

**Virginia Soil and Water Conservation Board  
Wednesday, December 9, 2015 – 9:00 a.m.  
Richmond, Virginia**

**DRAFT MINUTES**

**TIME AND PLACE**

The meeting of the Virginia Soil and Water Conservation Board took place on December 9, 2015 at The Omni Hotel, 100 S. 12<sup>th</sup> Street, Richmond, Virginia following the conclusion of the Annual Meeting of the Virginia Association of Soil and Water Conservation Districts.

**MEMBERS PRESENT**

Daphne W. Jamison, Chair	Richard A. Street, Vice Chair
Gary Hornbaker	Jerry L. Ingle
Stephen Lohr	Janette F. Kennedy
Barry L. Marten	Raymond L. Simms
Clyde E. Cristman, DCR Director, Ex Officio	
David Kriz for John A. Bricker, NRCS, Ex Officio	
Dr. Bobby Grisso, Virginia Cooperative Extension, Invitee	

**MEMBERS ABSENT**

C. Frank Brickhouse, Jr.

**DCR STAFF**

Julie Buchanan, Public Relations Specialist  
Debbie Cross, Conservation District Coordinator  
David C. Dowling, Deputy Director for Dam Safety and Soil and Water Conservation  
Jim Echols, Western Area Manager  
Michael R. Fletcher, Board and Constituent Services Liaison  
Darryl Glover, Director, Division of Soil and Water Conservation  
Blair Gordon, Conservation District Coordinator  
Mark Hollberg, Conservation District Coordinator  
Stephanie Martin, SWCD Liaison  
Barbara McGarry, Resource Management Plan Program Specialist  
Lisa McGee, Director of Policy and Planning  
Gary Moore, Ag Incentives Program Manager  
Amy Walker, Conservation District Coordinator  
Christine Watlington, Senior Policy and Planning Analyst  
David Wilmoth, Region 3 Dam Safety Engineer  
Matthew Gooch, Office of the Attorney General

**OTHERS**

David Ball, Peter Francisco SWCD  
Sara Bottenfield, Shenandoah Valley SWCD  
Laverne Calhoun, Tidewater SWCD

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Wilkie Chaffin, Piedmont SWCD  
Richard Chafin, President, VASWCD  
Sharon Conner, Hanover-Caroline SWCD  
Megan Croushorn, Shenandoah Valley SWCD  
Megan Dalton, Shenandoah Valley SWCD  
Margie Davis, James River SWCD  
Elizabeth Dellinger, Shenandoah Valley SWCD  
Herbert L. Dunford, Jr., Former Board Chair  
Kristal Evans, Tidewater SWCD  
Katie Frazier, Virginia Agribusiness Council  
Johna Good Gagnon, Northern Virginia SWCD  
Laura Grape, Northern Virginia SWCD  
Chip Jones, Northern Neck SWCD  
Chris Kuhn, Stantec  
Bob Lund, Colonial SWCD  
Ed Overton, Colonial SWCD  
Dean Rodgers, Amherst County  
Monira Rifaat, Culpeper SWCD  
Blake Rogers, Shenandoah Valley SWCD  
Ben Rowe, VGPA  
Alyson Sappington, Thomas Jefferson SWCD  
Carl Thiel-Goin, Tidewater SWCD  
Dr. Kendall Tyree, Virginia Association of Soil and Water Conservation Districts  
Greg Wilchens, Culpeper SWCD  
Mike Wilson, Hurt and Proffitt

**ESTABLISHMENT OF A QUORUM**

With eight (8) members of the Board present, a quorum was established.

**CALL TO ORDER AND INTRODUCTIONS**

Vice Chair Daphne Jamison called the meeting to order at 9:00 a.m. and called for introductions of members and staff.

**APPROVAL OF MINUTES FROM SEPTEMBER 27, 2015**

**BOARD ACTION:**

Mr. Simms moved the approval of the minutes of the September 27, 2015 meeting of the Virginia Soil and Water Conservation Board and was seconded by Mr. Street. The minutes were approved unanimously.

**DIRECTOR'S REPORT**

Mr. Cristman noted the following personnel changes:

- Joe Elton is retiring as Deputy Director for Operations.
- Beginning December 10, Tom Smith will serve as Acting Deputy Director for Operations.

- Robert Bennett is no longer with DCR. David Dowling will serve as interim Director of the Division of Dam Safety and Floodplain Management until further notice.
- Ken Turner, Dam Safety Engineer for Districts has retired.

Mr. Cristman noted that Governor McAuliffe will present his budget on December 17.

COIA training will be provided for Board members at an upcoming meeting. The filing process for the Statement of Economic Interest has changed. Members must now file twice a year with the Secretary of the Commonwealth.

### **CHAIR AND VICE-CHAIR ELECTIONS**

#### **BOARD ACTION:**

Mr. Simms nominated Ms. Jamison to serve as Board Chair and Mr. Street to serve as Vice Chair. Mr. Hornbaker seconded. There were no further nominations and Ms. Jamison and Mr. Street were elected by acclamation.

### **RECOGNITION OF PAST CHAIRMAN; HERBERT L. DUNFORD, JR.**

Chairman Jamison read the following proposed resolution:

***VIRGINIA SOIL AND WATER CONSERVATION BOARD  
COMMENDING RESOLUTION  
Presented to***

***HERBERT L. DUNFORD, JR.***

*At a regular meeting of the Virginia Soil and Water Conservation Board held on December 9, 2015, at the Omni Hotel, Richmond, Virginia, the following resolution was unanimously adopted.*

*WHEREAS, **Herbert L. Dunford, Jr** of Henrico County, Virginia, represented the citizens of the Commonwealth on the Soil and Water Conservation Board; and*

*WHEREAS, bringing his experience and commitment to the protection of Virginia's natural resources, **Mr. Dunford** served on the Virginia Soil and Water Conservation Board from March 1999 to June 2002, and from July 2011 to June 2015 ; and*

*WHEREAS, **Mr. Dunford** has served as Chairman of the Virginia Soil and Water Conservation Board from September 2012 to July 2015; and*

*WHEREAS, **Mr. Dunford** has served as a Director and Chairman of the Henricopolis Soil and Water Conservation District; and*

*WHEREAS, **Mr. Dunford** has served as Vice Chair of Area III of the Virginia Association of Soil and Water Conservation District Directors*

***THEREFORE BE IT RESOLVED, that on behalf of the citizens of the Commonwealth, the Virginia Soil and Water Conservation Board and the Virginia Department of Conservation and Recreation extend their sincerest appreciation to Herbert L. Dunford, Jr. for his service to this Board, recognizing with gratitude, his contributions, and dedication to protecting the quality of the land and water resources of the Commonwealth.***

**BOARD ACTION:**

Mr. Simms moved and Mr. Ingle seconded that the Board approve the resolution. The motion carried unanimously.

Ms. Jamison presented Mr. Dunford with a plaque of appreciation. Mr. Dunford expressed his thanks and appreciation for the opportunity to work with the Board and DCR.

Mr. Dowling suggested that items six and seven of the agenda should be considered together.

**CONSIDERATION OF ADOPTION OF THE PROBABLE MAXIMUM PRECIPITATION STUDY AND ANALYSIS AND AUTHORIZATION TO UTILIZE THE UPDATED PMP VALUES IN PROBABLE MAXIMUM FLOOD CALCULATIONS**

AND

**CONSIDERATION OF APPROVAL OF EXEMPT AMENDMENTS TO THE IMPOUNDING STRUCTURE REGULATIONS TO ESTABLISH REFERENCES AND INCORPORATE 2015 PROBABLE MAXIMUM PRECIPITATION STUDY**

Mr. Dowling presented the following:

**Adoption of November 2015 Probable Maximum Precipitation Study for Virginia**

**Study Overview**

Chapters 475 and 489 of the 2014 Virginia Acts of Assembly directed the Department of Conservation and Recreation, on behalf of the Virginia Soil and Water Conservation Board, to conduct a study that would result in a set of new Probable Maximum Precipitation or PMP values for Virginia that would replace those that are several decades old. The study was to be concluded by December 1, 2015 and the results were to be brought to the Board for consideration. The legislation specified that “[s]uch PMP revisions shall be adopted by the Board if it finds that the analysis is valid and reliable and will result in cost savings to owners for impounding structure spillway construction or rehabilitation efforts”. The legislation directing this action is appended below:

**CHAPTER 475/ CHAPTER 489**

*An Act directing the Department of Conservation and Recreation to utilize a storm-based approach in updating the Probable Maximum Precipitation (PMP) for locations within or affecting the Commonwealth.*

[H 1006]/ [S 582]

Approved April 1, 2014

Be it enacted by the General Assembly of Virginia:

1. § 1. *That the Department of Conservation and Recreation, on behalf of the Virginia Soil*

