

| Agency/Programmatic Strategies/WIP I and WIP II |         |   |                          |            |             |   |  |
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| WIP   | Page    | Strategy  | Agency/Responsible Party | Level      | Status      | Notes   | Related Milestone  |
| <i>General Strategies</i>                       |         |   |                          |            |             |   |  |
| 1   | 4       | Use the model as a management tool, but we will tailor our actions within real scientific, economic, social and political frameworks.   | DEQ                      | Commitment | In progress | Ongoing   |  |
| 1   | 4       | Continue to work with EPA to improve the model and use an adaptive management approach based on those improvements to adjust strategies as necessary.   | DEQ                      | Commitment | In progress | Ongoing   |  |
| 1   | 4       | Continue to provide EPA with our best information to ensure that the proper uses and limitations of the model are understood by citizens and stakeholders.  | DEQ                      | Commitment | In progress | Ongoing   |  |
| <i>Wastewater Strategies</i>                    |         |   |                          |            |             |   |  |
| 1   | 5       | An additional 1.6 million pound reduction of nitrogen and 200,000 lb. reduction of phosphorus in the James River prior to 2017.   | DEQ                      | Commitment | Completed   |   |  |
| 1   | 5       | An additional reduction of 1.0 million pounds of nitrogen and 250,000 pound reduction in phosphorus in the James River post-2017.   | DEQ                      | Commitment | Completed   | Phosphorus reductions are completed and effective. The additional 1.0 MGD of nitrogen reductions are effective as of 1/1/2022 in accordance with the watershed general permit. Meeting the deadline is dependent up taking the Chesapeake/Elizabeth River WWTP offline. |  |
| 1   | 5       | 2010 – 2011 - Continue Existing Water Quality Management Planning Regulation (9 VAC 25-720) and Chesapeake Bay Watershed General Permit Regulation (9 VAC 25-820) with current loading allocations with additional pre-2017 reduction in the James River.   | DEQ                      | Commitment | In progress |   |  |
| 1   | 5 & 41  | Seek legislative changes necessary to require offsets for nutrient loads of less than 1000 gpd either as separate legislation or as a component of amendments to the Nutrient Credit Exchange. (Note: related to conventional point sources)  | DEQ                      | Commitment |             |   |  |
| 1   | 5 & 41  | Seek legislative changes to establish requirement for offsetting loads for discharger that expand to less than 40,000 gpd.  | DEQ                      | Commitment |             |   |  |
| <i>Onsite Strategies</i>                        |         |   |                          |            |             |   |  |
| 1   | 5 & 106 | Implement amendments to Virginia Department of Health regulations for alternative systems to require a minimum 50% reduction in delivered N for all new small alternative onsite systems in the Chesapeake Bay watershed resulting in an effective delivered load to the edge of the project boundary of 4.5 lbs. TN/person/year. All large alternative onsite systems will demonstrate compliance with <3 mg/l TN at the project boundary. | VDH                      | Commitment | Complete    | The amendments described above entered a final adoption period on November 7, 2011, and took effect on December 7, 2011, the nitrogen requirements for alternative onsite sewage systems was effective December 7, 2013.  | Milestone OSS.1 (2012-2013), Milestone OSS.1 (2014-2015) |
| 1   | 6 & 106 | As a component of the revisions to the Nutrient Credit Exchange law proposed in 2012, allow for increased loads from onsite/septic to be aggregated at a jurisdictional level and available for offsets.  | VDH                      | Proposed   |             |   |  |

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| 1 | 6 & 106 | Seek revisions to the Code of Virginia will be considered to require all new and replacement systems in the Chesapeake Bay watershed to utilize either (1) "shallow-placed" systems capable of reducing nitrogen loss or (2) denitrification technology to reduce nitrogen loss and consider requirements for additional nitrogen reducing technologies in certain defined sensitive areas. | VDH     | Contingency |             |   |  |
| 1 | 6 & 106 | Support or seek revisions to the Code of Virginia that will promote the use of community onsite systems which provide a greater reduction of TN.  | VDH     | Commitment  | In progress | VDH may support or seek revisions to the Code of Virginia section 58.1-3660 to include VDH as a "State certifying authority". This would allow VDH to certify community onsite systems as "certified pollution control and equipment and facilities" effectively eliminating state and local sales tax on community onsite systems.   |  |
| 1 | 6 & 106 | Support or seek legislative changes necessary to establish 5 year pumpout requirements for septic tanks in jurisdictions within Virginia's Chesapeake Bay watershed.  | VDH/DEQ | Commitment  | In progress | <p>November 7, 2011 amendments also require operation and maintenance of alternative systems. Currently, VDH does not require routine maintenance for conventional onsite systems. The recently passed HB558 (2016) included a recommendation to require 5-year pumpout for all conventional systems in the state. This recommendation is part of VDH transitioning design services to the private sector and increasing agency oversight of onsite sewage systems once they are installed and in use.</p> <p>VDH supported HB885 (2018) which, as introduced, would have required statewide pumpouts. The bill was amended in the House to require only that the maintenance of conventional onsite systems (including pumpouts) be reported to VDH. The bill failed to pass the Senate and was continued to 2019.</p>   |  |
