establishment (612)	12	51	22	85	29%	293
Forest Stand Improvement (666)	58	22	53	133	21%	647

B1. Increase the Implementation of Forest Management Plans

Forest health and productivity is improved through:

- forest stand improvement;
- wildlife habitat management;
- invasive species control; and
- erosion control on forest trails and landings.

High Priority Targeted Area for Increasing Implementation of Forest Management Plans: Statewide.

Table V.B.1.a: Implementation of Forest Management Plans

Practice Name (Code)	SE	NE	W	State Total
Forest Management CAP (106)	58	141	146	345
Brush Management (314)	42	67	99	208
Herbaceous Weed Control (315)	53	54	54	161
Tree/Shrub Establishment (612)	29	168	96	293
Upland Wildlife Habitat Management (645)	72	212	148	432
Early Successional Habitat (647)	31	187	185	403
Forest Stand Improvement (666)	155	149	343	647

Additionally, NRCS provided Stewardship Enhancement assistance statewide through CStP and CSP to improve forests.

NRCS assistance provided through CStP and CSP to improve forests resulted in the Stewardship Enhancements applied statewide in Table V.B.1.b.

Table V.B.1.b: Forest Stewardship Enhancements		
Code	Enhancement Name	Total Number
AIR07	GPS targeted spray application	1
ANM12	Shallow water habitat	4
ANM15	Forest stand improvement for habitat and soil quality	63
ANM19	Wildlife corridors	1
ANM24	Forest wildlife structures	63
BFO02	Forest bundle #2	4
ENR04	Recycle 100% of farm lubricants	22
PLT01	Establish pollinator habitat	7
PLT05	Multi-story cropping, non-timber forest plants	15
PLT07	Hardwood crop tree release	23
PLT11	Conifer crop tree release	3
PLT12	Patch harvesting	4
PLT15	Establish pollinator and/or beneficial habitat	2
PLT17	Creating openings to improve hardwood	3
SQL07	Forest stand improvement for soil quality	7
WQL01	Biological suppression to manage brush, weeds and invasive species	3
WQL13	High level integrated pest management	3

B2. Demonstrate Agroforestry Practice Benefits

Producing woody biomass in association with an agricultural crop or livestock demonstrates the compatibility of agriculture and forestry on working lands. Shrubs used to capture emissions from poultry facilities can also be harvested to produce wood shavings needed for poultry litter on the operation. In addition, the litter can be combusted as a source of heat offsetting the need for propane.

High Priority Targeted Area for Demonstrating Agroforestry Practice Benefits: Seven counties were selected to demonstrate windbreaks around poultry operations:

- SE (5) Berks, Franklin, Lancaster, Lebanon, Schuylkill
- NE (2) Juniata, Snyder

NRCS provided assistance through EQIP and Conservation Innovation Grant (CIG) to demonstrate 12 windbreak practices around poultry operations in the targeted area.



Turkey litter combustion provides heat and offsets the need for propane. CIG project.



FOR IMMEDIATE RELEASE
January 21, 2016

Pennsylvania Unveils Comprehensive Strategy to Improve Water Quality in state and Chesapeake Bay Watershed

Strategy recognizes two key, co-equal goals for success: clean water and viable farms

Elizabethtown, PA – After 30 years of work that has prevented millions of pounds of pollutants from reaching Pennsylvania’s waterways and the Chesapeake Bay, the commonwealth continues to face immense pressure from the federal Environmental Protection Agency (EPA) to improve water quality. In order to meet those obligations, Pennsylvania today unveiled a comprehensive strategy to “reboot” the state’s efforts to improve water quality in the commonwealth and the bay.

The new plan, developed jointly by the Pennsylvania departments of Agriculture, Conservation and Natural Resources (DCNR), and Environmental Protection (DEP), as well as the State Conservation Commission brings new focus to the state’s efforts to help protect the Chesapeake Bay while emphasizing the need for balance and resilience. The strategy relies on a mix of technical and financial assistance for farmers, technology, expanded data gathering, improved program coordination and capacity and – only when necessary – stronger enforcement and compliance measures.

“This is an important issue to the future of agriculture in Pennsylvania and throughout the watershed, and must be managed to achieve the co-equal goals of having both clean water and viable farms,” said Agriculture Secretary Russell Redding. “The agriculture industry is responsible for contributing three-quarters of the total nutrient reductions expected of states by 2025. That’s a sizeable sum, and no small task, but we know there are countless farmers who are doing their part. Part of the problem is that Pennsylvania is not getting full credit for the work we are doing. This plan sets out to rectify that, plus give those farmers who need help or encouragement the incentives to assist them. We all have a role here and agriculture stands ready to be part of the solution.”

“Pennsylvania has not met the EPA’s requirements to reduce water pollution under the requirements of federal court orders and regulations,” said DEP Secretary John Quigley. “The Wolf administration is working to focus and increase resources and technical assistance, reinvigorate partnerships, and create a culture of compliance in protecting Pennsylvania’s water quality, and by virtue of that, the quality of the Chesapeake Bay.”

“Of the many best management practices that improve the quality of waters and habitats in the Chesapeake Bay watershed, the single best may be the restoration of riparian forest buffers along stream banks to provide critical barriers between polluting landscapes and receiving waterways,” DCNR Secretary Cindy Dunn said. “We are renewing our focus on increasing forest buffers in Pennsylvania by developing a comprehensive approach to provide funding, training, and outreach to farmers and landowners.”

The new plan is in response to the federal Clean Water Act, court orders and regulations finalized by the U.S. Environmental Protection Agency (EPA) in December 2010 that impose a total maximum daily load, or TMDL, that require Pennsylvania to reduce annual discharges of nitrogen, phosphorous and sediment entering the bay watershed in order to meet water quality standards by 2025.

The administration's comprehensive strategy centers around six elements:

- Put high-impact, low-cost Best Management Practices (BMPs) on the ground, and quantify undocumented BMPs in watersheds impaired by agriculture or stormwater.
- Improve reporting, record keeping and data systems to provide better and more accessible documentation.
- Address nutrient reduction by meeting EPA's goal of inspecting 10 percent of farms in the watershed, ensuring development and use of manure management and agricultural erosion and sediment control plans, and enforcement for non-compliance.
- Identify legislative, programmatic or regulatory changes to provide the additional tools and resources necessary to meet federal pollution reduction goals by 2025.
- Obtain additional resources for water quality improvement.
- Establish a Chesapeake Bay Office to coordinate the development, implementation and funding of the commonwealth's Chesapeake Bay efforts.

Redding noted the administration has been actively engaging stakeholders as it developed this plan, and it has sought additional resources from the federal government, such as through the United States Department of Agriculture's Regional Conservation Partnership Program. The administration has been engaging with EPA, conservation districts and institutions of higher education, including Penn State's College of Agricultural Sciences to discuss the most effective water quality improvement strategies. The administration has also been working with farm organizations to assist in capturing on-the-farm data of best management practices on farms throughout the Chesapeake Bay watershed. Capturing this data is essential to Pennsylvania receiving full credit in the EPA's model, which is used to measure progress toward pollution reduction goals.

DCNR's Bureau of Forestry will lead an effort to work with numerous agencies, partners and landowners to expand forest buffers along waterways in the commonwealth.

Between 1985 and 2013, Pennsylvania has made significant strides, reducing yearly nitrogen loads by more than 11.5 million pounds, phosphorous by 1.46 million pounds, and sediment by nearly 434 million pounds. These reductions – the result of more than \$4 billion being directed toward Chesapeake Bay restoration during that period through loan and grant programs -- equate to a 25 percent reduction in phosphorous, a six percent reduction in nitrogen, and a nearly 15 percent reduction in sediment.

Despite this progress, achievements to date have been deemed insufficient by the EPA to meet water quality expectations, as reported by the federal government's most recent interim evaluation, released in June 2015. According to that assessment, Pennsylvania is on target to meet its 2017 TMDL goal for phosphorus, but significantly behind targets for nitrogen and sediment reductions. Excess phosphorus, nitrogen and sediments are the leading causes of bay degradation, and Pennsylvania is one of six states obliged to achieve nutrient reduction goals. The state must reduce nitrogen loads by another 31.4 million pounds, phosphorous by an additional one million pounds, and sediment by another 648 million pounds by the TMDL's 2025 target.

Because of Pennsylvania's lack of attainment in meeting interim goals, last month, the EPA advised DEP that it was withholding \$2.9 million in funding, and will consider taking additional actions that increase the federal agency's role in inspections, permitting and compliance, if progress is lacking.

More than half of Pennsylvania's land area drains into the Chesapeake Bay, with the Susquehanna River being the largest tributary in the watershed. The Susquehanna River provides 90 percent of the freshwater that flows into the upper bay region and half of the total flow into the entire estuary.

For more information on Pennsylvania's Chesapeake Bay Program, visit www.dep.pa.gov and search "Chesapeake Bay Program."

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Chesapeake Bay Restoration Strategy FAQs

February 1, 2016

Q: What happens if Pennsylvania does not meet its Chesapeake Bay goals?

A: The U.S. Environmental Protection Agency (EPA) has notified DEP that it would likely pursue the following options in the approximate order shown if it is necessary to ramp up federal actions to address the Pennsylvania Bay restoration shortfalls:

- EPA may redirect or withhold federal funding for Pennsylvania's Chesapeake Bay activities based on its evaluation of Pennsylvania's milestone progress.
- EPA would directly contract to conduct greater numbers of agricultural watershed assessments (e.g., high-priority farms).
- EPA would increase its compliance and enforcement presence in Pennsylvania by inspecting regulated sources, such as farms.
- EPA would enhance its review of NPDES permits, revoke the waiver for permit review of classes of minor sources (i.e., increase the potential for review of minor permits to require nutrient monitoring, to offset increased capacity, etc.), and take over permits if objections are not addressed in 90 days.
- EPA would seek to designate nonpoint sources as point sources, including farms.
- Modify the Pennsylvania-specific Total Maximum Daily Load (TMDL) allocations to sources and sectors to present more achievable options (i.e., transfer some portion of the regulated and unregulated urban load to another sector, such as agriculture).
- EPA could require greater pollutant reductions from significant wastewater treatment plants
- EPA could promulgate water quality standards for Pennsylvania for nutrients, which could result in enforceable numeric limits for phosphorus and nitrogen that must be included in NPDES permit limits where there is a reasonable potential for discharge.

Q: What are the goals? What are we trying to accomplish?

A: The goals are to create a culture of compliance by refocusing and increasing staff resources, reinvigorating partnerships, organizing for success, expanding data gathering, improving program coordination and capacity, and increasing technical assistance. The new strategy, developed by the Pennsylvania Department of Environmental Protection (DEP), in consultation with the Pennsylvania departments of Agriculture and Conservation and Natural Resources (DCNR), as well as the State Conservation Commission and other stakeholders, aims to improve local water quality in Pennsylvania, and by virtue of that, the Chesapeake Bay.

Q: What can be done to improve the conservation districts' role of being real conservation partners rather than in name only?

A: The districts are being asked to assist the Commonwealth in ensuring that agriculture operations are in compliance with current and long-standing regulatory requirements. Conservation districts are a vital and valued conservation partner in Pennsylvania, providing valuable natural resource and conservation services to a broad range of constituencies including the agricultural, rural, suburban and urban sectors for more than 70 years.

Q: Is the Chesapeake Bay reboot focused only on the agriculture community?

A: No. A culture of compliance applies to all point and nonpoint pollution sources. For example, many of Pennsylvania's significant wastewater dischargers in the Bay watershed have upgraded their treatment to meet more stringent discharge requirements necessary to restore the water quality of local streams and the Bay. Local municipalities are now being inspected and held accountable for MS4 stormwater requirements. For non-point sources of nutrients and sediment, agriculture erosion and sediment and manure management regulations have been in place since the 1970s, and yet our best available data shows that only about 50 percent of farms comply with these regulations today. DEP and conservation districts have conducted thousands of farm outreach and educational visits to discuss regulatory requirements over the years. In 2012, DEP, with the assistance of the National Agricultural Statistics Service, mailed educational information to 82,000 farms and agricultural businesses. The next logical step is to follow through with this effort and begin to inspect for compliance with Pennsylvania regulations and laws.