*and Water Conservation Board, shall utilize a storm-based approach in order to derive the Probable Maximum Precipitation (PMP) for locations within or affecting the Commonwealth. The PMP revisions shall be based on accepted storm evaluation techniques and take into account such factors as basin characteristics that affect the occurrence and location of storms and precipitation, regional and basin terrain influences, available atmospheric moisture, and seasonality of storm types. The results shall be considered by the Virginia Soil and Water Conservation Board in its decision to authorize the use of the updated PMP values in Probable Maximum Flood calculations, thus replacing the current PMP values. Such PMP revisions shall be adopted by the Board if it finds that the analysis is valid and reliable and will result in cost savings to owners for impounding structure spillway construction or rehabilitation efforts.*

*§ 2. The development of the methodology shall be completed by December 1, 2015.*

*§ 3. Owners of impounding structures with spillway design inadequacies who maintain coverage under a Conditional Operation and Maintenance Certificate in accordance with the Board's Impounding Structure Regulations (4VAC50-20) shall not be required to rehabilitate the spillway of their impounding structure until the analysis required under § 1 has been completed and reviewed by the Virginia Soil and Water Conservation Board. Such owners shall remain subject to all other requirements of the Dam Safety Act (§ 10.1-604 et seq.) and regulations.*

2. That in addition to other sums made available, the Department of Conservation and Recreation is authorized to utilize up to \$500,000 in unobligated balances in the Dam Safety, Flood Prevention and Protection Assistance Fund established pursuant to § 10.1-603.17 of the Code of Virginia or the Dam Safety Administrative Fund established pursuant to § 10.1-613.5 of the Code of Virginia to contract out for the analysis required under § 1.

3. That an emergency exists and this act is in force from its passage.

Mr. Cristman noted that there will be training sessions on the new PMP tool and values around the Commonwealth.

Mr. Dowling shared the results of the study and reviewed a Power Point presentation entitled "Virginia Probable Maximum Precipitation (PMP) Study Overview." A copy of that presentation is included as Attachment A.

Mr. Dowling reviewed the exempt final regulatory action that would effectuate the legal implementation of these new PMP values.

### **Approval of Exempt Regulatory Action**

#### **Regulatory Action Overview**

Members were provided the regulation version of the Impounding Structure Regulations (4VAC50-20) amendments dated December 9, 2015 that were presented for consideration.

This action involves making non-discretionary amendments to the Impounding Structure regulations. These actions are exempt in that the recommended amendments are in reaction to changes in state law for which the Board has no discretion. Counsel in the Attorney General's Office, Mr. Matthew L. Gooch, has noted that the Board has authority to adopt these regulations under § 10.1-605 of the *Code of Virginia* and that the actions have been reviewed and found to be exempt. The amendments before the Board were in response to Chapters 475 and 489 of the 2014 Virginia Acts of Assembly. Upon the Board's action to adopt the November 2015 Probable Maximum Precipitation Study for Virginia called for in that legislation, this regulatory action will authorize and direct the utilization of the updated PMP

values. This will be a final exempt action taken by the Board that will become effective no sooner than 30-days after publication. As these actions are non-discretionary, no public comment on these actions at today's meeting will be necessary.

#### **Process (Modified Administrative Process Act Procedures)**

The regulatory actions before the Board are exempt from the Administrative Process Act (APA) in accordance with exemptions available under § 2.2-4006 A of the *Code of Virginia*.

#### **Timeline (Tentative – May be subject to change)**

- December 9, 2015, take PMP study to the Board for adoption and the exempt final regulations to the Board for approval.
  - § February 3, 2015, file regulatory action by noon with the Registrar's Office.
  - § February 22, 2016, publish in the Virginia Register of Regulations.
  - § March 23, 2016, target effective date.

#### **Regulation Summary**

This action amends 4VAC50-20-50 titled *Performance standards required for impounding structures* and incorporates by reference the Probable Maximum Study for Virginia (and associated PMP Evaluation Tool and Database) (November 2015).

The key elements of this action include:

- Removed references to the National Weather Service, NOAA, PMP values and inserted references to PMP values "derived from the Probable Maximum Study for Virginia (and associated PMP Evaluation Tool and Database) (November 2015)".
- Removed the reference to "flat terrain" from the description of PMP as this set of PMP values does bring orographic variables into the analysis;
- Updated the citation for the Department of Environmental Quality's Virginia Stormwater Management Program (VSMP) Regulation; and
- Incorporated by reference the PMP Study and Evaluation Tool.

Mr. Dowling reviewed the exempt action regarding the Impounding Structure Regulations.

#### **December 9, 2015 Version; Exempt Action**

**Project 4564 - none**

#### **VIRGINIA SOIL AND WATER CONSERVATION BOARD**

#### **Amend regulations to incorporate the PMP study**

#### **4VAC50-20-50. Performance standards required for impounding structures.**

A. In accordance with the definitions provided by § 10.1-604 of the Code of Virginia and 4VAC50-20-30, an impounding structure shall be regulated if the impounding structure is 25 feet or greater in height and creates a maximum impounding capacity of 15 acre-feet or greater, or the impounding structure is six feet or greater in height and creates a maximum impounding capacity of 50 acre-feet or greater and is not otherwise exempt from regulation by the Code of Virginia. Impounding structures exempted from this chapter are those that are:

1. Licensed by the State Corporation Commission that are subject to a safety inspection program;
2. Owned or licensed by the United States government;
3. Operated primarily for agricultural purposes that are less than 25 feet in height or that create a maximum impoundment capacity smaller than 100 acre-feet;
4. Water or silt-retaining dams approved pursuant to § 45.1-222 or 45.1-225.1 of the Code of Virginia; or
5. Obstructions in a canal used to raise or lower water.

Impounding structures of regulated size and not exempted shall be constructed, operated and maintained such that they perform in accordance with their design and purpose throughout the life of the project. For impounding structures, the spillway(s) capacity shall perform at a minimum to safely pass the appropriate spillway design flood as determined in Table 1. For the purposes of utilizing Table 1, Hazard Potential Classification shall be determined in accordance with 4VAC50-20-40.

TABLE 1 Impounding Structure Regulations			
Applicable to all impounding structures that are 25 feet or greater in height and that create a maximum impounding capacity of 15 acre-feet or greater, and to all impounding structures that are six feet or greater in height and that create a maximum impounding capacity of 50 acre-feet or greater and is not otherwise exempt from regulation by the Code of Virginia.			
Hazard Potential Class of Dam	Spillway Design Flood (SDF) <sup>B</sup> for New Construction <sup>F</sup>	Spillway Design Flood (SDF) <sup>B</sup> for Existing Impounding Structures <sup>F, G</sup>	Minimum Threshold for Incremental Damage Analysis
High	PMF <sup>C</sup>	0.9 PMP <sup>H</sup>	100-YR <sup>D</sup>
Significant	.50 PMF	.50 PMF	100-YR <sup>D</sup>
Low	100-YR <sup>D</sup>	100-YR <sup>D</sup>	50-YR <sup>E</sup>

B. The spillway design flood (SDF) represents the largest flood that need be considered in the evaluation of the performance for a given project. The impounding structure shall perform so as to safely pass the appropriate SDF. Reductions in the established SDF may be evaluated through the use of incremental damage analysis pursuant to 4VAC50-20-52. The SDF established for an impounding structure shall not be less than those standards established elsewhere by state law or regulations, including but not limited to the Virginia Stormwater Management Program (VSMP) ~~Permit-Regulations (4VAC50-60 9VAC25-870)~~. Due to potential for future development in the dam break inundation zone that would necessitate higher spillway design flood standards or other considerations, owners may find it advisable to consider a higher spillway design flood standard than is required.

C. PMF: Probable Maximum Flood is the flood that might be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the region. The PMF ~~is derived shall be calculated from the current~~ probable maximum precipitation (PMP) ~~available derived from the National Weather Service, NOAA the Probable Maximum Precipitation Study for Virginia (and associated PMP Evaluation Tool and Database) (November 2015).~~ ~~In some cases, a modified PMF may be calculated utilizing local topography, meteorological conditions, hydrological conditions, or PMP values supplied by NOAA. Any deviation in the application of established developmental procedures must be explained and justified by the owner's engineer.~~ The owner's engineer must develop PMF hydrographs for 6-, 12-, and 24-hour durations. The hydrograph that

creates the largest peak outflow is to be used to determine capacity for nonfailure and failure analysis. Present and planned land-use conditions shall be considered in determining the runoff characteristics of the drainage area.

D. 100-Yr: 100-year flood represents the flood magnitude expected to be equaled or exceeded on the average of once in 100 years. It may also be expressed as an exceedence probability with a 1.0% chance of being equaled or exceeded in any given year. Present and planned land-use conditions shall be considered in determining the runoff characteristics of the drainage area.

E. 50-Yr: 50-year flood represents the flood magnitude expected to be equaled or exceeded on the average of once in 50 years. It may also be expressed as an exceedence probability with a 2.0% chance of being equaled or exceeded in any given year. Present and planned land-use conditions shall be considered in determining the runoff characteristics of the drainage area.