| 1 | 6 & 106 | Seek legislative changes necessary to establish tax credits for upgrade/replacement of existing conventional systems with nitrogen reducing systems.  | VDH     | Commitment  |             |   |  |
| 1 | 6 & 106 | Encourage the use of currently authorized "Betterment Loans" for repairs to existing systems and explore other financial incentives or relief to encourage the upgrade of existing systems especially for low and moderate income households.   | VDH     | Commitment  | In progress | <p>VDH continues work with state agencies and localities to seek out new funding opportunities.</p> <p>(i) In accordance with the Phase III Watershed Implementation Plan strategy to engage local governments and stakeholders, VDH will be working with Planning District Commissions in the Bay Watershed in the coming months. Through working with the PDC's, VDH may learn of new financial institutions that offer "Betterment Loans" and new financial incentives that encourage upgrade and repair of failing onsite systems.</p> <p>(ii) For certain grant proposals, VDH can propose a "sliding scale" for direct recipients of the grant (homeowners) based on income level. The "sliding scale" would offer more funding, on a percentage of project cost basis, to low and moderate income households than to higher income households.</p> <p>(iii) VDH can communicate with small and regional financial institutions to better understand how and why "Betterment Loans" are not currently being used by homeowners.</p> |  |

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| 2                             | 32      | VDH plans to assist localities in identifying and assessing available grant funds, particularly EPA grants, to address the funding needs that many of the local governments identified as necessary to support the advancement of the local strategies.   | VDH           | Commitment  | In progress | <p>VDH currently works with DEQ and localities to assist with local TMDL Implementation grants.</p> <p>(i) Some grants that are awarded to homeowners require matching of funds by the homeowners. However, the homeowners still may not be able to pay for their portion of the onsite repair or replacement. In certain cases, VDH can collaborate with local governments and stakeholders to encourage these entities to obtain funding from another source and match VDH's funding. This would alleviate the financial burden for homeowners and increase remediation of failing onsite systems.</p> <p>(ii) VDH is in the process of migrating its current environmental health database to an upgraded system. By 2019, VDH plans to have more advanced capabilities for data analysis. These capabilities will be useful for writing grant applications by providing in-depth quantitative and data related information.</p> <p>(iii) VDH can provide information to Local Health Districts on Title I Home and Property Improvement Loans. The U.S. Department of Housing and Urban Development approves and insures private lenders to loan up to \$25,000 to homeowners of single family houses. These loans can be used for home improvement alterations, repairs, and site improvements.</p> <p>(iv) VDH may support the National Onsite Wastewater Recycling Association's (NOWRA) federal lobbying efforts to achieve more funding for the onsite sector by means of a letter of support, or similar, from the VDH Commissioner.</p> |  |
| <b>Agriculture Strategies</b> |         |   |               |             |             |  |  |
| 1                             | 6       | Implement resource management plans on most agricultural acres.   | DCR           | Commitment  | In progress | For FY2019, DCR has provided incentives to increase the number of RMPs that are being implemented. A "bonus" prioritizes BMPs contained in an RMP for cost-share funding. Producers, rather than plan developers, will receive cost-share payments for RMP-2 (for certification of a fully implemented RMP). Additionally, DCR re-structured the latest round of grant contracts with plan developers to require developers to assist producers in achieving RMP certification. Based on the results of these efforts, DCR will evaluate and determine if additional incentives are warranted.   | Milestone A.7 (2012-2013),<br>Milestone A.2 (2016-2017, 2018-2019)   |
| 1                             | 6       | Improve tracking of voluntary agricultural and forestry BMPs.   | DCR/DOF/VDACS | Commitment  | In progress | <p>DCR is documenting voluntary practices in our Agricultural BMP database.</p> <p>During the Phase III process, DCR is requesting recommendations from the Districts about how additional information on voluntary practices could be documented. Based on those recommendations, DCR is anticipating revisions to policies and procedures that will encourage additional reporting of voluntary programs.</p>  | Milestone A.5/A.6 (2012-2013),<br>Milestone A.8 (2014-2015),<br>Milestone A.1 (2016-2017, 2018-2019),<br>Milestone A.11 (2018-2019)<br>VITA Program: |
| 1                             | 6       | Account for all current mandated practices in Concentrated Animal Feeding Operations (CAFO) and permits required for certain poultry operations.  | DEQ           | Commitment  | In progress | DEQ is currently analyzing the best management practices that are being credited for these operations in phase 6 of the model.   |  |
| 1                             | 6       | Provide cost-share funding to achieve implementation of incentive based practices.  | DCR           | Funding     | In progress | During the Phase III process, DCR is requesting recommendations from the Districts on potential programmatic changes to the cost-share program, changes in the BMP specifications, and other policy changes. Revisions to the cost-share program caps, payment rates, and specifications will impact funding needs. Those revised funding needs will be accounted for in the 2019 Agricultural Needs Assessment.   | Milestone A.4 (2012-2013),<br>Milestone A.5 (2014-2015),<br>Milestone A.3. (2016-2017)   |