CBP Model

Q: Where/how is data gathered for the Chesapeake Bay Program model?

A: Data for the model are collected from multiple sources including satellite imagery, county land use maps, U.S. Department of Agriculture Ag Census reports, NASS annual reports, and U.S. Census reports. Pennsylvania reports annual Best Management Practice (BMP) data to the Chesapeake Bay Program Model to track our progress in meeting the TMDL. These BMP data are collected from state and federal agency sources and are principally from cost-share and permitting programs. Some of these agencies include FSA, NRCS, DEP, DCED, Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, other conservation organizations and local governments. These BMP data sets are assembled by DEP staff and reported electronically to the CBP. Approximately 80 percent of Pennsylvania's agricultural BMPs reported to the CBP Model are from NRCS and FSA cost-share programs. Conservation Districts may play a larger role in this reporting in the future.

Q: Are Agricultural Erosion & Sedimentation Plans included? If so, how are they reported/counted?

A: Agricultural E&S plans are required under Chapter 102 regulations. A USDA Conservation Plan can be used to meet these Chapter 102 requirements. An Ag E&S plan can be reported to the CBP Model as a Conservation Plan BMP. There is no current regulatory requirement to report Chapter 102 Ag E&S plans and there is currently no mechanism to collect these Chapter 102 Ag E&S plans to report to the CBP Model. DEP is working on developing a centralized repository for BMP data (plans included) that will be transmitted to EPA on a regular basis.

Q: How are conservation plans reported/ counted?

A: USDA Conservation Plans are reported to the EPA Chesapeake Bay Program (CBP) Model as a Conservation Plan BMP. For CBP Model purposes, data on the Conservation Plan BMP is collected from several sources including the Section 319 program, Growing Greener, REAP, CBIG, NRCS and FSA. The reported acreages under plan management are given load reduction efficiencies of approximately 5 percent for nitrogen, 10 percent for phosphorus and 15 percent for sediment.

Q: How is exported manure reported/counted?

A: Manure transport information is collected from nutrient balance sheets and reported by conservation districts to SCC/DEP via the Chapter 83 reporting (Attachment F). Manure transport is "counted" in the CBP Model as a "credit" which lowers the manure nutrient load (tons N and P) applied to fields within the exporting county.

Q: Specifically, what can we do to get the greatest return on reductions for our efforts?

A: Assist with placing the correct BMPs in the right places (solving local problems) and reporting those actions. Recent research has shown that approximately 80 percent of the non-point source pollution originates from approximately 20 percent of a given land area (farm, watershed, landscape, etc.). Conservation efforts should focus on these priority areas and strive to control, trap and treat nutrients and sediments with selected BMPs. This means controlling nutrients at the source through nutrient management planning for barnyards and nutrient applications. It also means trapping nutrients through practices such as conservation tillage, and treating nutrients using practices such as constructed wetlands or forested buffers.

Farm Inspections

Q: What are the goal(s) of farm inspections?

A: To verify compliance with Pennsylvania's Chapter 83, 91, 92a, and 102 Agricultural E&S and Manure Management regulations (as applicable), as well as the Clean Streams Law, and to collect BMP information for reporting in the CBP Model.

Q: Will these farm inspections influence the CBP Model? What "bean" will be counted?

A: Yes. DEP will collect BMP data and transmit it to EPA for use in the model. We believe that this effort will demonstrate that Pennsylvania is closer to meeting its TMDL pollutant reduction goals for the agricultural sector than currently thought.

Q: What exactly will be inspected? What constitutes a farm?

A: The details of the inspection process will be handled through a Standard Operating Procedure (SOP) that will be developed and shared with DEP regional offices and districts. The SOP will, among other things, explain the roles and responsibilities of DEP and districts, the data that will be collected during inspections, identify the conditions that constitute non-compliance, how data will be managed and other actions. The current regulations do not define the term "farm," but address the planning requirements for reduction of erosion and sedimentation from plowing/tilling and animal heavy use areas and manure handling. If a definition of a farm is essential, the Commonwealth may use the same definition that USDA uses when counting farms for the Census of Agriculture: *A farm is defined as any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the year.*

Q: Is there a deadline for the first 50 inspections?

A: DEP is considering using the state fiscal year as the annual inspection cycle. As such, the 50 inspections per DEP-funded position would need to be completed by June 30, 2017. Districts will no longer be required to complete 100 farm outreach visits beginning with this new inspection component.

Q: What if a conservation district opts not to conduct the 50 inspections?

A: If the conservation district decides not to conduct the inspections, DEP (or EPA) will assume the inspection role. Chesapeake Bay funds will not be provided for the conservation district's Chesapeake Bay technician(s).

Q: Will DEP provide guidance to conservation districts on how we should prioritize our 50 inspections?

A: Yes. DEP will work directly with each district to establish inspection goals and priorities prior to the start of this inspection process. DEP will routinely communicate its inspection targets and goals with each district prior to each annual inspection cycle thereafter. DEP will also be conducting agricultural inspections, so a communication process will be developed that ensures there is no overlap between DEP and district inspections.

Q: What happens if/when an inspection reveals a farm has no written E & S Plan and/or Manure Management Plan? Will enforcement be sought even if no problems exist on the farm?

A: Yes. Not having a plan that is required by regulation is a violation, even if no water quality problems currently exist. Further, having required plans is essential to ensuring that problems do not occur in the future. Inspectors will work to bring the operation into compliance consistent with the SOP and ensure that all required plans are developed. If compliance cannot be obtained by the inspector consistent with the provisions of the SOP, then the case will be referred to DEP for enforcement actions.

Q: What if there is a waiting list for farmers to get a plan?

A: Waiting for a plan to be written is no longer considered an acceptable reason for non-compliance. Farm operations have been required to have written plans developed and implemented for several decades. There has been extensive education and outreach conducted regarding these requirements, as well as technical and financial assistance available to farmers to assist with these basic planning requirements. An emphasis is being placed on plans at this time to start with the basics and focus on the good work that is being done in the agricultural community. This is a reasonable approach that is needed to create a culture of compliance.

Q: If a farmer completes an agricultural E&S plan or a Manure Management Plan on PA One Stop is that plan considered adequate?

A: In general, yes. If the information entered into the PA One Stop system is accurate and appropriate to the operation's practices, a plan developed using the PA One Stop tool is adequate to meet the basic planning requirements. Inspections will confirm the validity of a plan and if that plan is being implemented.

Q: Will conservation districts be expected to address enforcement?

A: No. DEP will handle enforcement matters. Districts may be asked to assist with follow-up inspections to verify compliance with enforcement actions.

Q: How is DEP staff going to handle the additional compliance workload and will DEP hire additional compliance specialists to handle enforcement?

A: DEP has made addressing the Commonwealth's pollutant reduction deficiencies related to the Chesapeake Bay a top priority. The agency will be adding additional staff, including compliance specialists, to address this priority.

Q: In the past, DEP has directed farmers to the conservation districts for plan assistance. Under this "reboot," conservation districts will be doing both the inspections and the technical assistance. Is there any guidance on how districts will play both roles?

A: Playing both enforcement and compliance assistance roles is something with which DEP has a great deal of experience. DEP will provide training to districts and playing both roles will be an important element of that training.

Q: How will Pennsylvania address the loss of technical assistance resources and the reduction of installation of new Ag BMPs when district staff is required to reduce the installation of BMPs and, instead, conduct the 50 inspections?

A: District staff will not be required to reduce the installation of BMPs, but will be required to conduct 50 inspections if the position is funded with Chesapeake Bay funds (in place of the 100 informational visits). It is recognized that a compliance visit may be more time consuming than an informational visit, so the total number required was reduced by one-half. As such, staff time committed to other portions of the Chesapeake Bay Program agreement should not be impacted. If the districts desire the same level of technical assistance for those positions, districts will need to find methods to improve efficiency of staff in completing work or otherwise will need to partner with other organizations to assist with education and outreach activities.

Other Issues

Q: There will need to be extensive, ongoing communication between conservation districts and DEP. Does DEP anticipate using work groups to address conservation district concerns regarding: goals/expectations; SOP development; etc. Does DEP anticipate establishing new workgroups to address conservation district concerns?

A: DEP does anticipate additional opportunities for communications between DEP regional staff implementing ag compliance activities and individual conservation districts to discuss specific implementation concerns. This process will develop more fully over time as DEP implements the reboot strategy.

Q: How will DEP coordinate inspections with conservation districts to avoid the possibility of different agencies showing up at the same farm?

A: DEP anticipates multiple opportunities for communication between DEP regional staff and individual conservation districts to discuss specific implementation concerns.

Q: Is there any way to simplify/speed up the regulatory framework of Chapter 105 General Permits?

A: All regulatory requirements, including those found in Chapter 105, must be met when constructing any type of project. Projects with permit applications that are correct and address all regulatory requirements upon first submission proceed through the review process very quickly. Deficient applications slow down the review process.

Q: Is there support for adequate funding for the necessary technical assistance needed? Has a recent analysis on the amount of technical assistance been done to meet the needs? Is the amount of technical assistance needed being balanced with a similar amount of cost-share assistance?

A: Establishing a culture of compliance requires new and innovative thinking to accomplish the goal. This is a Pennsylvania problem that will require both public and private partners to pull together in order to respond to the need and required work to be done. In order to undergo a fundamental change of this scale, both funding and resources have been designated as priorities in order to accomplish goals of the reboot. Access to adequate levels of technical assistance is vitally important to farmers and landowners who are required to develop and implement plans necessary to control non-point sources of pollution. Traditionally, this technical assistance has been provided by network of county, state and federal agencies; with county conservation districts promoting, coordinating and or implementing many of these services. In addition, over the last two decades, private sector technical service providers have also developed significant capacity to help meet these needs. The significant challenges of the Chesapeake Bay TMDL requirements and the levels of plan development and BMP design and installation called for by 2025 will require conservation districts, state and federal agencies, as well as the private sector service providers to cooperate and collaborate in innovative ways to create public/private partnerships that are capable of meeting such a historic increase in the demands for technical and financial assistance. DEP and its partners are committed to exploring new opportunities and new models for technical service delivery.

Q: Some farms will still need Ag E&S plans or Manure Management plans. Some counties do not have a good pool of private sector companies or individuals who can write these plans. Are there plans to address this real concern?

A: As stated above, DEP recognizes that access to technical assistance for planning and BMP design and installation are vitally important and will be required at levels not previously experienced. The Commonwealth challenges the conventional wisdom that there is not an adequate consultant capacity to develop required plans and then to design and construct the necessary BMPs. We believe that this reboot strategy and culture of compliance approach will create a new market demand for private sector plan development, and that the capacity to address that demand will develop. DEP and its partners are committed to exploring new and expanded opportunities and models for technical service delivery.

Q: Does DEP recognize that the quality of consultant work varies and that adequate training and standards/quality controls need to be provided? Once a plan is written, who will be responsible for verifying if those plans are being implemented and actually resulting in water quality improvements?

A: DEP is very aware of the variation in the quality of consultant services. DEP processes over 40,000 applications for various types of authorizations every year. One of the purposes of the inspection program is to verify compliance with regulatory requirements, which includes both development and implementation of the required plans. Initially, our goal is to see that all farms have the required plans.

Q: For improved reporting/data collection, would DEP support statewide use of PracticeKeeper Database system currently used by five Pennsylvania counties and in Virginia, Delaware and Ohio?

A: Yes. A multi-use data collection system, like PracticeKeeper or something similar, will be necessary to track BMPs and planning requirements.