F. For the purposes of Table 1 "Existing impounding structure" and "New construction" are defined in 4VAC50-20-30.

G. An existing impounding structure as defined in 4VAC50-20-30, that is currently classified as high hazard, or is subsequently found to be high hazard through reclassification, shall only be required to pass the flood resulting from 0.6 PMP instead of the flood resulting from the 0.9 PMP SDF if the dam owner meets the requirements set out in 4VAC50-20-53.

H. PMP: Probable maximum precipitation means the theoretically greatest depth of precipitation for a given duration that is meteorologically possible over a given size storm area at a particular geographical location at a particular time of year with no allowance made for future long-term climatic trends. In practice, this is derived ~~over flat terrain~~ by storm transposition and moisture adjustment to observed storm patterns. In Virginia, the 0.9 PMP is meant to characterize the maximum recorded rainfall event within the Commonwealth.

DOCUMENTS INCORPORATED BY REFERENCE (4VAC50-20)

[ACER Technical Memorandum No. 11, Downstream Hazard Classification Guidelines, December 1988, U.S. Department of the Interior, Bureau of Reclamation.](#)

[Probable Maximum Precipitation Study for Virginia \(and associated PMP Evaluation Tool and Database\), Prepared for the Virginia Department of Conservation and Recreation by Applied Weather Associates, LLC, November 2015.](#)

[Trip Generation, 8th Ed., 2008, Institute of Transportation Engineers, 1627 Eye Street, NW, Suite 600, Washington, DC 20006.](#)

**BOARD ACTION:**

The following motion was made by Mr. Street and seconded by Mr. Lohr.

**Motion for the Board to adopt the November 2015 Probable Maximum Precipitation Study for Virginia and to approve, authorize, and direct the filing of a final exempt regulation that will authorize the utilization of the updated PMP Values in Probable Maximum Flood calculations, thus replacing the current PMP values.**

In accordance with Virginia Soil and Water Conservation Board's (Board) responsibilities pursuant to Chapters 475 and 489 of the 2014 Virginia Acts of Assembly directing the Board to consider authorizing the use of the updated Probable Maximum Precipitation (PMP) values in Probable Maximum Flood calculations, thus replacing the current PMP values, the Board hereby:



- Finds that the December 2015 PMP analysis is valid and reliable and will result in cost savings to owners for impounding structure spillway construction or rehabilitation efforts; and
- Adopts the Probable Maximum Precipitation Study for Virginia dated November 2015 (and the associated PMP Evaluation Tool and Database) prepared for the Virginia Department of Conservation and Recreation (on behalf of the Board) by Applied Weather Associates, LLC;

Further, the Board

- Recognizes that the 2015 Virginia PMP values upon the effective date of the regulations shall replace the current PMP values provided in Hydrometeorological Reports (HMRs) and accepts the new values as sound engineering practices for use in the design of impounding structures; and
- Recognizes that owners of impounding structures with spillway design inadequacies who were under a moratorium on spillway rehabilitation shall now again be required to rehabilitate the spillway of their impounding structures utilizing the new PMP values upon the effective date of the regulatory action.

Finally, the Board

- Approves this final exempt regulation that will effectuate the legal implementation of these new 2015 Virginia PMP values generated utilizing the PMP Evaluation Tool and associated database and authorizes the Director of the Department of Conservation and Recreation and the Departmental Regulatory Coordinator to submit the following final exempt regulation and any other required documents to the Virginia Town Hall and to the Registrar of Virginia.

**Impounding Structure Regulations (4VAC50-20) – Amendment to 4VAC50-20-50 (*Performance standards required for impounding structures*) and incorporation by reference of the Probable Maximum Study for Virginia (and associated PMP Evaluation Tool and Database) (November 2015).**

The Department shall follow and conduct actions in accordance with the exemption processes within the Administrative Process Act, the Virginia Register Act, the Board’s Regulatory Public Participation Procedures, and the Governor’s Executive Order 17 (2014) on the “Development and Review of State Agency Regulations”.

This authorization extends to, but is not limited to, the drafting of the documents and documentation as well as the coordination necessary to gain approvals from the Virginia Registrar of Regulations for this final regulatory action publication.

The motion carried unanimously.

**SOIL AND WATER CONSERVATION**

*Division Director’s Report*

Mr. Glover gave the following report:

Division of Soil and Water Conservation  
Division Director's Report

Presented by Darryl M. Glover;

Director, Division of Soil and Water Conservation

Mr. Chairman, members of the Virginia Soil and Water Conservation Board, Director Cristman, please accept this Soil and Water Conservation Division Report.

**District Engineering Services**

The Department has begun recruitment of a new District Dam Engineer, to replace Ken Turner, who served in this position for many years. As part of this transition, we have returned the District Dam Engineer position to the Division of Soil and Water Conservation, under the supervision of Amanda Pennington. Like Amanda, this new District Dam Engineer will be a Professional Engineer, and he/she will be the "engineer of record" for all District dams.

We also recently welcomed Raleigh Coleman, formerly of Thomas Jefferson SWCD, to the District Engineering Services unit. He brings five years of field experience with agricultural BMPs. Raleigh will focus on agricultural BMP design review and inspections as well as providing training to the Districts on an as needed basis to help prepare District staff for the reestablishment of Engineering Job Approval Authority (EJAA) through the Department. We hope to hire enough additional engineering staff next fiscal year to be able to adequately administer a new EJAA process.

Working with staff from several Districts via the Engineering Workgroup, engineering training designed to meet Districts' needs is being planned for 2016. This training will primarily focus on new District employees. Several of the training sessions will be on basic watering systems and stream crossing designs. Some sessions will also be offered that would be beneficial to more experienced employees. Five sessions will be offered in various parts of the State. The Department will also be working with the District Employees Association on the possibility of providing engineering training during the annual Graves Mountain meeting.

**Accounting Training for SWCDs**

The Department applauds the work of the VASWCD IT Subcommittee on Attachment E. We especially appreciate the opportunity to participate on that subcommittee, which enabled us to begin dialogue with Sarah Adams, a consultant who has provided QuickBooks training to a number of Soil and Water Conservation Districts (Districts), regarding book keeping and basic accounting training. The Department plans to offer book keeping and/or basic accounting classes, in several locations, to Districts beginning around May 2016. Additional details will follow soon.

**Resource Management Plan (RMP) Program**

The Department has prepared a Resource Management Plan (RMP) Program Highlights Report, summarizing program accomplishments from the effective date of the RMP regulations, July 1, 2014, through October 31, 2015. A total of 280 RMPs have been developed, including 278 in the Chesapeake Bay watershed on over 48,000 acres, and two in the OCB/Southern Rivers on 171 acres. New contracts for calendar 2016 have been awarded on 12,000 acres in the Chesapeake Bay, and 10,000 acres in the OCB/Southern Rivers. Staff is currently working on ways to assist Districts to better expedite the RMP review process.

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**Stream Exclusion**

Just over \$58M has either been expended or obligated under the SL-6 100% state guarantee since late 2012. This amount breaks down to approximately \$34M in the Chesapeake Bay watershed and \$24M in the OCB/Southern Rivers. This investment has resulted in over 54,000 animal units excluded from state waters and over 4 million linear feet of stream bank protected.

Due largely to the use of FY2016 cost-share funding, the backlog of SL-6 stream exclusion projects in pending status, i.e. those awaiting state funding under the 100% guarantee, was reduced from approximately \$73M on July 1, 2015 to roughly \$63M on November 30. The current backlog is almost evenly divided, with \$30M in the Chesapeake Bay watershed and \$33M in the OCB/Southern Rivers. Once completed, an additional 75,000 animal units will be excluded from state waters and almost an additional 6 million linear feet of stream bank will be protected statewide.

Since July 1, 2015, when the Department began to offer a doubling of state match, from 25% to 50%, for Conservation Reserve Enhancement Program (CREP) planted riparian buffers on agricultural land, over \$600K state match has been committed statewide through November 30. Of note is that this is the first time we have witnessed more signup for CREP in the Chesapeake Bay basin, at over \$350K state match, than in the OCB/Southern Rivers at roughly \$250K.

Applications are being accepted for the USDA Regional Conservation Partnership Program (RCPP) livestock stream exclusion grant through December 18, 2015. Half of the total \$1.45M financial assistance portion of the grant is available at this time, in targeted sub-watersheds with Total Maximum Daily Load Implementation Plans for bacteria. The remainder of these funds will become available this time next year. Sub-recipient agreements have been signed by both the Chesapeake Bay Foundation, and the Virginia Department of Forestry, to provide technical assistance to livestock producers who are interested in this opportunity and/or are willing to plant trees in either existing SL-6 buffers or newly established ones. A map of the eligible areas is attached to this report.

In October 2015, the EPA Chesapeake Bay Program, via the Virginia Department of Environmental Quality (DEQ), awarded \$1.74M for pending SL-6 projects within the Chesapeake Bay watershed. This is in addition to a similar amount of \$1.7M awarded last year.