| 1                             | 52      | Investigate growing sub-sectors (Sod farms, nurseries, vineyards and biofuel feedstock) and study a variety of BMPs to reduce their loads.  | DCR           | Commitment  | Complete    | A legislative study was completed in 2017 which examined potential methods to stabilize the funding for agricultural BMPs. The report is available at: <a href="https://rga.lis.virginia.gov/Published/2017/RD494">https://rga.lis.virginia.gov/Published/2017/RD494</a> .   |  |
| 1                             | 59      | If the agriculture sector load for a milestone period exceeds the target sector load, authorization to develop and implement mandatory actions or programs will be requested from the legislature, provided cost-share funding sufficient to achieve the milestone load reductions had been made available to producers during the same milestone period. | DCR           | Contingency |             |  |  |
| 1                             | 60      | Legislative request for mandatory Nutrient Management Plans sufficient to ensure achievement of 2017 and 2025 targeted percentage of acreage for NMPs.  | DCR           | Contingency |             |  |  |
| 1                             | 60      | Legislative request for mandatory Soil Conservation Plans to control soil loss to "T" or less sufficient to ensure achievement of this practice on 2017 and 2025 targeted percentage of acreage for Soil Conservation Plans.  | DCR           | Contingency |             |  |  |
| 1                             | 60      | Legislative request for mandatory livestock stream exclusion sufficient to ensure achievement of this practice on 2017 and 2025 targeted percentage of treatment.   | DCR           | Contingency |             |  |  |
| 1                             | 60      | Legislative request for mandatory grass or forest buffers between all cropland, specialty crop, and hay fields sufficient to ensure achievement of this practice on 2017 and 2025 targeted percentage of treatment.   | DCR           | Contingency |             |  |  |
| 1                             | 55 & 66 | Additional staff resources will be sought for the Agricultural Stewardship Program by VDACS.  | VDACS         | Commitment  | Complete    | 2 FTEs created and filled to improve the ability to respond and follow-up on Agricultural Stewardship Act complaints. Assess future needs for additional staffing and programmatic enhancements.   | Milestone A.1 (2012-2013)  |

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| 1 | 66 & 76 | VDACS and DEQ plan to seek assistance from agricultural organizations such as the Virginia Farm Bureau, Virginia Agribusiness Council, other agricultural commodity groups, local governments, Soil and Water Conservation Districts, and others interested in water quality issues regarding an increase in education and outreach efforts. | VDACS/DEQ | Plan          | Complete    | This specific item was related to the Small AFO Strategy and our commitment has been met. DEQ continues to communicate programmatic issues frequently to agricultural organizations and the agricultural community.  |  |
| 1 | 66 & 76 | VDACS and DEQ MOA to enhance this relationship to better respond to water pollution issues involving small, un-permitted AFOs.   | VDACS/DEQ | Plan          | Complete    | MOA signed and executed.   | Milestone A.15 (2016-2017), Milestone A10 (2018-2019)  |
| 1 | 67      | Encompass more area within the Chesapeake Bay Preservation Act, amendments to the law could be considered to require designation of entire localities as preservation areas under the act to strengthen and require enforcement of agricultural provisions. Also, expanding the act to cover additional localities could be considered.      | DEQ       | Contingency   |             | Increase available funding to both localities and the soil & water conservation districts for administering the agricultural provisions of the Bay Act   |  |
| 1 | 67      | Consider amending §58.1-3231 to require certain best management practices to be used on land enrolled in local use value assessment and taxation programs.   | ?         | Contingency   |             |  |  |
| 1 | 75      | VPA to VPDES where appropriate or requested.   | DEQ       | Commitment    | In progress | This is an ongoing commitment. Two poultry facilities in the Chesapeake Bay Watershed were converted from the VPA General Permit for Poultry Waste Management to a VPDES CAFO Individual Permit. Permits became effective on April 23, 2018.   | Milestone CAFO/AFO 1 (2012-2013), Milestones A.14/A.15 (2014-2015), Milestone A.14 (2016-2017) |
| 1 | 75      | DEQ is planning to amend its criteria for risk-based inspections of CAFOs covered under a VPDES permit.  | DEQ       | Plan          | Complete    | The DEQ AFO/CAFO Program Risk Based Inspection Strategy was finalized in December 2011. The Strategy was written to include the criteria and requirements for inspections of CAFOs covered by a VPDES permit.  |  |
| 1 | 77      | The requirements relating to recordkeeping of transferred poultry waste by poultry growers will be added to the VPDES CAFO permits.  | DEQ       | Commitment    | Complete    | The two finalized VPDES CAFO individual permits contain the same waste transfer recordkeeping requirements that are contained in the VPA General Permit for Poultry Waste Management. All poultry facilities covered by either the VPA General Permit for Poultry Waste Management or a VPDES CAFO Individual Permit will include the conditions for poultry waste transfer recordkeeping as required by the VPA Regulation and General Permit for Poultry Waste Management.   |  |
| 1 | 77      | Strategies to report the poultry waste transactions to the National Environmental Information Network (NEIN) are being considered.   | DEQ       | Consideration | In progress | Ongoing since 2010 - prior to the inception of NEIN, the State has supplied this information via other methods since 2001.   |  |