A DEP STRATEGY TO ENHANCE PENNSYLVANIA'S CHESAPEAKE BAY RESTORATION EFFORT

EXECUTIVE SUMMARY

Since 1985, Pennsylvania has invested more than \$4 billion through various loan and grant programs toward Chesapeake Bay restoration efforts. That investment has resulted in a 25 percent phosphorous reduction, 6 percent nitrogen reduction and nearly 15 percent sediment reduction.

Since 2011, Pennsylvania has, according to the U.S. Environmental Protection Agency's (EPA) progress analysis using the Chesapeake Bay model, significantly reduced its discharges of nutrients from point sources such as wastewater treatment plants. Data show that Pennsylvania is on track for meeting phosphorous reduction goals. However, those same data show Pennsylvania is not meeting nitrogen and sediment goals.

Because of that lack of attainment, the EPA has taken two actions: withholding \$2,896,723 in federal funding for Chesapeake Bay-related activities and grants for pollutant reduction projects; and identifying additional progressive options that would likely be pursued "if it is necessary to ramp up federal actions to address the Pennsylvania Bay restoration shortfalls," according to communications from EPA in September 2015.

Pennsylvania's wastewater treatment sector has achieved its pollutant reduction goals. Other source sectors have not made similar advancement. Of particular concern is the lack of adequate progress in reducing nitrogen and sediment loads from the agricultural and urban stormwater sectors. This can be attributed to several factors.

First, the current Chesapeake Bay pollution reduction effort for agricultural and urban stormwater pollutant sources is fundamentally inaccurate because it relies overwhelmingly on installation of Best Management Practices (BMPs) that were cost-shared, meaning only those BMP installations where a portion of the cost was shared by federal or state government. Further, the Bay watershed in Pennsylvania is home to 33,610 farms. EPA recommends that the Pennsylvania Department of Environmental Protection (DEP) inspect 10 percent of farms annually. In 2014, DEP conducted a total of 592 inspections, which equates to a 1.8 percent overall inspection rate, and only 17.6 percent of EPA's recommended level.

Inspection and verification activities related to agricultural and urban stormwater sources have been a missing piece in creating a culture of compliance with existing regulatory requirements, and documenting pollutant reductions necessary to meet our targets. If these basic functions of BMP documentation and verification of compliance are not given their proper role, Pennsylvania's performance in meeting water quality goals and Bay performance measures will continue to seriously lag.

The second factor is the manner by which Pennsylvania has employed the resources available, (both personnel and cost-share dollars) to implement our pollutant reduction efforts in the Bay watershed over the past decade. For example, in FFY 2014, \$146.6 million (combined state and Federal funding) was spent on programs to address nitrogen, phosphorus and sediment reduction statewide. \$127.6 million, or 87 percent, was used for BMP deployment. The average cost-share on BMP

installation is 75 percent government (state and/or federal), and the average cost per farm for BMP installation is \$42-45K per BMP. Yet we still are not achieving our targeted reduction goals.

Further, the most reliable estimate of the amount of resources required to fully implement nonpoint source BMPs called for in Pennsylvania's Watershed Implementation Plan (WIP) is an August 2013 report from the Pennsylvania State University Environmental and Natural Resources Institute. That report, provides two estimates. The first estimate shows a need of \$3.6 billion in capital costs to fully implement all nonpoint source BMPs in the WIP, in incremental levels between 2011 and 2025. The second estimate annualizes costs through 2025, and includes Operation and Maintenance (O&M) costs, resulting in a figure of \$378.3 million per year.

To meet EPA inspection expectations and implement the recommendations contained in this paper by itself, DEP could require a total of 40 additional positions and an annual General Fund budget increase of \$7.3 million. This is a significant increase, made even more significant by the sobering fiscal situation that currently exists in the Commonwealth. It is clear that DEP cannot work alone and be successful.

Pennsylvania must change its approach for the Chesapeake Bay. Working with a number of partners and stakeholders, DEP has developed several short, mid and long-term recommendations, aimed at augmenting our approach to water quality improvements in the Chesapeake Bay watershed. DEP and the Pennsylvania Departments of Agriculture (PDA) and Conservation and Natural Resources (DCNR) collaborated strongly in this effort to coordinate plans, policies and resources. This paper describes six essential recommendations:

1. Addressing Pollutant Reduction Deficiencies by meeting the EPA goals of inspecting 10 percent of farms in the Bay watershed annually, with increased inspection and compliance efforts in the agriculture sector using existing DEP and Conservation District staff, and with continued DEP outreach and program development for urban stormwater systems.
2. Focusing on Local Water Quality Improvement and Protection (LWQ) by locating and quantifying previously undocumented BMPs, and putting new high-impact, low-cost BMP projects on the ground in watersheds that are currently impaired by agriculture or stormwater by shifting an additional 15 percent of available statewide water quality funding (\$1,250,000) to Bay work.
3. Improving Reporting, Record Keeping, and Data Systems (RRKD) to provide better and more accessible documentation of progress made toward Pennsylvania's restoration effort, including consideration of establishing mandatory reporting requirements for the agriculture sector in place of so-far unsuccessful voluntary reporting measures.
4. Identifying Strategic Legislative, Programmatic or Regulatory Changes (LPR) that will give Pennsylvania the additional tools and resources necessary to meet the 2025 Total Maximum Daily Load (TMDL) reduction goals.

5. Establishing a new Chesapeake Bay Office within DEP to assure the proper development, implementation and coordination of the Commonwealth's efforts for restoration of the Chesapeake Bay, and administering DEP's Chesapeake Bay Program grant.
6. Obtaining additional resources for water quality improvement by seeking new sources of funding, which will have Bay compliance as a primary goal, potentially making available several hundred million dollars to devote to local water quality issues and ultimately Bay compliance.

To implement these essential recommendations, this paper proposes 12 specific actions, immediate resource requirements, and 20 longer term proposed actions to improve water quality in Pennsylvania and meet Pennsylvania's goal in support of restoring the health of the Chesapeake Bay. Pennsylvania is committed to completing the 12 priority tasks described below within the next 18 months.

INTRODUCTION

Since 1985, Pennsylvania has invested more than \$4 billion through various loan and grant programs toward Chesapeake Bay restoration efforts. That investment has resulted in a 25 percent phosphorous reduction, 6 percent nitrogen reduction and nearly 15 percent sediment reduction.

Since 2011, Pennsylvania has, according to the EPA progress analysis using the Chesapeake Bay model, significantly reduced its discharges of nutrients from point sources such as wastewater treatment plants. Data show that Pennsylvania is on track for meeting phosphorous reduction goals. However, those same data show Pennsylvania is not meeting nitrogen and sediment goals. Pennsylvania must change its approach for the Chesapeake Bay.

DEP has worked with partners and stakeholders to develop several short, mid and long-term recommendations, aimed at augmenting our approach to water quality improvements in the Chesapeake Bay watershed. While all these recommendations are of importance, Pennsylvania is committed to completing the 12 priority tasks described below within the next 18 months.

A detailed implementation work plan has been developed as a separate document that identifies specific objectives and deliverables to insure successful completion of each task.

BACKGROUND

Half of the land area of Pennsylvania drains to the Chesapeake Bay from four major river basins, and Pennsylvania comprises 35 percent of the entire Chesapeake Bay Watershed. The Susquehanna River is the largest tributary to the bay, providing 90 percent of the freshwater flow to the upper bay and half of the total freshwater flow to the bay. Simply stated, the water quality of the Chesapeake Bay cannot be restored without Pennsylvania's support. But even more important, water quality in Pennsylvania must be restored.

In 2010, EPA established a TMDL to address chlorophyll-A, dissolved oxygen and clarity impairments within the bay. The mandatory pollutant reductions necessary to meet the TMDL goals must be achieved by the year 2025. The nutrient and sediment loading rates used to determine compliance with the TMDL are calculated from a suite of models that base the load reductions on the efficiencies and reductions expected through point-source load reductions (treatment plants) and the implementation of BMPs at nonpoint source locations.

The Chesapeake Bay Model uses a simulated hydrology, land cover data, population and Agricultural Census data, effluent and BMP data reported by states, and other data sources to characterize annualized loads delivered to the bay. Nonpoint loads are divided by sector (agriculture, urban runoff, septic, forests and atmospheric deposition) by the model through land use characterization and are calibrated to observed surface water quality data on a roughly 10-year interval.

For the nonpoint source sector, Pennsylvania collects cost-shared BMP data for the model from the Natural Resource Conservation Service (NRCS) (85 percent) and other state grant programs (15 percent). The federal data are provided by the U.S. Department of Agriculture (USDA) through agreement with the U.S. Geological Survey (USGS), and the state BMPs are collected annually

from multiple grant and permitting programs across multiple departments. These data are submitted annually to the EPA.

Pennsylvania’s progress in meeting the TMDL goals is tracked through the development of two-year milestones (currently 2013-2015), which estimate the expected level of implementation of BMPs and expected programmatic improvements to occur over the milestone period. A TMDL Mid-point Assessment will be made in 2017. EPA expects that this assessment will show that 60 percent of load reductions needed to reach the TMDL will have been put in place.

According to EPA, Pennsylvania has committed to reduce its urban/suburban stormwater load for nitrogen by 41 percent, phosphorus by 45 percent and sediment by 50 percent by 2025. For this sector to date, Pennsylvania has reduced nitrogen loads by 1 percent, phosphorus loads by 10 percent and sediment loads by less than 1 percent.

Failure to meet milestone implementation targets has triggered backstop actions by EPA for Pennsylvania’s agriculture and urban runoff sectors. EPA’s backstop measures could include expansion of point source permitting, permit application objections, re-direction or conditioning of federal grants, increased EPA enforcement, among other possible measures. Table 1 below illustrates the current status of our modeled loads and targets, and indicates that Pennsylvania will likely not meet 2015 and 2017 reduction targets.

Table 1. Pennsylvania Loads and Goals
(3/18/15)

NITROGEN		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
Jurisdiction	Source	(M lbs /year)					
PA	Agriculture	62.66	65.10	55.03	50.47	46.41	35.58
PA	Urban Runoff	17.41	17.44	16.68	14.19	13.12	10.26
PA	Wastewater+CSO	12.14	9.81	9.80	10.69	10.21	8.92
PA	Septic	2.33	2.55	2.13	2.07	1.98	1.74
PA	Forest+	22.10	22.11	22.00	22.27	22.33	22.49
PA	All Sources	116.64	117.01	105.64	99.70	94.05	79.00
PHOSPHORUS		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
Jurisdiction	Source	(M lbs /year)					
PA	Agriculture	2.716	2.564	2.535	2.311	2.176	1.816
PA	Urban Runoff	0.767	0.696	0.602	0.613	0.561	0.424
PA	Waste water +CSO	1.071	0.758	0.750	0.992	0.966	0.897
PA	Forest+	0.431	0.421	0.430	0.433	0.433	0.435
PA	All Sources	4.984	4.438	4.317	4.348	4.136	3.571
SEDIMENT		2009	2014	2015	2015	2017	2025
		Progress	Progress	Milestone	Target	Target	Target
Jurisdiction	Source	(M lbs /year)					
PA	Agriculture	1,677	1,695	1,398	1,414	1,326	1,092
PA	Urban Runoff	560	519	436	433	391	278
PA	Waste water+CSO	21	25	16	96	121	187
PA	Forest+	386	379	378	387	388	389
PA	All Sources	2,644	2,618	2,229	2,330	2,225	1,945

Source: EPA Chesapeake Bay Program

- Loads meet 2014 trajectory target.
- Loads don't meet 2014 trajectory target but are within 5%.
- Loads don't meet 2014 trajectory target by relatively large amount.