Finally, the Department is seeking other funding opportunities to help address the SL-6 backlog, both in the Chesapeake Bay watershed and in the OCB/Southern Rivers.

**Shoreline Erosion Advisory Service**

The SEAS Program is already very active. Since we re-hired Michael Vanlandingham in late August, he has conducted 19 Site Visits, written 17 Advisory Reports and evaluated 15,585 feet of shoreline. He has also participated in a shoreline erosion training event as an expert panel member.

In November, Department staff met with DEQ and the Virginia Marine Resources Commission to begin discussions about how the three agencies can work together to develop a process that will provide sediment and nutrient reduction data from completed shoreline erosion control projects, that would be acceptable to the Chesapeake Bay model. This meeting was the first step in a process. There is much work to be done before an acceptable tracking and reporting process can be developed and approved by EPA. We shall report on our progress at future board meetings.

**Agricultural BMP Technical Advisory Committee**

The Agricultural BMP Technical Advisory Committee (TAC) is currently working to develop two new cost-share BMPs, Roof Runoff Management and Precision Nutrient Management. Additionally, the TAC is generating new "Technical Responsibility" language proposed for all cost-share BMPs and developing an Engineering Job Approval Authority (EJAA) glossary definition. Revisions to cover crop BMPs include ending the manure application exception language within the SL-8B (Small grain and mixed cover crop for nutrient management) while maintaining the existing 300 acre cap for manure applications under the SL-8H (Harvestable cover crop), as well as increasing the no manure implementation cap for SL-8H to 600 acres. Several structural BMPs have had their eligible components reviewed and updates are proposed. Modification of the SL-7 (Extension of CREP Watering systems) will allow Districts to delay the installation of the extended watering system so long as it is planned for during the implementation of the CREP watering system.

**BMP Verification Plan Status**

The Department has continued to provide input to DEQ on the plan they prepared for best management practice (BMP) verification, as required by the U.S. Environmental Protection Agency in order to continue to receive pollution reduction credit in the new Chesapeake Bay model which is scheduled for release in late 2016. As a result of public comment, one significant change has occurred since an earlier update reported to the Virginia Soil and Water Conservation Board at their September 23, 2015 meeting:

- In addition to several specific BMP spot check frequencies, the random draw, in addition to all other proposed verification measures, was restored to 2%, from the earlier proposed 1%, of all non-annual agricultural BMPs that are still in lifespan.

The full draft verification report can be found at

[http://www.chesapeakebay.net/about/programs/bmp/additional\\_resources](http://www.chesapeakebay.net/about/programs/bmp/additional_resources)

**Nutrient Management**

We are continuing to make progress in having nutrient management plans written on golf courses. As of November 30, 2015, there are 122 golf courses with nutrient management plans totaling 13,141 acres. We anticipate a notable increase in plans on golf courses over the coming winter.

The number of unpermitted dairies with nutrient management plans doubled statewide in just over one year from 43 to 86. Eighty of these are within the Chesapeake Bay watershed. By June 2017, we expect to have 120 nutrient management plans on both unpermitted dairy and beef operations statewide, totaling approximately 24,000 acres. An estimated 70% of the projected increase in these plans by 2017 will be located in the Chesapeake Bay watershed.

Funding for poultry litter transport will be available for calendar year 2016. An announcement will be forthcoming soon.

**Timberlake Watershed Improvement District Appointments**

Ms. Martin presented the information regarding appointments to the Tidewater Watershed Improvement District.

The Robert E. Lee Soil and Water Conservation District requested that the Virginia Soil and Water Conservation Board approve the nominations of George W. Schrader III and Craig Brewer to fill two trustee vacancies per § 10.1-632 of the *Code of Virginia*. The District board nominated Mr. Schrader to fill the vacancy resulting in the resignation of Mr. Tom McGraw and nominated Mr. Brewer to fill the vacancy due to the death of Mr. Bud Colbert.

**BOARD ACTION:**

Mr. Simms moved that the Board accept the resignation of Timberlake WID trustee Tom McGraw, and approve the appointment of George W. Schrader, III to serve as a trustee on the Timberlake WID, and further that the Board approve the appointment of Craig Beaver to serve as a trustee on the Timberlake WID. Mr. Lohr seconded and the motion carried unanimously.

**Agricultural BMP Cost-Share Program Conservation Efficiency Factor (CEF) Revisions**

Mr. Glover reviewed the proposed changes to the Conservation Efficiency Factor (CEF) and Hydrologic Unit Rankings (HUC) Computations in FY 2017.

**Conservation Efficiency Factor**

Since the late 1980s, there has been a conservation-cost efficiency calculation performed on Agricultural Best Management Practice (BMP) cost-share applications as an aid to Soil and Water Conservation Districts. The calculation tool has been continually improved upon. The Conservation Efficiency Factor (CEF) is used to compare the conservation value of one BMP application over another for the same or similar type of BMP in order to help rank them for funding approval.

The processes for calculating the CEF, and the values of the various components of the CEF, were developed by Karl Huber of the Virginia Department of Conservation and Recreation (Department). The CEF both includes and relies upon many factors, including the biennial Virginia Nonpoint Source Pollution Assessment by the Department and a current spatial layer of the areas associated with specific impaired waters identified by the Virginia Department of Environmental Quality (DEQ).

CEF calculation process changes proposed for FY 2017 include:

1. Total Maximum Daily Load (TMDL) Implementation areas will be replaced with Impaired Waters as a CEF calculation component. The nonpoint source impairment (Impaired Waters) layer includes a much broader area of Virginia than TMDL Implementation Areas and will therefore be part of a greater number of CEF calculations.
2. Bacteria sources will be identified as being either from agricultural or septic sources. This will help to better target cost-share funding to agricultural practices.
3. Animal units will replace system units when appropriate in CEF calculations in order to better estimate the relative pollution reduction benefit of individual SL-6s and other livestock practices. CEF will also incorporate acres benefited by these practices.

Also, as part of normal periodic updates to the CEF, a few additional BMPs may now become eligible for ranking using the CEF due to enough installations having occurred to have adequate cost data with which to calculate cost efficiencies and delivered sediment reduction efficiencies. These include

streambank stabilization (WP-2A), animal mortality incinerator (WP-4F), and a few other practices initiated within the last few years.

### **Hydrologic Unit Rankings**

As part of the 2016 Nonpoint Source Assessment and associated Cost-Share Policy development, a revised computational strategy is being proposed for FY 2017 that would give more weight to agricultural areas within a hydrologic unit.

- A. Hydrologic unit rankings will be based on the total number of agricultural acres rather than the total number of acres. This will give those hydrological units with more agricultural acres a higher priority. This approach would minimize instances where highly urbanized Districts find it necessary to transfer agricultural cost-share to other Districts, as occurs almost every year.

### **BOARD ACTION:**

Mr. Street moved and Mr. Lohr seconded that the Board approve the proposed changes to the Conservation Efficiency Factor (CEF) and Hydrologic Unit Rankings (HUC) Computations. The motion carried unanimously.

### **Resource Management Plan Program Status Report**

Ms. McGarry reviewed the Resource Management Plan Status Report. Copies were provided to members and the public. Additional copies are available from DCR.

- The report covers the beginning of the program on July 1, 2014 through October 15, 2015.
- DCR met the 2015 calendar-year goal of 40 plans in the Chesapeake Bay Watershed.
- 280 resource management plans have been written covering more than 48,500 acres; 278 in the Bay watershed.
- Plans were written in 33 counties.
- 17 Soil and Water Conservation Districts reviewed more than 200 resource management plans.
- More than 1,800 BMPs were included in RMPs; over 1,200 of those were in addition to the minimum standard practices.
- More than 1,100 practices were planned as completed or proposed voluntary practices, meaning that they have or will be implemented without any public cost-share funding or tax credit.
- Of the 280 plans developed, 274 were developed through contracts with plan developers. These contracts totaled approximately \$473,000, covering more than 47,000 acres.
- Contracts totaling \$120,000 will be issued for development of plans in the Chesapeake Bay watershed in 2016 and contracts totaling \$100,000 recently began for the development of contracts outside the Chesapeake Bay watershed.
- DCR plans to expand the program beyond the Chesapeake Bay watershed in the coming year.

### **Resource Management Plan Program Commending Resolution for Kevin W. Engel**

Ms. McGarry noted that of 278 plans written, one participant had 112 plans written. Mr. Engel has been an advocate for the program, even working with Farm Bureau to make an informational video. Staff recommended a commending resolution that will be presented to Mr. Engel at the Virginia Grain

Producers Association's Virginia Grain & Soybean Annual Conference on February 16, 2016 at the Williamsburg Lodge.

BOARD ACTION:

Mr. Ingle moved and Mr. Street seconded that the Board adopt the following resolution. The motion carried unanimously.