| 2 | 18      | Increasing the cost-share funding percentage for certain practices, such as livestock exclusion, is being considered.  | DCR       | Commitment    | In progress | DCR increased cost-share percentage for livestock stream exclusion (SL-6) through June 30, 2015. As of May 1, 2017, \$88 million of SL-6 practices installed or underway. Approximately \$20 million remain to be funded. Based on new targets from the revised model, DCR will consider similar strategies going forward. During the Phase III process, DCR is requesting recommendations from the Districts on potential programmatic changes to the cost-share program, changes in the BMP specifications, and other policy changes. Revisions to the cost-share program caps, payment rates, and specifications are expected.                                    | Milestone A.1 (2016-2017)  |
| 2 | 19      | Strategies and BMPs listed in Tables B.1 – B.3 will be forwarded to the DCR staff who serves as coordinator of the Agricultural TAC so that the group can consider which practices to recommend for cost-share support.  | DCR       | Commitment    | Eliminate   | This strategy should be deleted as the Ag BMP TAC makes new recommendations annually, based on input from Soil and Water Conservation Districts, DCR, and the Soil and Water Conservation Board. However, during the Phase III process, DCR is requesting additional targeted recommendations from the Districts on potential programmatic changes to the cost-share program, changes in the BMP specifications, and other policy changes.   |  |
| 2 | 20      | Six pilot projects are ongoing within the state's 47 SWCDs to ascertain what mechanism yields the best voluntary data collection. Following this pilot effort, DCR will develop a common path and begin recoding voluntary practices for all SWCDs.  | DCR       | Commitment    | Complete    | This pilot project was completed. DCR is documenting voluntary practices in our Agricultural BMP database. Many voluntarily practices are documented through the development of a resource management plan. DCR recommends that this strategy be deleted and the RMP strategy be amended to also include documenting voluntary BMPs.<br><br>During the Phase III process, DCR is requesting recommendations from the Districts about how additional information on voluntary practices could be documented. Based on those recommendations, DCR is anticipating revisions to policies and procedures that will encourage additional reporting of voluntary programs. |  |
| 2 | 20      | In Tidewater Virginia, agricultural strategies will be advanced through the Bay Act requirement that local governments ensure that soil and water quality conservation assessments are conducted on active agricultural lands.   | DEQ       | Commitment    | Complete    | The Chesapeake Bay Preservation Act Program was transferred from DCR to DEQ in July 2013. A tool to complete an agricultural assessment, as required under the Bay Act, has been included in DCR's conservation plan program.  |  |
| 2 | 20      | Technical assistance will be targeted to SWCDs on a performance basis, the result of which will focus assistance to those SWCDs that are achieving the greatest success in getting agricultural BMPs "on the ground."  | DCR       | Commitment    |             | A legislative study was completed in 2017 which examined potential methods to stabilize the funding for agricultural BMPs as well as technical assistance funding to the Districts. The report is available at: <a href="https://rga.lis.virginia.gov/Published/2017/RD494">https://rga.lis.virginia.gov/Published/2017/RD494</a> .  |  |
| 2 | 20      | Encourage more Bay Act localities to adopt jurisdiction wide Chesapeake Bay Preservation Areas.  | DEQ       | Contingency   |             |  |  |

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| 2                       | 21 | Implementation of practices which provide public benefit to water quality, including livestock stream exclusion, nutrient management plans, soil conservation plans or the implementation of RMPs, on lands eligible for such local use value assessment and taxation could be considered for additionally reduced alternative real estate taxation.  | DCR            | Contingency                    | In progress                   | Modifies Phase 1 WIP Contingency calls for a new lower tier use value and taxation bracket rather than BMP conditions to qualify for current taxation level. A legislative study completed in 2017 examined potential methods and incentives to encourage the implementation of RMPs. The report is available at <a href="https://rga.lis.virginia.gov/Published/2017/RD353">https://rga.lis.virginia.gov/Published/2017/RD353</a> .                              |   |
| <b>Urban Strategies</b> |    |   |                |                                |                               |   |   |
| 1                       | 7  | Revise Virginia's Stormwater Management Regulations to prevent loads increases from new development.  | DEQ            | Commitment                     | Complete                      | Completed   |   |
| 1                       | 7  | Additional BMPs on existing pervious and impervious lands through future permits and wider adoption of stormwater utility fees or other funding mechanisms.   | Localities     | Funding<br>Local Consideration | In progress                   |   |   |
| 1                       | 7  | Restrictions for application of non-agricultural fertilizers and voluntary reporting from "for-hire" applicators.   | DCR VDACS      | Commitment                     | Complete                      | 2011 Virginia General Assembly session SB 1055/HB 1831 was adopted.   | Milestone U.2 (2012-2013),<br>Milestones U.12/U.13/U.14 (2016-2017), Milestones U.2/U.3 (2018-2019) |