THE CURRENT SITUATION

A total of \$2,896,723 of federal funding for Chesapeake Bay work is currently being withheld until the Commonwealth meets EPA expectations. (See *Appendix 1.*) EPA has identified progressive options would likely be pursued “if it is necessary to ramp up federal actions to address the PA Bay restoration shortfalls.”(See *Appendix 2.*)

The current Chesapeake Bay effort within DEP is fundamentally based on spotty reporting, inadequate data and systems, and an overwhelming reliance on cost-shared installation of BMPs. In FFY 2014, \$146.6 million (combined state and Federal funding) was spent on programs to address nitrogen, phosphorus and sediment reduction statewide. Of this \$146.6 million, \$127.6 million, or 87 percent, was used for BMP deployment, with the remaining \$18.9 million going to personnel and operations (including Conservation District operations). See *Appendix 3.*

The average cost-share on BMP installation is 75 percent government (state and/or federal), and the average cost per farm for BMP installation is \$42-45K per BMP.

The agricultural community maintains that farmers are putting BMPs on the ground that could be credited against Bay requirements. However, this is merely an assertion. Farms, while being regulated entities, are not required to annually report this information, and voluntary reporting has been and continues to be attempted. However, farmer self-reporting of data is not a preferable method for Bay data collection, due to the complex nature of the definition of some BMPs. More important, unverified data typically cannot be counted in the bay model. As a result, considerable funds and even more energy are expended annually by state and federal agencies to attempt to estimate the number and kind of non-cost-shared BMPs that are being installed. For example:

- NRCS, USDA and DEP are collaborating on a remote sensing pilot project, costing \$431,000, to determine if non-cost-shared BMPs can be documented through the use of aerial imagery.
- A transect survey pilot project in five counties is underway to estimate (at a confidence interval of 90 percent) data on the use of cover crops. \$138,000 was spent in FY 2013/2014 and an additional \$168,000 for 2015/2016.; totaling \$306,000.
- In 2009, DEP contracted with Bradford and Lancaster county conservation districts to determine the level of non- cost shared BMPs in their counties. The total cost was about \$75,000. The results of the project were useful, but more anecdotal than data. The projects did not result in data that was reported into the Bay model.
- The Pennsylvania Association of Conservation Districts (PACD) Manure Management Self-Reporting project includes \$15,000 for the development, promotion and management of a voluntary self-reporting project.

Reliable, verified and usable data are needed to document compliance with regulatory requirements, document the true extent of Pennsylvania’s progress in improving water quality, and to inform programmatic and investment decisions. Continued reliance on voluntary reporting and costly estimation techniques of indeterminate accuracy result in continued high levels of state and Federal expenditure, could result in underreporting of Pennsylvania farm efforts to improve water quality,

and seriously hamper the Commonwealth's ability to make informed policy decisions on which to take effective action.

Targeted reporting that meets DEP regulatory requirements under the Clean Streams Law; i.e. Ag Erosion and Sediment Control (E&S) Plans and Manure Management Plans, should be the initial focus. Most of the BMPs that DEP would report into the Bay model could be collected from these plans. The data collected, coupled with verification by inspection and compliance assurance activities, will allow the Commonwealth to gather reportable, Bay model-countable data and will result in real improvement in water quality in Pennsylvania, and in the Chesapeake Bay.

Compliance assurance activities have been the missing piece in creating a culture of compliance. DEP currently deploys a total of 33 Full-Time Equivalent hours (FTEs) to all Bay work, totaling \$2.8 million (\$1.5 million General Fund, \$1.3 million Federal and Special Funds). Of that total, however, only six positions are devoted to inspections. (*See Appendix 4.*)

MOVING FORWARD – THE RECOMMENDATIONS

This paper proposes 12 specific actions grouped among five recommendations, which are presented below in order of priority:

1. **Addressing Pollutant Reduction Deficiencies (PRD)** realized thus far for the agriculture and stormwater sectors with focused compliance and enforcement efforts and multi-agency assistance.
2. **Focusing on Local Water Quality Improvement and Protection (LWQ)** by locating and quantifying previously undocumented BMPs, and putting new high-impact, low-cost BMP projects on the ground in watersheds that are currently impaired by agriculture or stormwater.
3. **Improving Reporting, Record Keeping, Data Systems (RRKD)** to provide better and more accessible documentation of progress made toward Pennsylvania’s restoration effort, including the establishment of mandatory reporting requirements for the agriculture sector in place of so-far unsuccessful voluntary reporting efforts.
4. **Identifying Strategic Legislative, Programmatic or Regulatory Changes (LPR)** that will give Pennsylvania the additional tools and resources necessary to meet the 2025 TMDL reduction goals; given the understanding that Pennsylvania will not meet, but intends to improve the progress toward, the 2017 Mid-point Assessment targets.
5. **Establishing a new Chesapeake Bay Office within DEP** to assure the proper development, implementation and coordination of the Commonwealth’s efforts for restoration of the Chesapeake Bay, and administering DEP’s Chesapeake Bay Program grant.
6. **Obtaining Additional Resources for Water Quality Improvement** by participating in planning for new sources of funding, which will have Bay compliance as a primary goal, potentially making available several hundred million dollars to devote to local water quality issues and ultimately Bay compliance.

In addition, this paper presents 20 additional longer-term recommendations for consideration as the Phase 3 Chesapeake Bay WIP is developed. (*See Appendix 5.*)

The success or failure of the Chesapeake Bay Restoration must be a multi-faceted approach. It cannot be dependent upon the success or failure of DEP alone. Pennsylvania agencies and all Pennsylvanians in the Chesapeake Bay watershed must be engaged in protecting and restoring local water quality.

Addressing Deficiencies (PRD)

Pennsylvania recognizes that over the next 18 months shortfalls in pollutant reductions achieved thus far within the agricultural and urban sectors need to be addressed. This can only be accomplished with a multi-faceted approach that utilizes the resources of all agencies. With this in mind, the following recommendations are offered for these two sectors.

Agriculture

PRD1. Implement the following Agricultural Compliance and Enforcement Strategy to maximize results. This is modelled after the successful approach used by DEP's North Central Regional Office, which was cited as exemplary by EPA.

To help farmers do the right thing to improve Pennsylvania's water quality, Pennsylvania intends to establish an initial policy of compliance by focusing on planning requirements. DEP will:

1. Enlist the services of the participating County Conservation Districts' (CDs) staff to assist with inspections of farms to a) assure that everyone who is required to have plans to be in regulatory compliance has all the necessary plans applicable to their farming operation, and b) inspect 10 percent of all farms in the Bay watershed annually. This will be accomplished by:
 - a. Elimination of the CDs' current Chesapeake Bay Watershed Funding Agreement requirement to conduct 100 farm educational visits, and replace them with 50 Manure Management and Agricultural E&S Plan inspections, supplemented with an unfunded BMP data collection activity.
 - b. Purchase of Practice Keeper software for each Conservation District so they can report inspection and BMP data in a timely and consistent manner.
 - c. Utilization of Penn Ag Industries, county newsletters, Farm Bureau and others in the agricultural community to announce the strategy and schedule.
 - d. Prioritization of the effort by county within each region based on total agricultural loading to the Bay.
2. In preparation for implementation of this strategy, DEP will:
 - a. Send a letter to the private sector entities currently involved in the development of these plans.
 - b. Meet with agricultural community partners.
3. To maximize resources, existing roles will need to be modified and clarified as follows:
 - a. Private sector does plan development.
 - b. Conservation districts provide technical and compliance assistance. Where Districts accept the appropriate delegation, they may pursue enforcement activities.
 - c. DEP does enforcement where it may be needed.
 - d. Public assistance for plan development will be severely limited.

4. Documentation of compliance with an emphasis on plans will be done by routine inspections within the Bay watershed. Results will be announced frequently through regular press releases. A tiered approach will be used to assess the severity of violations and a corresponding penalty.

PRD2. Implement a methodology to count, report and verify BMPs that are installed voluntarily, without state or federal cost-share assistance, using the BMP tracking system developed using the following basic premises:

1. Enlist the support services of the PA Farm Bureau and Penn Ag Industries to survey farms in the manner proposed in Appendix 6.
2. At a minimum, 10 percent of the practices reported will be verified by conservation districts.
3. The following need to be addressed:
 - a. The problems with NRCS concerning the confidentiality clause contained in Section 1619 of the 2008 Farm Bill which prohibits disclosure of certain information to DEP by USDA and NRCS.
 - b. If voluntary reporting proves unsuccessful or inadequate to provide model-reportable data, DEP will consider the establishment of mandatory reporting requirements for the Ag sector.

Urban Stormwater

There is a need to re-evaluate the Chesapeake Bay Phase 2 WIP for achieving reductions from the urban sector and the reduction allocations for this sector. Since this cannot happen until the Mid-point Assessment and the development of the Phase 3 WIP, the implementation of the following recommendations will be the focus for the next 18 months for this sector:

PRD3. Continue outreach and program development for the Municipal Separate Storm Sewer Systems (MS4) to include:

1. Finalization of the MS4 General Permit (PAG-13) to include percent reductions for nitrogen, phosphorus and sediment.
2. Development of additional handbooks, guidance materials, etc. as needed.
3. Periodic, at least annual, workshops and training events on program requirements and the essential elements of the program, including the development of Pollutant Reduction Plans and TMDL Plans. Supplement these with webinars and web-based training as needed.
4. Implementation of a circuit rider program to provide one-on-one technical assistance to municipalities in the development and implementation of a program to address the minimum control measures for a MS4 Program. These circuit riders will be part-time employees of DEP who are subject experts and involved in local MS4 programs in their respective communities. Note that this step is dependent on the availability of additional resources.

5. Development and implementation of a small grant program to provide between \$25,000 and \$50,000 to local municipalities to cover a percentage of the costs to evaluate the feasibility of creating a stormwater authority and/or the creation of a framework for assessing and collecting fees for the management of stormwater. Up to an additional \$75,000 will be provided to cover a percentage of the initial administrative costs if an authority or actual fee structure is created and implemented. The total amount of assistance to one entity shall not exceed 75 percent of the total costs incurred. **Note that this step is dependent on the availability of additional resources.** DEP is aggressively pursuing those resources in consultation with EPA.
6. Development and implementation of a cost-share program for the development of Chesapeake Bay Pollutant Reduction Plans for stormwater management BMPs associated with MS4s. Note that this step is dependent on the availability of additional resources.

PRD4. Develop a methodology to allow those MS4s that have documented, verified urban BMPs installed as part of the Pollutant Reduction Plans and MS4 annual reports between 2006 and now to get credit for the reductions those practices have achieved as part of the required percent reduction after 2018. **Note that this recommendation is only possible if staffing and resources are added.**

PRD5. Enforce the statutory requirements of the Pennsylvania Storm Water Management of 1978 (Act 167) pursuant to DEP's authority under the Act, and ensure the requirements of Act 167 are met by:

1. Notifying those counties and municipalities that are not in compliance with Act 167 of their obligations pursuant to the statute.
2. Implementing a training and outreach program to counties and municipalities on the requirements and timeline for compliance.
3. Developing and implementing a compliance and enforcement strategy with achievable timelines to bring recalcitrant counties and municipalities into compliance.
4. Ensuring that model ordinances developed for implementation of Act 167 plans address erosion and sediment best management practices, especially within the Chesapeake Bay Watershed. **Note that this recommendation is dependent on additional financial and staffing resources (See LPR10 below).**

Focusing on Local Water Quality Improvement and Protection (LWQ)

Improving local water quality will ultimately restore the water quality of the Chesapeake Bay. To achieve local water quality improvement, a comprehensive, focused approach, implemented with local support, is essential. With this in mind, the following recommendations are offered:

LWQ6. Implement targeted efforts in impaired watersheds where the cause listed is either agricultural or urban stormwater, and where geography and land use are amenable to successful BMP implementation, that lead to quick results in gaining attainment status. These watersheds should be in an area where there is an interested local group ready to take the lead on

implementation of the initiative. Federal and state cost-share dollars should be focused in these watersheds for implementation, and 15 percent of available statewide water quality funding – totaling \$1,250,000 (\$750,000 from Growing Greener and \$500,000 from the 319 Program) – will be shifted to Bay work.