Agreed to by the Virginia Soil and Water Conservation Board on December 9, 2015

WHEREAS, the Virginia Soil and Water Conservation Board was established by the Virginia General Assembly to help guide the delivery of soil and water conservation programs to citizens of the commonwealth; and

WHEREAS, the Department of Conservation and Recreation and the Soil and Water Conservation Districts administer Virginia's Resource Management Plan Program on behalf of the Virginia Soil and Water Conservation Board; and

WHEREAS, the Resource Management Plan Program provides a voluntary way to encourage participants to use conservation practices that improve water quality, reduce soil loss, and control nutrients, sediment, and other agricultural nonpoint source pollutants as part of their farming practices; and

WHEREAS, the Resource Management Plan program not only serves as a tool to encourage agricultural Best Management Practice implementation, but also to document practices currently being implemented by participants; and

WHEREAS, 112 Resource Management Plans were written for farms under the management of Kevin W. Engel between July 1, 2014 and October 31, 2015 on more than 13,000 acres in eight Soil and Water Conservation Districts; and

WHEREAS, Mr. Engel's participation in the Program is serving as a model to the agricultural community; and

Whereas, Mr. Engel has displayed a strong conservation ethic enabling the improvement of the Commonwealth's water resources; now, therefore, be it

RESOLVED by the Virginia Soil and Water Conservation Board, That Mr. Engel is to be commended for exemplary participation in the Resource Management Plan Program and for his continuing contributions to soil and water conservation.

District Director Resignations and Appointments

Ms. Martin presented the District Director Resignations and Appointments.

*Colonial*

Resignation of Dan Nortman, York County, effective 6/16/15, appointed Extension Agent director position (term of office expires 1/1/17).

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Recommendation of John Allison, City of Williamsburg, to fill unexpired term of Dan Nortman, (term of office to begin upon qualifying\* - 1/1/17)

*Hanover-Caroline*

Resignation of Joseph H. Stepp, III, Caroline County, effective 12/31/15, At-Large appointed director position (term of office expires 1/1/19).

Recommendation of Leigh Pemberton, Hanover County, to fill unexpired term of Joseph H. Stepp, III, (term of office to begin upon qualifying\* - 1/1/19).

*Peter-Francisco*

Resignation of David Smith, Cumberland County, effective 10/21/15, appointed Extension Agent director position (term of office expires 1/1/17).

Recommendation of Jennifer Ligon, Nelson County, to fill unexpired term of David Smith (term of office to begin upon qualifying\* - 1/1/17).

\*Note: To qualify as an appointed Director shall complete and file the Oath of Office prior to assuming the title and responsibilities of District Director. An appointed Director may not act in the office or function before taking the Oath.

Mr. Simms moved and Mr. Lohr seconded that the Board approve the list of District Director Resignations and Appointments as presented by staff. The motion carried unanimously.

Addendum to FY 2016 Cost-Share Policy

Mr. Dowling presented recommendations for an addendum to the FY 2016 Cost-Share Policy. He noted that this was a follow up from discussions at the September meeting. The addendum deals with funds that are unexpended by the Districts and the method of redistribution.

**ADDENDUM TO THE VIRGINIA SOIL AND WATER CONSERVATION BOARD  
POLICY AND PROCEDURES ON SOIL AND WATER CONSERVATION DISTRICT COST-SHARE AND  
TECHNICAL ASSISTANCE FUNDING ALLOCATIONS (FISCAL YEAR 2016)** (Originally Approved by Board  
May 20, 2015) (Amended by Board December 9, 2015)

**Current Policy Regarding Cost-Share reallocations and Unexpended Funds**

**9. Reallocation of Cost-Share:**

On April 1, 2016, following the end of the third quarter, the Department shall reallocate (redistribute) unobligated VACS allocations (keeping cost-share within the drainage basin it was originally allocated within) in an effort to satisfy existing unfunded cost-share applications statewide. VACS funds that have not been approved by the District's Board of Directors at the end of the third quarter of the fiscal year (March 31, 2016) to fund an existing cost-share application are considered to be unobligated.



Data collected from the budget summary page of the Virginia Agricultural BMP Tracking Program (Tracking Program) on April 1, 2016 will be analyzed to identify those Districts that have obligated ninety percent (90%) or more of their Total VACS allocation. The percent of their VACS allocation obligated will be identified by dividing the "Approved" amount by the "Allocation" amount. For those Districts that did not obligate at least ninety percent (90%) of their Total VACS allocation by April 1, 2016, unobligated cost-share funds will be summed and all of a District's unobligated VACS funds will be reallocated, except that ten (10%) of the unobligated balance shall remain with the District (unless waived by the District) to approve small practices or to make adjustments to existing cost-share practices. This includes amounts already distributed to Districts for which a project has since been discontinued (which shall be reverted back to the Department; such funds shall not be directly sent between Districts) as well as VACS funds still being held by the Department for which there are no pending obligations against it. Technical assistance funding shall not be reallocated and shall remain with the District to which it was originally allocated.

All reallocated cost-share funds shall be allocated to Agricultural BMP Tracking Program identified **priority** agricultural BMP practices with the lowest CEF factors within the original drainage allocations. Should a CEF factor tie result when selecting projects, the Department will select the practice(s) with the greater longevity to break any ties.

Reallocated cost-share funds will not have technical assistance attached. Reallocation cost-share amounts shall be specifically noted in cost-share disbursement letters to Districts and become part of the financial record.

#### **12. Unexpended State Funds Maintained by Districts:**

Cost-share funds issued to Districts that remain unobligated at the close of FY15 will remain in the District's account(s). FY16 cost-share distributions to a District shall be reduced by the amount of unobligated cost-share and the resulting balance shall become available during FY16 reallocation or through other addendum agreements. FY15 Technical Assistance shall not be subject to reversion or reallocation. However, it is inadvisable for any District to accumulate more than about six months of Technical Assistance funds in accordance with advice from District auditors. Public funds from local, state, and federal sources are provided to Districts not for savings, but strictly for performance of conservation. The Department will monitor the growth of unexpended funds through grant agreement required audit reports and report situations. The Department may reduce future funding to Districts that fail to act upon guidance and recommendations from auditors and the Department. Decisions and Department actions will be addressed on a case-by-case basis working with the affected District.

#### **Recommended Policy Revision for FY 2016**

The Department of Conservation and Recreation has found that with the preponderance of stream exclusion practices backlogged across portions of the Commonwealth, that the Agricultural BMP Cost-Share Program is best served by allowing District Boards to maximize efforts by quickly being able to move unobligated funds to projects in need of funding.

Accordingly, in lieu of the processes outlined in Sections 9 and 12 of the May 20, 2015 Policy, we recommend that Section 9 be suspended (there will be no April 1, 2016 reallocation of VACS allocations) and that Section 12 be restated as follows:

#### **12. Unexpended State Funds Maintained by Districts:**

Cost-share funds, including VNRCF TMDL funds, issued to Districts that remain unobligated at the close of FY15 or that become unobligated during FY16 will remain in the District's account(s) and shall be re-obligated by District Boards to pending projects. ~~FY16 cost-share distributions to a District shall be reduced by the amount of unobligated cost-share and the resulting balance shall become available during FY16 reallocation or through other addendum agreements.~~ FY15 Technical Assistance shall not be subject to reversion or reallocation. However, it is unadvisable for any District to accumulate more than about six months of Technical Assistance funds in accordance with advice from District auditors. Public funds from local, state, and federal sources are provided to Districts not for savings, but strictly for performance of conservation. The Department will monitor the growth of unexpended funds through grant agreement required audit reports and report situations. The Department may reduce future funding to Districts that fail to act upon guidance and recommendations from auditors and the Department. Decisions and Department actions will be addressed on a case-by-case basis working with the affected District.

Further, the FY 2017 Policy shall ensure that cost-share allocations remaining unobligated within a District at the close of FY 2016 (June 30, 2016) as identified in the July 15, 2016 end of year reports, will remain in the District's account(s). However, FY 2017 cost-share distributions to a District shall be reduced by the amount of unobligated cost-share (entered as Cash Transfer In) and the resulting balance shall become available during FY 2017 reallocation or through other addendum agreements. Cost-share funds within a District that become unobligated during the course of the FY 2017 shall be re-obligated to pending projects by the District Boards.

**BOARD ACTION:**

Mr. Lohr moved and Mr. Street seconded that the Board approve the recommended changes to the FY 2016 Cost-Share Policy and the direction for the development of the FY 2017 Policy. The motion carried unanimously.

**DAM SAFETY AND FLOODPLAIN MANAGEMENT**

Mr. Dowling noted that enforcement reports were mailed in member packages. He said that as he had just assumed the position of Interim Division Director that he would answer questions as able but would not make a full presentation at this time.

Mr. Ingle asked about the status of follow up actions regarding some high hazard dams. He said that in some cases there appeared to be no movement.