| 1                       | 7  | Municipal/county owned nonagricultural lands receiving nutrients to develop, implement and maintain nutrient management plans.  | DCR            | Commitment                     | Complete                      | 2011 Virginia General Assembly session SB 1055/HB 1831 was adopted. Except for golf courses, DCR currently has no statutory authority to require municipal or county owned nonagricultural lands receiving nutrients to develop, implement and maintain nutrient management plans. If voluntary efforts do not meet the required reductions, either potentially requiring such a provision in a locality's MS4 permit or proposing legislation could be examined. | Milestone U.5 (2012-2013)   |
| 1                       | 7  | Golf courses implement nutrient management plans.   | DCR            | Commitment                     | Complete                      | 2011 Virginia General Assembly session SB 1055/HB 1831 was adopted. As of December 2017, over 99% of all public golf courses had developed and were implementing nutrient management plans.   | Milestone U.11 (2014-2015),<br>Milestone U.10 (2016-2017)   |
| 1                       | 7  | Controls on certain do-it-yourself non-agricultural lawn and turf fertilizers.  | DCR            | Commitment                     |                               | 2011 Virginia General Assembly session SB 1055/HB 1831 was adopted. DCR currently has no statutory authority to establish or enforce controls on certain do-it-yourself fertilizers.  | Milestone U.14 (2014-2015)  |
| 1                       | 7  | Incorporate requirements within Virginia's Stormwater Management Regulations that redevelopment meets reductions in nutrient and sediment loads.  | DEQ            | Commitment                     | Complete                      |   |   |
| 1                       | 88 | Model and state program BMP efficiencies must be evaluated and if necessary made consistent by the end of the 2013 milestone period.  | DEQ            | Commitment                     |                               |   |   |
| 1                       | 88 | To improve compliance with the E&S program, strengthen the agricultural and forestry exceptions in the law (§ 62.1-44.15:55) by requiring compliance with an agricultural activity conservation plan, or resource management plan, developed and approved by the soil and water conservation district and a forest management plan developed by a professional forester for the timber harvesting activity. | DEQ/DCR/DOF    | Contingency                    | Viable                        | The language of the E & S law that was originally referenced in this strategy and which provides exemptions from E & S requirements for agricultural & forestal uses. If voluntary efforts do not meet the targeted reductions, then proposing legislation could be reexamined.   |   |
| 1                       | 88 | New requirements for existing development, as well as financial incentives for stormwater BMPs is needed.   | DEQ            | Commitment                     | Complete                      | This covered by MS4 permits   |   |
| 1                       | 89 | The creation of a state administered stormwater management BMP cost share program could be developed in coordination with a funding mechanism to implement water quality and quantity BMPs.   | DEQ            | Commitment                     | In progress                   | Between local stormwater fees, SWM utilities & SLAF funding, much has been done in this area.   |   |
| 1                       | 89 | Localities have the opportunity to develop stricter ordinances requiring the installation of BMPs in existing urban areas, in addition to more stringent criteria for water quality and quantity control to meet the allotted loads and wasteloads.   | DEQ LOCALITIES | Local Consideration            | Shift to Local Implementation | Authority is in-place; localities have the option to implement  |   |
| 1                       | 90 | Stricter local ordinances should be considered to prohibit improper disposal of yard waste, grass clippings, and leaf litter to prevent these sources of nutrients from entering storm drains and drainage ways.  | DEQ LOCALITIES | Local Consideration            | Shift to Local Implementation |   |   |
| 1                       | 90 | Establish a BMP efficiency to account for ordinances that keep materials such as grass clippings and yard wastes out of storm drains and drainage ways.   | DEQ LOCALITIES | Commitment                     | Shift to Local Implementation |   |   |
| 1                       | 90 | Collect and report annual fertilizer applications by lawn care operators through the Voluntary Water Quality Agreements with DCR.   | DCR DEQ        | Contingency                    | Complete                      | 2011 Virginia General Assembly session SB 1055/HB 1831 was adopted. Through the Green and Clean Program, lawn care companies voluntarily commit to utilizing responsible lawn care practices. This program has expanded significantly over the last several years and it is anticipated to continue to expand.  | Milestone U.3 (2018-2019)   |
| 1                       | 90 | Require all municipal / county owned nonagricultural lands receiving nutrients to develop, implement and maintain nutrient management plans.  | DCR DEQ        | Contingency                    |                               |   |   |
| 1                       | 90 | Requiring nutrient management plans to be implemented on all private and publicly owned golf courses.   | DCR            | Contingency                    | Complete                      | 2011 Virginia General Assembly session SB 1055/HB 1831 was adopted.   | Milestone U.11 (2014-2015),<br>Milestone U.10 (2016-2017)   |