LWQ7. Partner with local agencies to achieve on-the ground implementation of BMPs, e.g. the partnership with the Fish and Boat Commission, the Northcentral Pennsylvania Conservancy and the Conservation Districts in the DEP Northcentral Region, to install stream restoration measures.

Improving Record Keeping and Data Systems (RKD)

Reliable Reporting, Record Keeping, Data Systems (RRKD) to provide better and more accessible documentation of progress made toward Pennsylvania’s restoration effort includes the establishment of mandatory reporting requirements for the agriculture sector in place of so-far unsuccessful voluntary reporting efforts. With this in mind, the following recommendations are offered:

RKD8. Design and build a BMP Data Management System. Key points about the system include:

1. The core of the system will be a geo-located entry of actual BMP information. The key to this is to ensure that no BMP can be entered more than once.
2. There will need to be multiple points of access into the system.
3. The core record will contain all of the information about the BMP (how long, how tall, how wide, acres managed, pounds removed of Total Nitrogen, Total Phosphorus, sediment), and the ancillary tables will contain the information specific to the different programs.

RKD9. Establish reporting requirements for Ag E&S and Manure Management Plans in the agriculture sector, and provide the CDs with tools (Practice Keeper) to capture these data. (*See Appendix 6.*)

Identifying Strategic Legislative, Programmatic or Regulatory Changes (LPR)

Pennsylvania may need legislative, programmatic or regularly changes to build the additional tools and resources necessary to meet the 2025 TMDL reduction goals; given the understanding that Pennsylvania will not meet, but intends to improve the progress toward, the 2017 Mid-point Assessment targets. The following recommendations are proposed:

LPR10. Request the General Assembly to restore funding for the statutory requirements of the Pennsylvania Storm Water Management of 1978 (Act 167), as well as additional staff for DEP.

LPR11. Develop a permitting methodology for use by Publicly-Owned Treatment Works (POTWs) and MS4 communities to combine cap loads and required reductions for both entities within one permit, thus facilitating the POTW to achieve all or a percentage of the MS4s assigned reductions through effective operation of the POTW or allowing the POTW to further expand capacity at the plant without further infrastructure upgrade through the implementation of stormwater controls to the MS4s.

LPR13. Document, through business case development, the additional funding needed for staffing increases and cost-share programs necessary to make this plan implementable. This includes working with the Office of the Budget and the General Assembly to achieve the needed results.

In Pennsylvania, the measure of success will be the restoration of local water quality that will ultimately assist with the restoration of the Chesapeake Bay. Pennsylvania needs to be actively involved and vocal at all Chesapeake Bay Program workgroup and committee meetings. To accomplish this, and to ensure the right combination of agency participation is representing Pennsylvania on the various workgroups and committees involved with the Chesapeake Bay Program, DEP needs to re-evaluate the existing membership and make revisions as appropriate. As part of this effort, specific roles and responsibilities for any additional members will be defined. Finally, recognizing that the Chesapeake Bay Watershed Model is the mechanism by which EPA and the Chesapeake Bay Program partners measure and document progress, Pennsylvania needs a clear, concise understanding of how the model works, the current issues with the model that prevent a complete comprehensive reflection of Pennsylvania progress and what needs to be done in order to resolve these issues.

RESOURCE NEEDS

Commonwealth agencies do not have the staffing or the cost-share assistance resources needed to meet Bay goals. This section presents a summary of the essential numbers.

Agriculture

The Bay watershed is home to 33,610 farms. Three hundred of those are Concentrated Animal Feeding Operations (CAFOs). EPA recommends that DEP inspect 10 percent of farms annually. However, DEP currently has six agriculture program inspectors in the Bay watershed (3 funded by General Fund, 3 Federally funded), and only three of those are committed to Bay work. In 2014, DEP conducted 242 CAFO inspections, and 350 non-CAFO inspections. The total of 592 inspections equates to a 1.8 percent inspection rate, only 17.6 percent of EPA's recommended level of 10 percent, or 3,360 inspections per year.

Urban Stormwater

The Bay watershed has 206 MS4 communities. The total number of site/permits = 10,000, with a total of 55,000 BMPs currently on the ground. These are primarily derived from new construction and redevelopment. EPA's Goal is for DEP to inspect 10 percent of the sites per year (all BMPs), or 21 full MS4 inspections per year. DEP has 16 staff who contribute to MS4 inspections, but 0 (zero) MS4 inspectors dedicated to the Bay or the program statewide. In 2014, DEP conducted 80 partial MS4 inspections (25 field inspections and 55 annual desk report reviews).¹

¹ In addition, DEP and CD Staff review hundreds of permit applications related to post-construction stormwater management (PCSM) from new development projects in the Bay watershed each year. The majority of these applications are for stormwater discharges in municipalities that do not have local ordinances developed pursuant to plans developed and approved under Act 167. Adequate planning and consistent BMP implementation under such ordinances would greatly reduce sediment loads to the Bay from this new development.

Presented below in Table 2 is a summary of DEP and CD staffing needs to meet EPA inspection expectations and implement the recommendations contained in this paper.

Table 2.

Entity	Type of Inspection	# of Yearly Inspections	Comments
DEP Regional Office	CAFO	242 Farms	Existing DEP staff
DEP Regional Office	Non-CAFO	350 Farms	Existing DEP staff
Conservation. Districts (CD) and State Conservation omission (SCC)	Act 38 CAOs (minus CAFOs)	376 Farms	Concentrated Animal Operation inspections overlap with DEP CAFO inspections due to CAFO Nutrient Management (NM) Plan requirements.
CDs and SCC	Act 38 VAOs	218 Farms	CDs inspect 1/3 of all NM Volunteer Agricultural Operations each year.
	Sub-Total	1,186 Farms	With existing staff and resources
<u>Redirecting Existing</u>	<u>Capacity as Follows</u>		
Cons. Districts	MM & AG E&S Inspections, plus Unfunded BMP Data Collection	1,750 Farms	This proposal would <u>eliminate</u> CDs current CB WS Funding Agreement requirement to conduct 100 farm educational visits, and replace it with 50 MM/AG E&S inspections, supplemented with an unfunded BMP data collection activity. This would help meet both the EPA 3360 inspection mandate, <u>PLUS</u> the short-term push to collect unfunded BMP data. This effort should include the purchase of World View Software for each CD so they can report inspection and BMP data in a timely & consistent manner.
<u>Adding Additional</u>	<u>Capacity as Follows</u>		
DEP RO	5 New Inspection FTEs	500 Farms	CB WS based farm inspectors
	Sub-Total	3,436 Farms	<u>Exceeds EPA 3,360 mandate by 76 farm inspections per year.</u>
DEP RO	3 New Support Staff	N/A	Support and oversee regional operations
DEP CO	2 New Support Staff	N/A	Support CO administrative/technical duties.

Table 3. DEP Staff Needs

Work Done	Proposed Increase In DEP Staff
	FTEs
Program Oversight, Coordination	2
Interaction with EPA and Bay Program Office, Watershed Model, BMP Verification	
Agriculture	
Program Implementation (Supervision)	3
Program Development	1
Inspections & Enforcement	5
Grant Management	1
Subtotal (Agriculture)	12
Stormwater	
Program Development	1
Inspections & Enforcement	3
Legal	1
Administrative Support	1
Subtotal (Stormwater)	6
Compliance Assistance and Enforcement	1
Program Development	1
Grant Management (should funding happen)	1
Subtotal (Act 167 Stormwater Planning)	3
Permitting & Plan Review	1
Report Reviews, Inspections and Enforcement	1
Program Management	1
Subtotal (MS4 Program)	3
Total	24

Establishing a new Chesapeake Bay Office within DEP

To assure the proper development, implementation and coordination of the Commonwealth's efforts for restoration of the Chesapeake Bay, and administering DEP's Chesapeake Bay Program grant, a new Chesapeake Bay Office will be established within DEP.

Obtaining Additional Resources for Water Quality Improvement to Meet Bay Goals

The most reliable estimate of the amount of resources required to fully implement nonpoint source BMPs called for in Pennsylvania's WIP is contained in **The Pennsylvania State University Environmental and Natural Resources Institute Report, August 2013²**, which provides two estimates. The first estimate shows a need of \$3.6 billion in capital costs to fully implement all nonpoint source BMPs in the WIP, in incremental levels between 2011 and 2025. The second estimate annualizes costs through 2025, to include O & M, resulting in a figure of \$378.3 million per year.

MOVING FORWARD

Table 4 presents a proposed Implementation Schedule. Appendix 5 presents 20 additional longer-term recommendations for consideration as the Phase 3 Chesapeake Bay WIP is developed.

² http://www.usda.gov/oc/e/environmental_markets/files/EconomicTradingCBay.pdf

Table 4. Timing

Initiative	Timing
<p>1. Addressing Pollutant Reduction Deficiencies by meeting the EPA goals of inspecting 10 percent of farms in the Bay watershed annually, with increased inspection and compliance efforts in the agriculture sector using existing DEP and Conservation District staff, and with continued DEP outreach and program development for urban stormwater systems.</p>	<p>a. Finalize agreements with Conservation Districts to substitute 50 inspections for current 100 educational visits – July 2016</p> <p>b. Add 24 FTEs for inspection, program development in FY 2016-2017 - December 2016</p>
<p>2. Focusing on Local Water Quality Improvement and Protection (LWQ) by locating and quantifying previously undocumented BMPs, and putting new high-impact, low-cost BMP projects on the ground in watersheds that are currently impaired by agriculture or stormwater by shifting an additional 15 percent of available statewide water quality funding (\$1,250,000) to Bay work.</p>	<p>c. Voluntary Manure Management reporting tool live January 2015</p> <p>d. Agreements with PA Farm Bureau, PennAg finalized December 2015 for 2016 implementation</p> <p>e. Funding shift to Bay work – January 2016</p>
<p>3. Improving Reporting, Record Keeping, and Data Systems (RRKD) to provide better and more accessible documentation of progress made toward Pennsylvania’s restoration effort, including consideration of establishing mandatory reporting requirements for the agriculture sector in place of so-far unsuccessful voluntary reporting measures.</p>	<p>a. Complete acquisition of Woldview reporting tool – February 2016</p> <p>b. Evaluate success of voluntary reporting – August 2016</p>
<p>4. Identifying Strategic Legislative, Programmatic or Regulatory Changes (LPR) that will give Pennsylvania the additional tools and resources necessary to meet the 2025 Total Maximum Daily Load (TMDL) reduction goals.</p>	<p>October 2016</p>

<p>5. Establishing a new Chesapeake Bay Office within DEP to assure the proper development, implementation and coordination of the Commonwealth's efforts for restoration of the Chesapeake Bay, and administering DEP's Chesapeake Bay Program grant.</p>	<p>December 2015 - Done</p>
<p>6. Obtaining additional resources for water quality improvement by participating in planning for new sources of funding, which will have Bay compliance as a primary goal, potentially making available several hundred million dollars to devote to local water quality issues and ultimately Bay compliance.</p>	<p>February 2016</p>

APPENDICES

APPENDIX 1 -- Loss of Federal Funding

A total of \$2,896,723 of federal funding for Chesapeake Bay work is being withheld until the Commonwealth meets the expectations described below.

Fiscal Year 2015 (FY15) Chesapeake Bay Implementation Grant (CBIG) Work Plan and Budget

From the FY15 CBIG award, \$1,685,033 is not being funded unless DEP provides a plan to increase the agriculture cost-share program and demonstrates how funding will be targeted to high-priority conservation practices in high-priority watersheds.