Mr. Dowling responded that he would have to discuss this with the Enforcement Manager. However, he noted that up until the Board took action on the PMP Study and until the effective date of the exempt PMP regulation, dam owners had been given a legal hiatus in which they did not need to address noted spillway design deficiencies. He said also that the PMP values from the new study may affect the status of certain dams.

**PARTNER REPORTS**

**Natural Resources Conservation Service**

Mr. Kriz gave an update on behalf of the Natural Resource Conservation Service. A copy is included as Attachment B.

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Virginia Association of Soil and Water Conservation Districts

Mr. Chafin spoke on behalf of the Virginia Association of Soil and Water Conservation Districts. He noted that the Association had just concluded a successful Annual Meeting. He expressed appreciation to Board members and staff who attended.

Mr. Chafin noted that the Association amended policies regarding water quality and water quantity as well as the position regarding fracking in the Eastern watershed. The Association also developed their legislative agenda for the 2016 General Assembly Session. He will share a link to these items on the Association website.

Mr. Chafin expressed appreciation for the opportunity to work with the Board and DCR on behalf of the Association.

Virginia Cooperative Extension

Dr. Grisso spoke on behalf of Virginia Cooperative Extension. He said that an Extension Agent had been hired in Henrico County. He said that there were some hiring delays with other positions as matching funds were secured.

**OLD BUSINESS**

Chairman Jamison inquired regarding the Agricultural Stewardship Act Case heard at the September Board meeting. Mr. Glover replied that he had spoken with Mr. Marshall at the Virginia Department of Agriculture and Consumer Services. The landowner has complied with the order issued by the VDACS Commissioner.

*Committee to Develop Procedures Associated with District Assessment Results*

At the September meeting, the Board discussed the deficiencies in District compliance with grant deliverables. Ms. Jamison appointed Mr. Hornbaker to chair a committee to address these concerns and how the Board and DCR can work with Districts to reach full compliance. Dr. Tyree from the Association will participate in the committee. Former Board Chair, Mr. Dunford will also participate.

Mr. Hornbaker expressed concern regarding Districts who were not represented at the Annual Meeting. He also expressed a concern regarding Board members who do not attend meetings or participate in Board activities. Mr. Dowling noted that DCR is working to address the latter concern.

Ms. Jamison asked about the previous Board Chair's request to the Attorney General regarding the issue of District Directors receiving Cost-Share and whether this was a violation of the Conflict of Interest Act. Mr. Dowling noted that the request is still with the Office of the Attorney General. Ms. Jamison will write a letter to the Attorney General advising them that she is the new chair and that she would like to continue the request on behalf of the Board. DCR Staff will assist in the writing of the letter.

**NEW BUSINESS***Discussion of 2016 Board Work Schedule*

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Mr. Dowling reviewed the following work schedule for the Board.

**Virginia Soil and Water Conservation Board DRAFT Work Schedule for the First Half of 2016**  
(These items are in addition to regular meeting actions.)

Legislative Session: January 13, 2016 through March 12, 2016

**Thursday, March 17, 2016 (location to be determined)**

- Legislative Update
- Budget Update (Discussion of Administration/Operations, Cost-Share, and Technical Assistance Funding Levels)
- Board Discussion of Policy on Soil and Water Conservation District Administration and Operations Funding Allocations for Fiscal Year 2017 Alternatives
- Discussion of potential District Assessment Results Response Procedures
- Board Discussion of Policy and Procedures on Soil and Water Conservation District Cost-Share and Technical Assistance Funding Allocations (Fiscal Year 2017) Alternatives
- Agricultural BMP Cost-Share Manual Amendments
- Review of Dam Safety Insurance Guidance

**Wednesday, April 20, 2016 (location to be determined)**

- Approval of the Board's Fiscal Year 2017 Agricultural BMP Cost-Share Manual
- Review of Draft Policy on Soil and Water Conservation District Administration and Operations Funding Allocations for Fiscal Year 2017
- Review of Draft Policy and Procedures on Soil and Water Conservation District Cost-Share and Technical Assistance Funding Allocations (Fiscal Year 2017)
- Review of Administration and Operations and Cost-Share and Technical Assistance Contracts and Deliverables
- Potential Bylaws Update
- COIA/ FOIA Training
- Soil and Water Conservation Division Program Updates (ex. Conservation Planning, Engineering Approval Authority, etc.)

**Tuesday, May 24, 2015 (location to be determined)**

- Board Approval of Policy on Soil and Water Conservation District Administration and Operations Funding Allocations for Fiscal Year 2017
- Board Approval of Policy and Procedures on Soil and Water Conservation District Cost-Share and Technical Assistance Funding Allocations (Fiscal Year 2017)
- Approval of Administration and Operations and Cost-Share and Technical Assistance Contracts and Deliverables
- Approval of Grants from the Dam Safety, Flood Prevention and Protection Assistance Fund
- Review of Dam Safety Program Enforcement Manual (Tentative)
- Review of Nutrient Management Regulation

**PUBLIC COMMENT**

Alyson Sappington of the Thomas Jefferson Soil and Water Conservation Districts asked that Districts be involved early in the process of considering new policies that specifically impact Districts. Mr. Dowling said that was the intent of DCR staff and that interested parties would be invited to address the Board with concerns as outlined in the Board's Work Schedule.

**NEXT MEETINGS**

The next three meetings of the Virginia Soil and Water Conservation Board will be as follows. Locations will be determined as soon as possible.

- Thursday, March 17, 2016
- Wednesday, April 20, 2016
- Tuesday, May 24, 2016

**ADJOURN**

There was no further business and the meeting was adjourned.

Respectfully submitted,

Daphne W. Jamison  
Chair

Clyde E. Cristman  
Director

ATTACHMENT A

Virginia Probable Maximum Precipitation (PMP) Study Overview

DCR

## Virginia Probable Maximum Precipitation (PMP) Study Overview

Virginia Soil and Water Conservation Board  
December 9, 2015

1

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### PMP Definition

(4VAC50-20-50.H) Probable maximum precipitation means the theoretically greatest depth of precipitation for a given duration that is meteorologically possible over a given size storm area at a particular geographical location at a particular time of year with no allowance made for future long term climatic trends.

2

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### PMP, PMF, SDF Relationship

- The Probable Maximum Flood (PMF) is calculated from the PMP and is the flood that might be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the region.
- Accordingly, from the PMP and subsequently the PMF, the Spillway Design Flood (SDF) is calculated and represents the largest flood that needs to be safely passed by the impounding structure.
- A sufficient spillway design is critical as a high percentage of dam failures are due to overtopping.

3

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### Legislation - 2014


- HB 1006 Delegate Kathy J. Byron (Chapter 475)
- SB 582 Senator Thomas A. Garrett, Jr. (Chapter 489)
- Directed DCR, on behalf of the VSWCB, to study and update by December 1, 2015, Virginia's Probable Maximum Precipitation (PMP) values.
- Stated that the results shall be considered by the VSWCB in its decision to authorize the use of the updated PMP values in Probable Maximum Flood calculations, thus replacing the current PMP values.
- Stated that such PMP revisions shall be adopted by the Board if it finds that the analysis is valid and reliable and will result in cost savings to owners for impounding structure spillway construction or rehabilitation efforts.

4

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### Applied Weather Associates

- Completed PMP Studies across country
  - Arizona
  - Ohio
  - Wyoming
  - Texas
  - Tennessee Valley Authority
  - Federal Energy Regulatory Commission
  - Nuclear Regulatory Commission



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### Technical Review Board and Meetings

**Board:**  
Mathew Lyons – State Conservation Engineer – USDA NRCS  
John Harrison – Schnabel Dam Engineering  
Arthur Miller – AECOM  
Stephen Rich – Southeast Weather Consulting

With Support from the Federal Energy Regulatory Commission: Kenneth Fearon, Elise Dombeck, and Kevin Griebenow

**Meetings:**  
•April 7,8, 2015  
•July 8, 2014  
•October 6, 7, 2015  
•November 18, 2014

**Final Report:** November 15, 2015

6

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### Goals of the PMP Study

- Consider More Storms
- Utilize New Technologies
- Correct Problems/Unknowns of Older studies
- Address Topographic Features
- Use Updated Climatologies
- Improve Data Resolution
- Ensure that the Results were Reproducible and Reliable
- Ensure a Higher Confidence in Results/Data
- Ensure an Extensive Review Process
- Create a Set of Virginia Specific PMP Values to Replace Older HMR Values

7

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### NOAA Hydrometeorological Reports (HMR) (National Weather Service/ USACE)

8

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### HMR 51 PMP-24hr 1000mi<sup>2</sup> (23 grid points – hand drawn smooth lines)

9

Figure 20.--All-season PMP (in.) for 24 hr 1,000 mi<sup>2</sup> (2,600 km<sup>2</sup>).