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| 1                          | 90  | Place sales restrictions on do-it-yourself non-agricultural lawn and turf fertilizers to ban phosphorus * Effect time of year use restrictions * Consider requiring a significant percentage of slow-release nitrogen.                   | DCR       | Contingency | Complete                 | 2011 Virginia General Assembly session SB 1055/HB 1831 was adopted.   |   |
| 1                          | 90  | Prohibit the use of nitrogen containing deicers on paved surfaces.   | DEQ       | Contingency | Complete                 | 2011 Virginia General Assembly session SB 1055/HB 1831 was adopted.   |   |
| 1                          | 90  | Require proper storage and disposal of non-agricultural fertilizers by retailers to prevent nutrient losses to ground and surface water.   | DEQ VDACS | Contingency |                          | Commercial Fertilizer Law does not establish a standard for storage or disposal of non-agricultural fertilizers by retailers, and provides no authority for VDACS to enforce such provisions.   |   |
| 1                          | 91  | Utilize MS4 permits to assure BMP implementation on existing developed lands to achieve nutrient and sediment reductions equivalent to Level 2.  | DEQ       | Commitment  | In progress              | DEQ is in the middle of reissuancing the 2nd round of MS4 permits under the TMDL. These permits require a cumulative reduction of 40% of the TMDL goal by the end of the permit term. DEQ could propose to go beyond Level 2 reductions for the MS4 sector.   |   |
| 1                          | 92  | MS4 operators will be given three full permit cycles (15 years) to implement the necessary reductions to meet the L2 (5, 35, 60).  | DEQ       | Commitment  | In progress              | DEQ is in the middle of reissuancing the 2nd round of MS4 permits under the TMDL. These permits require a cumulative reduction of 40% of the TMDL goal by the end of the permit term. DEQ could propose to require the MS4 jurisdictions to meet the TMDL goals by 2025 rather than 3 complete permit cycles. Three complete permit cycles will extend to 2018 to 2031 depending on the MS4 permit. |   |
| 1                          | 93  | MS4 permits to assure BMP implementation on existing developed regulated federal lands to achieve nutrient and sediment reductions equivalent to Level 3.  | DEQ       | Commitment  | In progress              | Reduced to Level 2 scoping run reductions by 2025, or a more stringent level agreed to by the Commonwealth of Virginia, the EPA and the federal agencies pursuant to EO 13508, EISA §438 and EO 13514 and in accordance with the MOU in WIP 2.  |   |
| &                          | 95  | Reducing allowable post development loads further on new development through stormwater management requirements.   | DEQ       | Contingency | Complete                 |   |   |
| 1                          | 96  | Consider modifying redevelopment criteria to require a level of phosphorus reduction and associated nitrogen and sediment greater than the 20% reduction.  | DEQ       | Contingency | Viable                   |   |   |
| &                          | 96  | Consider establishing impervious cover limits or open space requirements that preserve and restore site hydrology.   | DEQ       | Contingency | Complete                 | Already required for areas subject to the Chesapeake Bay Preservation Act.  |   |
| &                          | 96  | Establish requirements for enhanced vegetation and plantings within required open space and pervious areas to boost function of pervious areas.  | DEQ       | Contingency | Complete                 | Encouraged by current Regulation  |   |
| 1                          | 96  | A Stormwater Management Enterprise Web site is being proposed as a management tool for the new stormwater management regulations. The website will allow the locality to enter BMP data into the tracking database.                      | DEQ       | Commitment  | Complete                 | Project was completed in 2014 (construction GP data base)   |   |
| 2                          | 21  | Individual MS4 allocations should be removed in the 2012 revision to the TMDL VA's Phase 3 WIP and replaced with aggregate waste load allocations for all MS4s, both large and small, in a segment shed.                                 | DEQ       | Commitment  |                          |   |   |
| 2                          | 22  | Work with EPA on a memorandum of understanding (MOU) regarding the current status and future expectations of Virginia's urban stormwater regulatory programs.  | DEQ       | Commitment  | Complete                 | Completed and satisfied   |   |
| 2                          | 28  | Stormwater staff will assess the resource needs table for those items requesting technical assistance and guidance and add those items to the on-going DCR "program development" tasks.  | DEQ       | Commitment  | Eliminate                | No longer relevant  |   |
| 2                          | 28  | Identifying and assessing existing and potential future grants and other funding sources to address the funding and capacity needs that many of the local governments identified as necessary to help them advance the local strategies. | DEQ       | Commitment  | In progress              | Ongoing   |   |
| 2                          | 28  | Identify grant funding to assist localities in developing local programs to comply with the revised Stormwater Management Regulations.   | DEQ       | Commitment  | Complete                 | Completed   |   |
| 2                          | 28  | Work to identify existing federal sources of funding and technical assistance geared toward assisting localities with Chesapeake Bay TMDL strategies.  | DEQ       | Commitment  | In progress              | Ongoing   |   |
| <b>Forestry Strategies</b> |     |  |           |             |                          |   |   |
| 1                          | 110 | Increase the use of effective BMP implementation rate to 95 percent as a means to reduce nonpoint source pollution.  | DEQ DOF   | Commitment  | In progress - continuous | Achieved 95% rate for BMP Implementation and on-going effort will be to maintain that rate from year-to-year  |   |