FY15 Chesapeake Bay Regulatory and Accountability Program (CBRAP) Grant Work Plan and Budget

From the FY15 CBRAP award, \$1,211,690 for is not being funded unless DEP provides a plan to address the following matters:

- **Nutrient Management Compliance Assistance**
 - Demonstrate a commitment to the “culture of compliance.”
 - Quantify and conduct additional random non-CAFO/non-CAO inspections to annually cover 10 percent of the universe of farms starting in 2016.
 - Provide a quantitative goal to demonstrate the conservation districts’ role in conducting inspections outside of the regional watershed assessment areas.
 - Modify the Conservation District Delegation Agreement in 2016 versus 2017.
 - Fill gaps in implementing its non-CAFO Compliance Monitoring Strategy with additional Pennsylvania staff under Objective #2 for FY2016.
 - Provide a plan to ramp up implementation and compliance with Manure Management plans.
- **Improved Tracking and Accountability**
 - Remedy deficiencies in Pennsylvania’s databases to fully track farm visits, compliance, inspections, and BMP implementation.
- **Technical Assistance Program.** EPA is not funding \$500,000 for this objective unless PADEP provides a plan to:

- Increase the number of nutrient management plans to be implemented on an annual basis.
- Specify what tier of nutrient management plans will be targeted.
- Specify the priority areas that will be targeted for nutrient management plan implementation.
- Specify the timeline/schedule for electronic self-reporting of manure management plans and BMPs, as well as when these BMPs will be inspected and verified.

APPENDIX 2 -- Addressing PA Gaps in Chesapeake Bay Restoration – Options Paper

(EPA document received 9/17/15)

The following options would likely be pursued in the approximate order shown if it is necessary to ramp up federal actions to address the PA Bay restoration shortfalls.

- **EPA funding redirections and withholding:** EPA would partially award Bay CBIG and CBRAP funds to Pennsylvania and direct workplan content to the specific EPA's expectations identified to Pennsylvania from our evaluations of milestone progress. Grant funding could then be permanently withheld (50 percent and future years funding) and then used by EPA directly to fund on-the-ground project work to implement the WIP/Milestones.
 - Starting Point: Make 50 percent award of grant funds for FY 15 and then make permanent the grant reductions and redirect to direct EPA implementation actions on PA behalf. Specifics to come.
 - Stop special EPA project funding to PA (e.g., MS4/SW solutions).
- **Conduct greater numbers of AG watershed assessments (e.g., high-priority farms):**
 - EPA would directly contract for field work to assess rates of compliance with state and federal requirements of animal Ag operations in Pennsylvania.
 - Possibly support 3-6 watersheds per year targeted to the highest nutrient loading rate watersheds in the Bay drainage; would require EPA staff presence in the field.
- **Increase EPA compliance and enforcement presence in Pennsylvania:** Escalate EPA presence in the Chesapeake Bay watershed portion of the Commonwealth by inspecting regulated sources.
- **Enhanced NPDES Permit Review**

- **Revoke waiver for permit review of classes of minor sources in the Chesapeake Bay Watershed** (i.e., potential review of minor permits to require nutrient monitoring, to offset increased capacity, etc.).
- **Takeover of permits if objections not addressed in 90 days**
 - Object to NPDES permits which do not conform to the TMDL; after 90 days of unresolved objections, EPA can assume control of the issuance of those permits.
 - PAG-13 Storm Water General Permit would be a prime candidate if changes are not made to the permit EPA previously reviewed.
 - Significant Wastewater Treatment Plant (WWTP) permits could be objected to if the TMDL Wasteload Allocation (WLA) is change – see TMDL Allocation option, below.
- **Seek to designate nonpoint sources as point sources**
 - **Animal Feeding Operation (AFOs) as CAFOs:**
 - Animal Ag operations that are assessed in the field could be designated on an individual facility or sub-watershed basis after the gathering of field data to demonstrate the impairment link.
 - Beginning the process to designate would allow for public input and generate a dialogue about the adequacy of state programs and coverage of the ag universe.
 - **Unregulated stormwater sources**
 - Conduct assessment of classes of sources (e.g., parking lots) causing or contributing to water quality impairments.
- **Modify the Pennsylvania-specific TMDL allocations to sources and sectors:** Adjust TMDL allocations in Pennsylvania only to present more achievable options.
 - **Refine the urban load allocations:**
 - Transfer some portion of the regulated and unregulated urban load to another sector.
 - Options – Modify Traditional WWTPs or Ag CAFO or Ag sector generally.
 - **Greater pollutant reductions from significant wastewater treatment plants:** Ratchet down levels of controls for significant wastewater facilities from 6 mg/l TN to 3 mg/l (note that this reduction would achieve about 3.6 million pounds of nitrogen reduction).

- **Non-significants:** Impose WLAs on Non-Significant sources throughout Pennsylvania Bay watershed at some lower level than 400,000 gallons per day.
- **Water quality standards adoption:** EPA could federally promulgate nutrient criteria for local streams in Pennsylvania – similar to the action EPA took in Florida to address serious nutrient impairment issues. Requires a finding that state standards are not sufficient to protect the use. (Intensive EPA Headquarters support required.)
 - This would establish enforceable numeric limits for P and N that must be included in NPDES permit limits where there is a reasonable potential for discharge.
 - Local P limits are likely to be a lot tighter than that required for Bay protection alone.

APPENDIX 3 -- Nonpoint Source Funding Programs

(Source: 2014 Pennsylvania's Nonpoint Source Annual Report)

State Sources (FY 2014)	N, P, Sediment Reduction Programs		AMD Remediation Programs	
	Personnel / Operations	BMP Deployment	Personnel / Operations	BMP Deployment
DEP	(\$ millions)		(\$ millions)	
Conservation District Watershed Specialists	2.136			
Environment Stewardship and Watershed Protection (Growing Greener):				
Watershed Protection Grants		17.393		
AMD Set-aside Grants				2.031
Chesapeake Bay Grant:				
Technical and Eng Assistance				
Special Projects				
Conservation District Fund Allocation Program (line item plus UGWF monies)	4.381			
Dirt and Gravel Roads Pollution Prevention Program		20.854		
Abandoned Mine Reclamation Program Annual Projects				1.457
PA Infrastructure and Investment Authority (PENNVEST) – 2014 funds awarded by board		6.523		
Sub-total	6.517	44.77	0	3.488
PDA				
Nutrient Management Fund (Transfer)	2.714			
Conservation District Fund Allocation Program (line item plus UGWF monies)	2.744			
Resource Enhancement and Protection Tax Credits Available		10.000		

Sub-total	5.458	10.000	0	0
PUC				
Conservation District Funding from UGWF	3.750			
Sub-total	3.750	0	0	0
Commonwealth Financing Authority				
Act 13 NPS Funding (WR and AMD projects)		3.147		
Sub-total	0	3.147	0	0
State Funding Sub-total	15.725	57.917	0	3.488

Federal Sources (FY 2014)	N, P, Sediment Reduction Programs		AMD Remediation Programs	
	Personnel / Operations	BMP Deployment	Personnel/ Operations	BMP Deployment
	(\$ millions)	(\$ millions)	(\$ millions)	(\$ millions)
U.S. Environmental Protection Agency				
Section 319 Nonpoint Source Management Program	0.277	4.395		
Chesapeake Bay Grants:	2.925	1.977		
National Fish and Wildlife Foundation				
Chesapeake Bay Small Watershed Grant-annual Funding (PA-specific grants)		0.553		
Chesapeake Bay Innovative Nutrient and Sediment Reduction Grant (PA-specific grants)		1.916		
Sub-total	3.202	8.841	0	0
U.S.D.A. Natural Resources Conservation Service				
Agricultural Management Assistance		1.080		
Chesapeake Bay Watershed Initiative		0.0		
Environmental Quality Incentive Program		21.790		
Farm and Ranchland Protection Program		0.0		
Agric Cons Easement Program – Ag Land Easements		4.62		
Conservation Stewardship Program (new contracts)		0.350		
Conservation Stewardship Program (funds obligated to pay on prior year contracts)		6.180		
Grasslands Reserve Program		0.310		
Healthy Forests Reserve Program		0.660		
Wetlands Reserve Program		0.0		
Agric Cons Easement Program – Wetland Reserve Easements		3.860		
Wildlife Habitat Incentive Program		0.0		
Sub-total	0	38.850	0	0
U.S.D.A. Farm Service Agency				
Conservation Reserve Enhancement Program		21.885		

Includes Financial Incentives, Cost-Share and Rental Payments.				
Biomass Crop Assistance Program		0.013		
Grassland Reserve Program		0.150		
Sub-total	0	22.048	0	0
Office of Surface Mining				
AML Reclamation Funding Includes AML, Clean Streams Initiative and Watershed Cooperative Agreement Program.			16.71	35.65
Sub-total:	0	0	16.71	35.65
Federal Funding Sub-total	3.202	69.739	16.71	35.65
TOTAL	18.93	127.656	16.71	39.14

APPENDIX 4 – Summary of Current DEP Staffing for Chesapeake Bay Work

	FTE	General Fund	Federal, Special Funds	Total
Program Oversight, Coordination	5	\$349,772	\$191,201	\$540,973
Agriculture				
Program Management, Administration, Development, Implementation	7	\$471,393	\$300,815	\$772,215
Inspection & Enforcement (Regions)	6	\$164,078	\$382,848	\$546,932
Technical Assistance (Regions)	4	\$185,787	\$185,787	\$371,578
Subtotal, Agriculture	17	\$821,258	\$869,450	\$1,690,724.82
Post-Construction Stormwater				
Program Management, Development	1	\$116,178	\$17,495	\$133,673
Inspection and Enforcement	6	\$58,430	\$225,209	\$283,639
Subtotal, Post- Construction Stormwater	8	\$174,608	\$242,704	\$417,312
MS4 Program Stormwater				
Permit & Plan Review	2	\$79,188	\$23,974	\$103,162
Program Development	1	\$103,679		\$103,679
Subtotal, MS4 Program Stormwater	3	\$182,867	\$23,974	\$206,841
GRAND TOTALS	33	\$1,528,505	\$1,327,329	\$2,855,851

APPENDIX 5 – Additional Long-Term Recommendations

Presented below are additional longer term recommendations for consideration as the Phase 3 Chesapeake Bay WIP is developed. These recommendations are categorized as follows:

- Changing the Conversation by moving from “education” to “action”, by engaging more meaningfully with EPA, all governmental agencies involved in restoring the Chesapeake Bay, other program stakeholders and the citizens of Pennsylvania. This means redefining roles and responsibilities to build a stronger Pennsylvania partnership to achieve water quality goals.
- Focusing on Local Water Quality Improvement and Protection by putting science-based, high-impact, low-cost projects on the ground and working with partners in a focused manner.
- Addressing Deficiencies for the agriculture and stormwater sectors with multi-agency assistance, compliance and enforcement efforts.
- Showcasing Progress and Improving Transparency by modernizing and improving record keeping and data systems.

Changing the Conversation

CC1. Accelerate the installation of forest, riparian buffers using existing programmatic authority and programs such as the DCNR Rivers Program, Recreation and Conservation Grants Program and Tree Vitalize Program.

CC2. Strengthen the Nutrient Credit Trading program to fully implement the concepts of 3rd party verification.

CC3. Leverage the Act 162 requirements for the development of buffers within the Chesapeake Bay. Evaluate the creation of an “in lieu” program, or expand the existing Nutrient Credit Trading Program to facilitate this.

Addressing Deficiencies

Agriculture

PRD4. Implement an abbreviated version of the Regional Agriculture Watershed Assessment Program (RAWAPI) Program protocols using interns to focus on ag-impaired watersheds to conduct BMP verification and provide basic education about conservation plans and BMP implementation. This effort would be collectively used to identify the best areas in which to focus the more comprehensive effort the following season.

PRD5. Continue implementation of conservation district “100 site visit program,” limiting efforts to ag-impaired watersheds and including a basic BMP verification effort. CD staff should continue to provide basic education about conservation plans and BMP implementation.

PRD6. Partner with the Penn State Agronomy program, the NRCS, CDs and local nurseries to promote upland buffers in close proximity to poultry barns. These trees take up nitrogen, control dust and litter around the barn and can serve as a barrier to the spread of avian flu. Encourage larger funding from NRCS with state fund. These buffers are an approved tax credit.