**90 Arc-Second PMP Analysis Grid Virginia Statewide PMP Study**

24,000 grid points in VA

10

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### 1. Review Previous Studies

- AWA PMP Studies
- Hydrometeorological Reports (HMRs)
  - HMR 40 – 1965
  - HMR 51 – 1978
  - HMR 52 – 1982
  - HMR 56 – 1986
- USACE/USGS Storm and Flood Analyses

11

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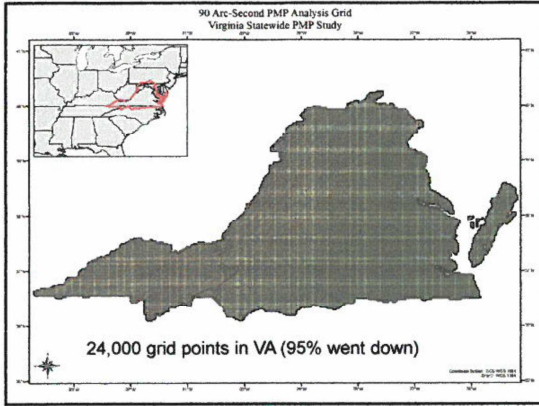
### 2. Storm Search & List Development

- Identify Storms in Hydrometeorological Reports and Other PMP Studies
- Storm Search to Identify Significant and Transpositionable Storms in Region
- Identify Most Significant Flood Events
- Identify Extreme Storm Types (79 Analyzed)
  - a. Local Storms (Thunderstorms) (23)
  - b. General Storms (Frontal System) (25)
  - c. Hurricanes and Tropical Storms (31)
- Storms occurred between 1889 and 2014

12







### Local Storm PMP Comparison

Grayed out rows signify where the one of the other storm types is controlling

Transmittance Zone	Local Storm 10 Sq Mi Average PMP				Local Storm 200 Sq Mi Average PMP				
	HRR 91 6hr	PMP 6hr	Change 6hr	HRR 91 12hr	PMP 12hr	Change 12hr	HRR 91 24hr	PMP 24hr	Change 24hr
1. Interoceanic Valley	27.6	19.7	-28.7%	32.2	21.2	-34.2%	35.5	21.8	-38.9%
2. Cumberland Plateau	28.7	19.2	-33.2%	33.8	21.5	-36.6%	35.9	21.7	-41.3%
3. Great Valley	28.9	17.1	-40.7%	34.1	19.2	-43.9%	37.4	18.4	-49.3%
4. Blue Ridge West	28.9	19.1	-33.6%	34.1	22.1	-35.5%	37.6	22.1	-40.9%
5. Blue Ridge East	27.8	18.8	-28.8%	32.6	21.3	-34.6%	35.8	22.9	-35.6%
6. Piedmont	28.5	26.1	-8.5%	33.7	29.0	-13.9%	37.7	28.1	-25.7%
7. Coastal Plain	28.6	29.6	3.7%	33.9	23.1	-31.9%	38.5	33.1	-14.0%
Statewide Domain	28.4	23.8	-16.2%	33.4	26.3	-21.4%	37.2	26.6	-28.9%

### Tropical Storm PMP Comparison

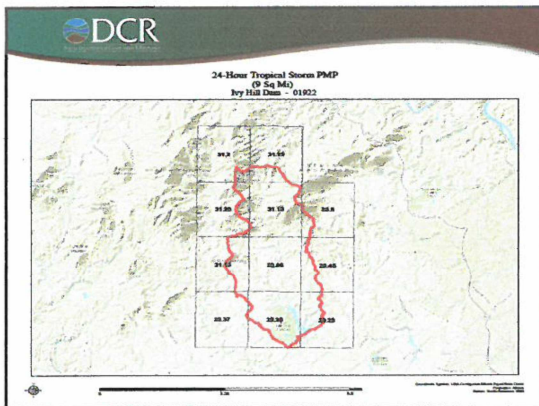
Grayed out rows signify where the one of the other storm types is controlling

Transmittance Zone	Tropical Storm 10 Sq Mi Average PMP				Tropical Storm 200 Sq Mi Average PMP				
	HRR 91 6hr	PMP 6hr	Change 6hr	HRR 91 12hr	PMP 12hr	Change 12hr	HRR 91 24hr	PMP 24hr	Change 24hr
1. Interoceanic Valley	17.8	18.3	51.7%	35.3	18.9	-34.8%	31.1	21.0	-42.8%
2. Cumberland Plateau	23.1	1.4	-78.7%	33.9	11.7	-65.8%	33.9	10.8	-67.5%
3. Great Valley	23.1	1.5	-78.2%	34.1	12.1	-64.8%	37.9	11.9	-68.6%
4. Blue Ridge West	23.1	1.5	-78.2%	34.1	12.1	-64.8%	37.9	11.9	-68.6%
5. Blue Ridge East	23.1	1.5	-78.2%	34.1	12.1	-64.8%	37.9	11.9	-68.6%
6. Piedmont	23.1	1.5	-78.2%	34.1	12.1	-64.8%	37.9	11.9	-68.6%
7. Coastal Plain	23.1	1.5	-78.2%	34.1	12.1	-64.8%	37.9	11.9	-68.6%
Statewide Domain	23.1	1.5	-78.2%	34.1	12.1	-64.8%	37.9	11.9	-68.6%

### General Storm PMP Comparison


Grayed out rows signify where the one of the other storm types is controlling

Transmittance Zone	General Storm 10 Sq Mi Average PMP				General Storm 200 Sq Mi Average PMP				
	HRR 91 6hr	PMP 6hr	Change 6hr	HRR 91 12hr	PMP 12hr	Change 12hr	HRR 91 24hr	PMP 24hr	Change 24hr
1. Interoceanic Valley	27.2	18.5	-31.6%	32.2	21.2	-34.2%	35.5	21.8	-38.9%
2. Cumberland Plateau	28.7	19.2	-33.2%	33.8	21.5	-36.6%	35.9	21.7	-41.3%
3. Great Valley	28.9	17.1	-40.7%	34.1	19.2	-43.9%	37.4	18.4	-49.3%
4. Blue Ridge West	28.9	19.1	-33.6%	34.1	22.1	-35.5%	37.6	22.1	-40.9%
5. Blue Ridge East	27.8	18.8	-28.8%	32.6	21.3	-34.6%	35.8	22.9	-35.6%
6. Piedmont	28.5	26.1	-8.5%	33.7	29.0	-13.9%	37.7	28.1	-25.7%
7. Coastal Plain	28.6	29.6	3.7%	33.9	23.1	-31.9%	38.5	33.1	-14.0%
Statewide Domain	28.4	23.8	-16.2%	33.4	26.3	-21.4%	37.2	26.6	-28.9%



### 341-square mile basin average PMP depths and controlling storms for the North Anna Dam basin


	6-hour PMP (in)				12-hour PMP (in)				24-hour PMP (in)				72-hour PMP (in)				
	PMP (in)	Source Storm(s)	PMP (in)	Source Storm(s)	PMP (in)	Source Storm(s)	PMP (in)	Source Storm(s)	PMP (in)	Source Storm(s)	PMP (in)	Source Storm(s)	PMP (in)	Source Storm(s)	PMP (in)	Source Storm(s)	
General	16.2	Wellborn, PA 1889	17.6	Wellborn, PA 1889	17.9	Wellborn, PA 1889	19.2	Hatlex, VT 2005 Wellborn, PA 1889	11.6	18.7	19.6	26.4					
Tropical																	
Local	4.6	Rapidan, VA 1995 Evan, NJ 1940	15.8	Rapidan, VA 1995 Jewell, MD 1897 Evan, NJ 1940	18.2	Jewell, MD 1897 Evan, NJ 1940	18.2	Jewell, MD 1897 Evan, NJ 1940									

 DCR

### Summary Procedure

- Updated the storm database
  - Produced Depth-Area-Duration (DAD) analyses for all major storm events
- Used updated dew point analyses to maximize storms
  - Storm representative & maximum dew points
- Used state-of-the-science procedures and tools
  - GIS & Orographic Transposition Factor
- Provided PMP values for all dams located within Virginia
  - All storm types, durations, and area sizes as required
- Utilized PMP Evaluation Tool to produce PMP on a gridded basis (~2.5 sq. mi. grid)

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### Summary

- Extensive storm record extending back to the early 1800s. Hundreds of storms were considered. 79 Key Storms Analyzed for Virginia PMP Study.
- Anticipate the values will be good for 20-30 years (but can be updated as needed).
- 24,000 grid points in VA (95% went down) (HMR 51 – 23 grid points – hand drawn smooth lines).
- PMP values are highest near the coast and along the Blue Ridge. These regions have exhibited past extreme rainfall accumulations that are the result of both moisture availability and topographic enhancement.
- Commonwealth-wide it was found that on average, PMP values for local storms showed a 16% reduction at 6-hour 10-square miles and a 21% reduction at 12-hour 10-square miles. For the longer durations, larger area sizes, Commonwealth-wide reductions were 30% at 24-hour 200-square miles and 1000-square miles, and 25% at 72-hours 200-square miles and 1000-square miles.
- Cost Savings Estimate - ~\$72 M (very conservative); only high and significant hazard; doesn't account for potential changes in hazard classification for some dams; a number could be eligible for the 2/3 rule (0.6 PMP).
- 45 District High Hazard Dams Identified for Rehabilitation Previously – Total estimated savings of ~\$19 M; ~25% savings; 5 dams potentially will not require upgrades.
- We have pre-run the PMPs for 900 high and significant hazard impoundments. 26