| 1                          | 110 | Cooperative efforts in logger education need to continue.  | DOF       | Commitment  | In progress - continuous | Based on BMP Implementation Monitoring that is being done continuously, logger education is targeted towards areas of BMP deficiencies. This is done through the SFI SHARP Logger training program.   | Milestones F.1/F.2/F.3 (2012-2013), Milestones F.1/ F.2 (2014-2015), Milestones F.1/F.2 (2016-2017) |

|                              |     |   |      |            |             |  |   |
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| 2                            | 33  | Virginia will examine WIP strategies that not only will result in nutrient and sediment reductions but will also maintain forest cover that protects water quality over the long term.  | DOF  | Commitment | In progress | Virginia will be recommending to the Chesapeake Bay Program partnership federal entities specific forest and land conservation scenarios it wants included in the "conservation plus" scenarios currently being developed within the TMDL model for WIP planning. These will enable land use planning officials to evaluate both the water quality and cost savings potential of forest cover for meeting water quality objectives.  | Milestone F.10 (2016-2017)  |
| 2                            | 33  | Forest conversion for the purposes of developing municipal infrastructure (power lines, highways, government buildings, etc.) or forest conversion on government owned land may represent opportunities to reduce forestland conversion. The Forest Valuation Instrument will be leveraged in the effort to reduce forestland loss. | DOF  | Commitment | In progress | An interagency group consisting of representatives from Virginia natural resource agencies advises state executive level management on the ecological and economic impacts of landscape scale linear infrastructure projects. By providing qualitative, scientific information pertaining to the impact of unavoidable forest land loss, mitigation strategies and solutions are being negotiated between the state government and project sponsors.   | Milestone F.7 (2014-2015),<br>Milestone F.7 (2016-2017)                               |
| 2                            | 34  | Include strategies in urban and suburban areas that increase tree canopy and urban forest cover. Urban and community forest retention strategy will reduce the rate of tree canopy and urban forestland loss as population increases.   | DOF  | Commitment | In progress | Promoting better methods of tree planting and maintenance will increase tree canopy and urban forest cover. Promoting better methods of land use development (green infrastructure planning and low impact development) to increase forest retention will potentially reduce forest loss. DOF's Urban and Community Forestry and Land Conservation personnel will work with local governments in their local planning process to include green infrastructure planning and low impact development processes in their comprehensive plan development.<br><br>DEQ Comment: Encourage localities subject to the Chesapeake Bay Preservation Act to establish RPA buffer re-establishment programs as authorized by the Bay Act. | Milestone F.7 (2012-2013),<br>Milestone F.6 (2014-2015),<br>Milestone F.6 (2016-2017) |
| 2                            | 34  | Create a forest conversion workgroup to develop an "action plan" to reduce the impacts of forestland conversion to more intensive land uses.  | DOF  | Commitment | Completed   | See response #88. (An interagency group consisting of representatives from Virginia natural resource agencies advises state executive level management on the ecological and economic impacts of landscape scale linear infrastructure projects. By providing qualitative, scientific information pertaining to the impact of unavoidable forest land loss, mitigation strategies and solutions are being negotiated between the state government and project sponsors.)   | Milestone F.7 (2014-2015),<br>Milestone F.7 (2016-2017)                               |
| 2                            | 34  | Work with EPA, Bay jurisdictions, and others to determine the feasibility of achieving credited TMDL nutrient or sediment reductions from conserving existing forestland.   | DOF  | Commitment | Completed   | Healthy Watersheds/Forest TMDL project partnership phases I and II between VA and PA successfully quantified value of retaining forestland to meet TMDL objectives and worked with local jurisdictions to identify policy and incentive changes needed to prioritize forestland retention in land use decisions. Effort contributed significantly to Chesapeake Bay Partners 12/17 decision to credit land conservation in the TMDL.   | Milestone F.11 (2016-2017)  |
| 2                            | 34  | VDOF is in the process of identifying and assessing available grant funds, particularly EPA grants, to satisfy the funding needs that many of the local governments identified as necessary to assist with the advancement of the local strategies.   | DOF  | Commitment | In progress | Funding from private and public sources was secured for phases I and II of the Healthy Watersheds/Forest TMDL project which focused in part on the economic challenges facing localities in implementing local strategies. Legislative changes predicated on the recommendations emanating from phase II have been introduced in the 2018 Virginia General Assembly session and some have passed as of the date of this report. A phase III project proposal has been submitted again to public and private funders that will focus on how to finance long term land conservation on a sustainable, landscape level basis using private capital.   |   |
| <i>Extractive Strategies</i> |     |   |      |            |             |  |   |