PRD7. Focus cost-share programs on the implementation of the following most effective BMPs and ensure the same minimum information on these practices is consistently collected from all programs:

1. Cover crops.
2. Tillage (no-till & conservation till).
3. Manure Transport.
4. Streambank fencing.
5. Buffers.

PRD8. Revise the farmland preservation program to require manure management and nutrient management plans and agriculture conservation plans and their implementation.

PRD9. Prohibit winter manure application unless conducted under an approved and certified nutrient management plan, unless in cases of extreme emergencies.

Urban Stormwater

US10. Re-evaluate the Chesapeake Bay Phase 2 WIP for achieving reductions from the urban sector by:

1. Reducing the reduction for the allocation for the urban sector to below 20 percent. Re-allocate this loading to agriculture.
2. Separating out the actual urban areas from the other land use categories, such as extractive lands, now included in this category within the Bay Watershed Model. Develop a timetable for addressing these lands through Abandoned Mine Land remediation activities and estimate a realistic reduction goal based on these reclamation efforts and existing funding levels.
3. Analyzing new construction activities vs. MS4 responsibilities to determine where reductions can be achieved effectively from each program:
 - a. MS4s should take a bigger piece of the sediment and load and the total phosphorus that will come with the sediment. A 20 percent reduction in sediment for the 2018 PAG13 general MS4 permit may be feasible.

- b. Overland flow and streambank erosion impacts need to be considered in the evaluation. Rate and volume controls will facilitate streambank erosion control, which is likely to be a much bigger contributor than overland flow to sediment loading.
 - c. Complete a modeling project using Mapshed to look at small urban fixes such as implementation of rain gardens, rain barrels to see what the effect is on stream bank erosion.
 - d. Total Phosphorus (TP) and Total Nitrogen (TN) reductions should rely on the associated sediment reduction and include a nominal additional goal.
 - e. Allow the nominal portion of the reduction to be assumed if a fertilizer ordinance is passed.
4. Considering the following post- construction stormwater management requirements:
- a. In addition to current requirements, insure that each new project makes a reduction equal to 20 percent removal of Sediment, TN and TP.
 - b. Rules for this established around existing land use that is being changed: Cutting down forest needs to result in a 20 percent improvement over the forested condition.

US11. Work with Penn State to create certification programs for the design, construction and maintenance of stormwater management BMPs for public works employees and contractors. The Program can be tailored after similar programs for Dirt and Gravel Roads and Agricultural Extension Certification Programs.

US12. Focus cost-share programs on the implementation of the following most effective BMPs and ensure the same minimum information on these practices is consistently collected from all programs:

1. Naturalized detention basins (cost effective).
2. Other volume and water quality BMPs to fit site specific needs such as pervious pavement, rain gardens, etc.
3. Stream bank restoration.

Wastewater

The wastewater sector is achieving its defined reduction goals for 2017. As a result, no recommendations for additional reductions from this sector are proposed. However, including the following in Phase 3 of the Chesapeake Bay WIP should be considered:

1. Including a benefit in NPDES permits for going “above and beyond” compliance.
2. Developing a cost-share program for the upgrade of POTWs to achieve Enhanced Nutrient Removal of 3 mg/L TN and 0.3 mg/l TP.

Showcasing Progress and Improving Transparency

SPIT13. Use social media such as Facebook, Twitter, etc. to showcase success.

Identifying Strategic Programmatic, Legislative, or Regulatory Changes

Programmatic Changes

LPR12. Assign cap loads to individual agricultural operations, much the same way POTWs are permitted with defined limits. To accomplish this, the loading for well-run farming operations would need to be calculated. Define the most effective technologies needed to achieve these loadings, such as manure treatment technologies. The development of a permitting program for these operations would be needed.

LPR14. Identify ways to consolidate state Financial Assistance Programs into a more cohesive, targeted and comprehensive package to reduce confusions for the agricultural community, and simplify funding stream for those technical assistance providers that work with farmers.

LPR15. Design and deliver programs to meet farmers' needs and interests; considering their land-use values, animal health, and financial objectives/constraints. Specific ideas include:

1. Aesthetics – engage landscape architects to design riparian and upland buffers that are both functional and attractive.
2. Working/multifunctional buffers to give landowners greater flexibility – incorporate edible and marketable species within riparian and upland buffers. Expand buffer concept to include perennial crops such as alder or willow for biomass, or elderberry, pawpaw or *Aronia* (chokeberry) for farm or nutraceutical markets that, once established, can be grown and harvested with minimal soil disturbance.
3. Promote and assist with the establishment of Vegetative Environmental Buffers (VEBs) on livestock (poultry and swine) operations. Studies indicate that such buffers can mitigate both air and water pollution from concentrated animal operations, as well as inhibit the spread of certain viruses between barns.
4. Assist in the conversion of pasture to silvopasture, planting fast-growing species such as black locust or larch that can be used as non-treated posts for organic operations. Highlight the benefits of disbursed shade in pastures relative to nutrient and livestock management.
5. Promote and support buffer bonus concept for implementation of nutrient management plans to encourage establishment of permanent/perennial vegetative buffers along water corridors.

LPR16. Create the Technology Fund proposed in Phase I WIP. Establish a supporting scientific review panel, much like expert panels established by the Chesapeake Bay Program, to review effectiveness of any proposed technology (This should not be a DEP-only responsibility).

LPR17. Resolve issues on reporting of data with the Natural Resource Conservation Service revolving around the Section 1619 requirements. Presently, DEP, as a regulatory agency, has been

denied access to information maintained by the USDA relating to pollution reduction activities in the Chesapeake Bay watershed. Section 1619 of the 2008 Federal Farm Bill established the conditions under which the USDA may disclose information associated with agricultural operations. USDA may disclose the information to a state “working in cooperation with the Secretary in any Department [USDA] program—(i) when providing technical or financial assistance with respect to the agricultural operation, agricultural land, or farming or conservation practices....” To access the information from USDA, a state must sign a Conservation Cooperator Agreement with USDA.

Under the federal law, if the state does not want to enter into such an agreement, it may only have access to the protected information by the consent of either the agricultural producer or the owner of agricultural land. Also, DEP may have access to the information if it has been transformed into a statistical or aggregate form.

Legislative

LPR18. As an incentive for the implementation of priority BMPs, such as forest and riparian buffers, allow for a property tax relief once installed; provided they are properly maintained.

LPR19. Support urban nutrient management legislation.

Regulatory

LPR20. Re-evaluate and develop regulatory changes as appropriate to address the field application of food processing waste. It is believed that significant quantities of this waste are being imported from Maryland and Virginia where the requirements to apply and dispose of this waste are more stringent. Same consideration should be given to biosolids that are field applied on lands with high phosphorus levels.

APPENDIX 6 -- BMP Survey Elements - PA Farm Bureau and PennAg Proposals

This information will be inserted when it becomes available.



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Water Management

Agenda Item B.11 (4)

Improving Local Water Quality in Pennsylvania and Restoring the Chesapeake Bay

John Quigley, Secretary, Department of Environmental Protection

Russell Redding, Secretary, Department of Agriculture

**Cindy Adams Dunn, Secretary, Department of Conservation and
Natural Resources**

Dial-in number for Audio: 1-415-655-0003

Access code: 663 709 656

WebEx Technical Support: 1-866-229-3239

Opening Remarks

Russell Redding
Secretary, Department of Agriculture

A Legal Obligation

- Federal Clean Water Act, federal court orders and regulations finalized by the U.S. Environmental Protection Agency (EPA) in 2010 require Pennsylvania to reduce annual loading of nitrogen, phosphorous and sediment entering the Chesapeake Bay watershed and return Bay waters to state water quality standards by 2025
- Pennsylvania's Clean Streams Law

A Legal Obligation

- Article 1, Section 27 of the Pennsylvania Constitution:
 - The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

Since 1985

- Investment: More than \$4 billion in Pennsylvania through various loan and grant programs toward Chesapeake Bay restoration efforts
- Results: Phosphorous down 25 percent, nitrogen down 6 percent, sediment reduced nearly 15 percent
- Significantly reduced discharges of nutrients from point sources, such as wastewater treatment plants

2010 Total Maximum Daily Load

- As a result of the federal consent decree, in 2010 EPA established a Total Maximum Daily Load (TMDL) for the Bay
- Implementation of this TMDL requires us to develop plans to meet specific target reductions in nitrogen, phosphorus and sediment loads in phases
- Pennsylvania's Phase 2 Watershed Implementation Plan (WIP) has interim targets for these reductions to be achieved in 2017

2010 Total Maximum Daily Load

- Despite our investments and efforts to date, Pennsylvania will not meet 2015 and 2017 reduction targets
- On track for meeting phosphorous reduction goals, but not meeting nitrogen and sediment goals
 - Agriculture
 - Urban stormwater

▶ Consequences of Not Meeting Goals

- U.S. Environmental Protection Agency has taken two actions, and is considering more:
 - Withholding more than \$3 million in funding for DEP Bay-related work
 - Considering progressive actions that increase EPA's role in inspections, permitting and compliance in the Bay watershed in Pennsylvania

Why Pa. is Falling Short on Goals

- Resources have been inadequate to the scale of the challenge
 - August 2013 - PSU Environmental and Natural Resources Institute estimated the resource requirements to fully implement nonpoint source BMPs in Pennsylvania's Watershed Implementation Plan (WIP):
 - \$3.6 billion in capital costs to fully implement all nonpoint source BMPs in the WIP, in incremental levels between 2011 and 2025
 - \$378.3 million per year through 2025, including Operation and Maintenance costs

Why Pa. is Falling Short on Goals

- In FFY 2014, \$146.6 million (combined state and federal funding) was spent on programs to address nitrogen, phosphorus and sediment reduction statewide
 - \$127.6 million (87%) was used for BMP deployment

Why PA is Falling Short on Goals

- Data to measure current Chesapeake Bay pollution reduction efforts for agricultural and urban stormwater pollutant sources is fundamentally inadequate
 - Relies overwhelmingly on installation of Best Management Practices (BMPs) where a portion of the cost was shared by federal or state government
 - Non-cost shared BMPs not counted

Why Pa. is Falling Short on Goals

- The Bay watershed in Pennsylvania is home to more than 33,600 farms
 - EPA recommends that DEP inspect **10 percent of farms annually**
 - In 2014, DEP conducted a total of 592 inspections, which equates to a **1.8 percent** inspection rate

Why Pa. is Falling Short on Goals

- The Bay watershed in Pennsylvania has 206 MS4 communities with an estimated 10,000 discharge sites
 - EPA recommends that DEP inspect **10 percent of the MS4 systems annually**
 - In 2014, DEP conducted 25 field inspections, achieving 10% for the first time
 - Significant compliance with MS4 permitting requirements in the Bay watershed is uncertain until the 10% inspection rate is consistent

Why Pa. is Falling Short on Goals

- Inspection and verification activities related to agricultural and urban stormwater sources have been the missing piece
 - Creating a culture of compliance with existing regulatory requirements
 - Documenting pollutant reductions necessary to meet our targets
- If these basic functions of BMP documentation and verification of compliance are not given their proper attention, Pennsylvania's performance in meeting water quality goals and Bay performance measures will continue to seriously lag

The “Reboot”

- Pennsylvania must change its approach for the Chesapeake Bay
- DEP cannot work alone and be successful
- DEP and the Pennsylvania Departments of Agriculture (PDA) and Conservation and Natural Resources (DCNR) collaborated strongly in this effort to coordinate plans, policies and resources
- Working with our agency partners and a number of external partners and stakeholders, DEP has developed a plan aimed at improving local water quality in Pennsylvania – and by virtue of that, the Chesapeake Bay