ATTACHMENT B

**NRCS REPORT**  
**Virginia Soil and Water Conservation Board Meeting**  
**December 9, 2015 ♦ Richmond, VA**

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**EQIP, CSP, RCPP and Easement Programs**

FY15 Program Summary:

- Grand Totals = 99.6% of funds fully utilized
- Total number of active contracts at the end of FY15: 2,125 for an obligated sum of \$70,134,331.60
- CSP – Total allocation = \$368,886
  - 39 new contracts obligated for \$368,886 (100.00%); 6 forestry contracts and 33 ag contracts out of 97 applications
  - Contacted 89 participants with expiring 2011 contracts and 75 of them applied to renew. Total contract renewals were \$3,097,564 in 190 contracts.
  - processed \$3,106,992.00 of conservation enhancements in existing contracts
- EQIP – Total allocation = \$13,550,429
  - 424 new contracts obligated on 48,242 acres for \$13,420,432(99.04%)
  - Obligated \$5,352,901 in Socially Disadvantaged, New/Beginning and Limited Resource Farmer
  - Obligated \$394,177 in StrikeForce counties
  - 120% increase in signup over FY14.
- RCPP-EQIP-Forestry
  - 108 contracts obligated for \$454,532 in year 1 of the DOF RCPP Forestry project on 14,014.50 acres.
  - 259 applications were received in Virginia's first RCPP project requesting \$958,042.

FY-16 Program Activities:

- FY16 Program policy, ranking tools, handbooks and training materials were developed and presented to NRCS and district staff at the November JED meetings and through the first of December.
- Application deadlines for EQIP, RCPP-DOF, RCPP-DCR, RCPP-NFWF and ACEP-WRE and ACEP-ALE FY16 batching periods are February 19<sup>th</sup>, December 18<sup>th</sup>, December 18<sup>th</sup>, November 20<sup>th</sup> and December 23<sup>rd</sup> and January 15<sup>th</sup>.
- The FY16 allocations are:
  - § EQIP: **\$16,096.907**
  - § ACEP-ALE: **\$1,767,455**
  - § ACEP-WRE: **\$404,452**
  - § RCPP-DOF: **\$470,000**
  - § RCPP-DCR: **\$725,000**
  - § RCPP-NFWF: **\$578,000**

Regional Conservation Partnership Program:

- NRCS received more than 250 pre-proposals in the agency's second announcement of program funding. 164 pre-proposals were invited to submit full proposals by November 10<sup>th</sup>. Selected projects will be awarded in January.

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- Virginia was allocated a total of \$894,327 for the State Fund Pool. One requests was invited to submit a full proposal.

#### Agricultural Conservation Easement Program (ACEP):

- **Virginia's Land Preservation Tax Credit is now recognized as a state-level contribution.** Projects could be eligible for a "Cash Contribution Waiver" that may result in a reduction of the cash match required for Agricultural Land Easement (ALE) funds from 50 to 5 percent.
- 2 FRPP easements closed on 123 acres in Clarke County
- 1 GRP easement closed on 111 acres in Augusta County
- 2 WRP easements closed for 86 acres in Charlotte County and 92 acres Greenville County.
- FY15 ACEP allocation was 1.8 million. 4 ALE and 2 WRE were enrolled.
- A total of 117 easements were monitored this year.

#### Dam Rehabilitation

- The construction of the Upper North River 10, Todd Lake dam rehab project, is substantially complete.
- NRCS has received the Chief's authorization for the Upper North River 77 Plan-EA (Plan-Environmental Assessment) in Augusta County. The final design is ongoing. The design is scheduled to be completed in FY16 and construction is scheduled for FY16/17.
- The dam rehab planning process for Mountain Run 11, Mountain Run Lake, and Mountain Run 50, Lake Pelham, is underway. The structures are owned by the Town of Culpeper. NRCS is providing the watershed planning assistance. The Town has obtained the services of Schnabel Engineering for the engineering design and construction phases. The planning process is scheduled to be completed in FY16 and the design and construction phases are scheduled for completion by 2018.
- The dam rehab planning process for Cherrystone Creek 1 and Cherrystone Creek 2A is underway. The structures are owned by the Town of Chatham. NRCS is providing the watershed planning and engineering assistance for the projects. The planning process is scheduled to be completed in FY17.
- NRCS has initiated planning for the Johns Creek 1 dam in Craig County, Virginia.

#### NRCS Client Gateway

On May 27, 2015, NRCS announced the public availability of Conservation Client Gateway (CCG), which gives customers another option for interacting and communicating with NRCS through a public website. Through the gateway, clients can:

- Request technical and financial assistance;
- Obtain easy, secure access to their plans, practice schedules, applications, and contracts;
- Review and electronically sign plans, applications, and contracts; and
- Document completed practices and request and track payments due to them.

The Client Gateway will help cut down on trips to the NRCS Field Office to complete and sign forms and applications for conservation programs and give farmers the ability to request conservation technical and financial assistance at any time from anywhere with secure Internet access.

#### Soil Health

Since the 2013 Soil Health Initiative “kickoff” event in Virginia, the VA Soil Health Coalition has helped organize and lead 119 different soil health events which have been attended by over 8,000 participants. These events have featured some of the top teachers and speakers from around the world on soil biology and health. Virginia has promoted soil health as a national initiative and strategy for increasing conservation adoption.

### **LiDAR acquisition**

Virginia NRCS committed funds to an agreement for additional LiDAR procurement in partnership with the USGS. The area to be gathered is focused currently in the Chesapeake Bay Initiative Watershed. The flights are currently taking place. The final data will be available late 2016.

### **Soil Mapping**

A project has begun to map the independent cities of Waynesboro, Staunton, and Winchester. Though mostly urban, many soil interpretations can be used for planning purposes. Storm water management is one that many of the cities have requested soils data for. Waynesboro is currently in progress, and the remaining cities will be completed in 2016. The data should be available on Web Soil Survey next October.

### **Training**

Conducted 60+ training/outreach events on conservation planning delivery for field staff and partners to increase awareness, improve and streamline business processes and enhance technical assistance including the Virginia Conservation Planner “Boot Camp,” a week-long course designed to help boost the number of Virginia Certified Planners.

- Number of Planners Certified/Re-certified in FY15:
  - 6 NRCS New Planner Certifications
  - 6 SWCD New Planner Certifications
  - 21 NRCS Planners Re-certified
  - 9 SWCD Planners Re-certified
- Number of CEUs and Training in FY15 to maintain planner certification:
  - 40 CEU Training Events
  - 127 CEUs issued
- Looking at last 4 years (FY12-15) at Certified Conservation Planner Training Requirements:
  - Prescribed Burn Awareness Training – 54 SWCD staff trained, 26 NRCS
  - Cultural Resource Training – 78 SWCD staff trained, 36 NRCS
  - Conservation Planning Boot Camp – 26 SWCD staff trained, 13 NRCS
  - Continuing Education Credits – 216 training with 625 available CEUs

### **Outreach**

Participated in The Church and Urban Agriculture Symposium at the 31st Street Baptist Church on September 24. The NRCS Chief provided the keynote address and the NRCS State Conservationist participated in a panel discussion on working with partners to set up similar community gardens.

Provided an informational exhibit on soil health and pollinators for **The Gathering**, a new Native American heritage event at the Clarke County Fairgrounds on **October 31** and **November 1**. About 5,000 people joined in the three-day celebration (Kidz Harvest Fest on October 30), participating in the harvest dance, sampling Native American crafts and cuisine, and learning about the soil beneath their feet.

Shared FY16 Farm Bill program information with approximately 250 attendees at the VSU Small Farm Family Conference in Williamsburg, Virginia, on November 12-13. The NRCS State Conservationist presented the Virginia Civil Rights Advisory Team Farmers of the Year award to Melvin and Mario Albritton of ASA Farms in Chesapeake, and Cropland Agronomist Chris Lawrence provided two breakout sessions on no-till vegetable production.

### **Earth Team Program**

Conservation partner support for and participation in volunteer projects helped the Virginia Earth Team program reach another milestone in FY15. In the past year, the number of volunteers has increased by more than 20 percent, topping out at 1,630. Virginia achieved the national goal of 100% field office participation and was ranked 7<sup>th</sup> in the nation. Virginia Earth Team award winners for outstanding individual, group, district, partnership, employee, field office, and volunteer have been selected and will receive their awards during the VASWCD Annual Meeting Awards Luncheon. All award winners were submitted for National award consideration.