| 1                            | 113 | Considerable and steady funding is needed throughout Virginia's Bay watershed to further address the reclamation of abandoned mine sites.   | DMME | Funding    |             |  |   |
| 1                            | 113 | Include best management practices for mining areas where TMDL Implementation Plans have been completed in the VPDES General Permit.   | DMME | Commitment |             |  |   |

|                                   |     |   |  |             |             |   |  |
|-----------------------------------|-----|---|--|-------------|-------------|---|--|
| 1                                 | 113 | Increasing the number of inspectors, reclamation sites, and stream restorations.  | DMME                                   | Contingency |             |   |  |
| 2                                 | 36  | DMME will work closely with local governments to raise awareness and understanding of the nature and value of their geologic resources.   | DMME                                   | Commitment  |             |   |  |
| <b>Other Strategies</b>           |     |   |  |             |             |   |  |
| 1                                 | 117 | DEQ has begun the process of establishing No-Discharge Zones (NDZ) in all tidal creeks draining into the Virginia portion of the Chesapeake Bay or its major tributaries.   | DEQ                                    | Commitment  | In progress | The state-lead strategy to establish NDZs in all tidal creeks of the Bay watershed has been changed to working with localities for areas they propose. DEQ coordinates NDZ requests using a procedure including public involvement, coordination with other state agencies, consultation with EPA, and development and transmittal of an application. To date these areas have been established as NDZs in the Bay watershed: Lynnhaven River (VA Beach; 2007), Broad Creek, Jackson Creek, and Fishing Bay (Middlesex Co.; 2009). Four additional NDZ proposals are in various stages of local development, or DEQ and EPA review. |  |
| 1                                 | 118 | Virginia is committed to increasing the population of oysters, these natural filters and believes credit for filter feeder restoration and the associated nutrient removal should be recognized in implementing the WIP.  | ?? VMRC/DEQ                            | Commitment  | In progress | See Oyster Expert Panel Report  |  |
| 1                                 | 118 | The Commonwealth will evaluate, and implement as appropriate and warranted, emerging alternative technologies that are shown to be effective.   | DEQ (this should include all agencies) | Commitment  | In progress |   |  |
| <b>Air Strategies</b>             |     |   |  |             |             |   |  |
| 1                                 | 118 | Additional nitrogen reductions realized through more stringent air pollution controls at the jurisdictional level, beyond minimum federal requirements, may be credited to individual jurisdictions.  | DEQ                                    | Commitment  | In progress |   |  |
| <b>Credit Exchange Strategies</b> |     |   |  |             |             |   |  |
| 2                                 | 6   | Begin the regulatory process for certification of nutrient credits.   | DEQ                                    | Commitment  | Complete    |   | Milestone NTO.1 (2012-2013), Milestone TO.1 (2014-2015), Milestone TO.1 (2016-2017)                            |
| <b>Federal Strategies</b>         |     |   |  |             |             |   |  |
| 2                                 | 37  | Virginia will work with the Department of Defense (DoD) and other federal agencies in the joint development of a MOU, formalizing DoD's and the federal agencies' commitment to leading by example in meeting Chesapeake Bay water quality goals and achieving the necessary reductions called for by the Bay TMDL. | DEQ/Federal govt                       | Commitment  | In progress | MOU not developed; other actions taken (i.e., Executive Order) to increase federal participation  | Milestone FF.1 (2012-2013), Milestone FF.1 (2014-2015), Milestone FF.2 (2016-2017), Milestone FF.1 (2018-2019) |
| 2                                 | 39  | The watershed model should be updated at the earliest opportunity to correct the federal land use information and to further segment federal holdings by facility or agency.  | DEQ/Federal govt                       | Commitment  | In progress | Ongoing   |  |
| <b>Local Strategies</b>           |     |   |  |             |             |   |  |
| 2                                 | 40  | Contact localities, PDCs, and SWCDs to assist as localities refine and prioritize their strategies for execution.   | DEQ                                    | Commitment  | In progress | Ongoing   |  |
| 2                                 | 40  | DEQ will identify funding and staffing resources to assist localities with the development and implementation of local pollutant reduction strategies.  | DEQ                                    | Commitment  | In progress | Ongoing   |  |
| 2                                 | 40  | Work with the federal land holders in the watershed to identify opportunities to coordinate with local stakeholders.  | DEQ                                    | Commitment  | In progress | Ongoing   |  |
| 2                                 | 41  | Continue efforts to expand and improve the capabilities of the Chesapeake Bay Watershed model.  | DEQ                                    | Commitment  | Complete    | Ongoing   |  |
| 2                                 | 41  | As local strategies are refined and scheduled for execution, they will be included as elements in the appropriate two-year milestone plan.  | DEQ                                    | Commitment  | In progress | Ongoing   |  |



**Brief summary:**

100 total strategies

22 strategies with related milestones

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