Importance of Clean Water Here

- **PENNSYLVANIA-CENTRIC GOAL:**
 - Improve local water quality by reducing nitrogen and sediment loads in Pennsylvania waterways
 - By virtue of achieving local water quality improvements, ultimately restore the water quality of the Chesapeake Bay
- **STRATEGY:**
 - Focus and increase resources and technical assistance, reinvigorate partnerships, organize for success, and create a culture of compliance

Importance of Clean Water Here

- **TOOLS:**
 - Plan is based on increased enforcement, improved data gathering and recordkeeping, increased management focus, and additional financial and technical resources
- **APPROACH:**
 - Reasonable, incremental and balanced

Six Elements to Plan

1. Address pollutant reduction by: a) meeting the EPA goal of inspecting 10 percent of farms and MS4s in the watershed annually, b) ensuring development and use of manure management and agricultural erosion and sediment control plans, and c) enforcement for non-compliance
2. Quantify undocumented Best Management Practices in watersheds impaired by agriculture or stormwater and put more high-impact, low-cost BMPs on the ground
3. Improve reporting, record-keeping and data systems to provide better documentation and obtain maximum credit toward Bay goals

Six Elements to Plan

4. Identify legislative, programmatic or regulatory changes to provide the additional tools and resources necessary to meet federal pollution reduction goals by 2025
5. Establish a DEP Chesapeake Bay Office to coordinate development, implementation and funding of Pennsylvania's Chesapeake Bay efforts
6. Obtain additional resources for water quality improvement

1. Address Pollutant Reduction

Strategy Based On:

- New partnership with Conservation Districts (CDs)
 - CDs work closest with farmers across the state
 - Existing funding will be used to shift from 100 educational visits to minimum of 50 inspections per year
 - Emphasize education **AND** compliance
 - Need for additional DEP staff reduced based on success of partnership

1. Address Pollutant Reduction

- Initial inspection focus:
 - Manure Management Plan
 - Erosion and Sedimentation Plan
- Plus
 - Renewed emphasis on riparian forest buffers, led by DCNR

2. Quantify and Multiply BMPs

- Locate, quantify and verify previously undocumented BMPs via comprehensive, voluntary farm survey
- Unprecedented partnership with:
 - Pennsylvania Farm Bureau
 - PennAg Industries
 - Professional Dairy Managers of Pennsylvania
 - Penn State University
 - Pa. Association for Sustainable Agriculture
 - Pa. Farmers Union
 - Pa. Assn. of Conservation Districts

2. Quantify and Multiply BMPs

- Put new high-impact, low-cost BMP projects on the ground in watersheds that are currently impaired by agriculture or stormwater by shifting an additional 15 percent of available statewide water quality funding (\$1,250,000) to Bay work.

3. Improve Record-Keeping

- Improve data gathering, reporting, record keeping
- Provide better and more accessible documentation of progress made toward Pennsylvania's restoration effort
- Obtain maximum credit for what Pa. farmers are doing
- Consider other data gathering tools, reporting requirements for the agriculture sector based on success of voluntary reporting measures

4. Identify Needed Changes

Identify changes to provide the additional tools and resources necessary to meet federal pollution reduction goals by 2025:

- Legislative
- Programmatic
 - Enhance nutrient credit trading
 - Interstate trading
 - Role of technology
 - Overcome barriers to BMP installation, such as riparian forest buffers
 - Others
- Regulatory

5. Establish a New DEP Bay Office

- Establish a Chesapeake Bay Office within a restructured DEP water programs deputation to coordinate development, implementation and funding of the Commonwealth's Chesapeake Bay efforts
 - Improve management focus
 - Improve accountability

6. Seek New Resources

- Restore existing federal funding
- Pursue additional federal funding
- Obtain additional resources devoted to local water quality and, ultimately, Bay compliance
- Work with public and private partners to identify funding and partnership opportunities for specific practices, such as riparian forest buffers

Value of This Approach

- Retarget existing resources to where they're needed most
- Strengthen ability to seek additional resources
- Restructure existing partnerships and create new ones
- Address chronic data gaps and get Pa. farmers credit they deserve
- Improve DEP management focus on local water quality improvement and the Bay
 - Short- and long-term

Value of This Approach

- Enhance ability to innovate
 - Credit trading
 - Interstate trading
 - Technology
- Improve information technology
- Create a culture of compliance – the missing link

The Power of Partnerships

DCNR

- Forest buffers one of most effective methods of improving local water quality
- Service foresters of DCNR have special expertise to work with partners, landowners and communities to plan and install buffers

Agriculture

- Promote farmers who “do the right thing” and ensure stakeholder engagement
- Provide Technical and administrative support for state agricultural BMP cost-share programs

The Power of Partnerships

Conservation Districts

- Boots on the ground, closest to farmers

Agriculture organizations

- Improve data gathering
- Improve farmer education

PSU College of Ag

- Data management
- Innovation

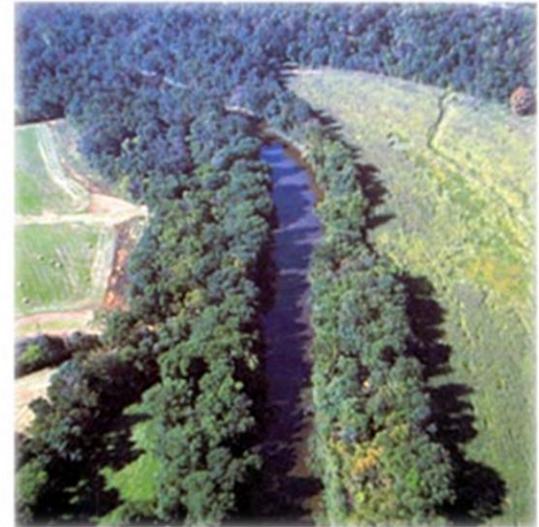
Riparian Forest Buffers

**Cindy Adams Dunn, Secretary
Department of Conservation and
Natural Resources**

Riparian Forest Buffer Initiative

Goals

- Implement a collaborative, comprehensive, flexible and community-based initiative
- Provide technical assistance for buffer establishment and maintenance
- Build and enhance community partnerships
- Complement the approach by DEP & the Natural Resources Conservation Service (CREP)
- Connects landowners and partners to funding opportunities



Riparian Forest Buffer Initiative

Outcomes

- 95,000 additional riparian forest buffer acres by 2025
- Enhanced conservation benefits
- Improved partnerships



We're All In This Together

- Local water quality in Pennsylvania is a shared responsibility
- Collaboration, partnerships, commitment and resources are key
- “The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come”
- Every farmer, community and citizen must do their part

DEP Mission

“To protect Pennsylvania’s air, land and water from pollution and to provide for the health and safety of its citizens through a cleaner environment. We will work as partners with individuals, organizations, governments, and businesses to prevent pollution and restore our natural resources.”



BUILDING BRIDGES

Farmers * Municipalities * Citizens
Conservation Districts * Agribusiness

To: Members
State Conservation Commission

From: Shelly Dehoff
Agriculture/Public Liaison

Through: Karl G. Brown, Executive Secretary
State Conservation Commission

Re: Agricultural Ombudsman Program Update

February 9, 2016

Activities: Since mid-November 2015, I have taken part or assisted in a number of events, including the following:

- Finished revision of "Livestock and Poultry Mortality Disposal in PA" brochure for statewide distribution
- Trying to stay up-to-date on HPAI response planning as a Conservation District representative and as the Chair of the SouthCentral Task Force Agriculture Subcommittee
- Participated in numerous Lancaster County Ag Week events and coordinated wrap-up activities
- Started planning for 2016 "Ag Week"
- Participated in 3-webinar series of "Water Words that Work"
- Working with Ag integrators and PennAg staff to continue outreach campaign empowering farmers to engage in discussions with non-farm neighbors
- Attended Global Food Security Event during PA Farm Show
- Attended National Penn Ag Summit on farm economics/strategic planning
- wrote newsletter article and annual report article
- 2 Ag Preserve verification visits for Lancaster Ag Preserve Office
- helping plan Manure Mgmt Plan Writing workshops
- attended SCC/PACD winter meeting
- Serve as Secretary for Coalition for Smart Growth Board and Exec Comm
- Serve as Chair of the South Central Task Force Agriculture Subcommittee
- Attended and assisted at Lancaster Co. Agriculture Council meeting

Local Government Interaction: I have been asked to provide educational input regarding agriculture:

None currently

Moderation or Liaison Activities: I have been asked to provide moderation or liaison assistance with a particular situation:

York Co—cooperating with legislator's office regarding information about farmer/neighborhood concerns

Research and Education Activities:

Adams Co— long-term situation between farmer and municipality needing updates/recommendations/verifications

Fly Complaint Response Coordination: I have taken complaints or am coordinating fly-related issues in:

Chester Co—complaint of phorid flies



BUILDING BRIDGES

Farmers* Municipalities* Citizens
Conservation Districts* Agribusiness

To: Members December 18, 2015
State Conservation Commission
From: Beth Futrick
Agriculture/Public Liaison
Through: Karl G. Brown, Executive Secretary
State Conservation Commission
Re: Ombudsman Program Update – Southern Alleghenies Region

Activities: October 15 – December 18, 2015

- Assisted with 2015 Inter-Agency Nutrient Management Conference (Clarion Co location – November 13)
- Managing a PA Dept. of Ag-Specialty Crop Block Grant
 - Partnering with Penn State Extension as a local contact for the newly developed Southern Allegheny Hub as part of Extensions “Start Farming” program
 - Preparing the final report and funding request
- Working with Blair County MS4 Workgroup and administering NFWF Grant - This grant will help Blair County’s municipalities develop and implement green infrastructure to meet goals in their watershed plan.
 - Organizing the construction of green infrastructure (GI) demonstration sites. We are working with the municipalities in Blair County to install GI sites. The NFWF grant funds materials, engineering services, and ed./outreach signage and the municipalities public works staff provide man-power and equipment
 - Re-plant the Hollidaysburg Borough site (Hollidaysburg YMCA)
 - Assisted with the development of three interpretive signs for the Hollidaysburg YMCA rain garden site
 - Coordinating the installation of the YMCA’s signs

Meetings/Trainings/Events

- Tree Planting with Altoona Elementary students (November 4)
- Nutrient Management Conference (November 13)
- Odor Management training (November 16)
- Chapter 102 training (November 18)
- PA Farm Link board meeting (November 19)

Conflict Issues/Municipal Assistance –

- Lycoming County- fly complaint

Reports & Grant Applications

- Blair County Conservation District Board Report
- PA Watershed Foundation Grant – Final Report (funding used for the October 8 Pasture Walk)
- PACD Mid-term report (funding used to hold 3 rain garden/stormwater workshops in Blair Co)
- NFWF – Chesapeake Bay Innovative Nutrient and Sediment Reduction Grant – Financial Report (due Oct 31)
- PDA – Specialty Crop Block Grant – Final Report



**COMMONWEALTH OF PENNSYLVANIA
STATE CONSERVATION COMMISSION**

DATE: January 29, 2016

TO: State Conservation Commission Members

FROM: Frank X. Schneider, Director
Nutrient and Odor Management Programs

THROUGH: Karl G. Brown
Executive Secretary

RE: Nutrient and Odor Management Programs Report

The Nutrient and Odor Management Program Staff of the State Conservation Commission offer the following report of measurable results for the time period of January 2016.

For the month of January 2016, staff and delegated conservation districts have:

1. Odor Management Plans:
 - a. 11 OMPs in the review process
 - b. 2 OMPs approved
 - c. 2 OMP approvals rescinded
2. Sent out and started to receive back the 2016 Odor Management Self Certifications
3. Conducted three (3) county conservation district program evaluations.
4. Managing seven (7) enforcement actions, currently in various stages of the compliance process.
5. Worked in partnership with PSU on the new Version 5.1 of the NM planning spreadsheet which corrected some minor errors identified in version 5.0 of the planning spreadsheet. Version 5.1 was released on January 28, 2016