UA01
Department of the Environment – Capital

Capital Budget Summary

Grant and Loan *Capital Improvement Program*
($ in Millions)

Program	*2013 Approp.*	*2014 Approp.*	*FY 2015 Request*	*FY 2016 Estimate*	*FY 2017 Estimate*	*FY 2018 Estimate*	*FY 2019 Estimate*
MD Water Quality Revolving Loan Fund	$198.000	$130.000	$130.000	$120.000	$130.000	$130.000	$130.000
MD Drinking Water Revolving Loan Fund	42.000	22.000	22.000	22.000	25.000	25.000	25.000
Bay Restoration Fund –Wastewater Projects	112.875	88.000	81.000	70.000	60.000	50.000	40.000
Septic System Upgrade Program	15.000	15.000	15.000	15.000	15.000	15.000	15.000
Biological Nutrient Removal Program	24.760	29.200	21.200	24.000	20.000	25.000	31.000
Supplemental Assistance Program	7.000	5.925	5.314	5.000	5.000	5.000	5.000
Water Supply Financial Assistance Program	2.500	3.450	4.357	2.500	2.500	2.500	2.500
Hazardous Substance Clean-up Program	0.000	0.300	1.000	1.000	1.000	1.000	1.000
Mining Remediation Program	0.000	0.000	0.500	0.500	0.500	0.500	0.500
Total	**$402.135**	**$293.875**	**$280.371**	**$260.000**	**$259.000**	**$254.000**	**$250.000**

Note: The fiscal 2013 appropriation for Bay Restoration Fund – Wastewater Projects includes $18.2 million in general obligation bonds authorized to replace special fund transferred to the general fund as part of cost containment.

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Fund Source	*2013 Approp.*	*2014 Approp.*	*FY 2015 Request*	*FY 2016 Estimate*	*FY 2017 Estimate*	*FY 2018 Estimate*	*FY 2019 Estimate*
PAYGO GF	$0.000	$0.300	$1.000	$1.000	$1.000	$1.000	$1.000
PAYGO SF	294.707	200.730	197.620	192.500	195.500	185.500	175.500
PAYGO FF	44.846	44.598	41.307	28.000	28.000	28.000	28.000
GO Bonds	62.582	48.247	40.444	38.500	34.500	39.500	45.500
Total	**$402.135**	**$293.875**	**$280.371**	**$260.000**	**$259.000**	**$254.000**	**$250.000**

Summary of Issues

Bay Restoration Fund Use for Non-major Wastewater Treatment Plants: One of the allowed uses of the Bay Restoration Fund (BRF) is to upgrade major-minor wastewater treatment plants (WWTPs) – facilities with a design capacity of less than 500,000 gallons per day – as long as the focus of the upgrade funding is first on the major WWTPs. For fiscal 2015, $1 million in planning funding is programmed for five major-minor upgrades: Twin Cities, Betterton, Smithsburg, Galena, and the Eastern Correctional Facility. **The Department of Legislative Services (DLS) recommends that the Maryland Department of the Environment (MDE) comment on what decision criteria it intends to use to determine the allocation of BRF funding to the different sectors – major-minors, septic systems, and stormwater – by fiscal 2018.**

State Revolving Loan Fund Leveraging: Chapter 151 of 2012 required the 10 large jurisdictions with stormwater permits to establish a local stormwater remediation fee to assist in financing the implementation of the stormwater-related targets under the Chesapeake Bay Total Maximum Daily Load. MDE has signaled that it will use its authority under Environment Article Section 9-1605(d)(3) to reduce the borrowing costs of local governments through the Water Quality Revolving Loan Fund (WQRLF) by setting aside a portion of WQRLF loan repayments for use as a guarantee or insurance for local government stormwater remediation bond issuances. **DLS recommends that MDE comment on the amount of funding it would set aside for the guarantee or insurance pool, the expected value to local governments that this insurance pool would provide, and an estimate of the reduction in the stormwater remediation shortfall that the guarantee or insurance pool would provide.**

Combined Sewer Overflows and Sanitary Sewer Overflows: A number of Maryland's jurisdictions have consent decrees requiring the upgrade of their sewer systems due to the release of untreated sewage from facilities with National Pollutant Discharge Elimination System permits. These releases are called combined sewer overflows (CSO) if a jurisdiction has a single system carrying both storm and sanitary sewer water, and it is called a sanitary sewer overflow (SSO) if the two systems are separated. **DLS recommends that MDE comment on how the probability of more severe storms and aging infrastructure will impact CSO and SSO overflows in the State and what can be done proactively to mitigate these impacts. DLS also recommends that MDE comment on what other actions need to be taken to reduce the number of overflows and the gallons of sewage released, given that little progress has been made so far.**

Summary of Updates

Hazardous Substance Clean-up Program Site Assessments: The fiscal 2015 funding for the Hazardous Substance Clean-up Program includes $300,000 in general funds for site assessments. MDE notes that a number of sites are in the site assessment pipeline in terms of being completed, continued, or initiated and, thus, funding is needed in fiscal 2015.

Summary of Recommended PAYGO Actions

1. Water Quality Revolving Loan Fund

   Concur with the Governor's allowance for the Water Quality Revolving Loan Fund special fund appropriation of $91,250,000 and federal fund appropriation of $32,291,000.

2. Hazardous Substance Cleanup Program

   Concur with the Governor's allowance for the Hazardous Substance Clean-up Program general fund appropriation of $1,000,000.

3. Drinking Water Revolving Loan Fund

   Concur with the Governor's allowance for the Drinking Water Revolving Loan Fund special fund appropriation of $10,370,000 and federal fund appropriation of $9,016,000.

4. Bay Restoration Fund – Wastewater Projects

   Concur with the Governor's allowance for the Bay Restoration Fund – Wastewater special fund appropriation of $81,000,000.

5. Bay Restoration Fund – Septic System

   Concur with the Governor's allowance for the Bay Restoration Fund – Septic Systems special fund appropriation of $15,000,000.

Summary of Recommended Bond Actions

1. Maryland Water Quality Revolving Loan Program

   Approve the $6,459,000 general obligation bond authorization for the Maryland Water Quality Revolving Loan Fund.

2. Maryland Drinking Water Revolving Loan Program

   Approve the $2,614,000 general obligation bond authorization for the Maryland Drinking Water Revolving Loan Fund.

3. Biological Nutrient Removal Program

   Approve the $21,200,000 general obligation bond authorization for the Biological Nutrient Removal Program.

4. Supplemental Assistance Program

   Approve the $5,314,000 general obligation bond authorization for the Supplemental Assistance Program.

5. Water Supply Financial Assistance Program

   Approve the $4,357,000 general obligation bond authorization for the Water Supply Financial Assistance Program.

6. Mining Remediation Program

   Approve the $500,000 general obligation bond authorization for the Mining Remediation Program.

Program Description

The Maryland Department of the Environment's (MDE) capital program is comprised of the Water Quality Revolving Loan Fund (WQRLF), the Drinking Water Revolving Loan Fund (DWRLF), the Bay Restoration Fund (BRF) – Wastewater Projects, BRF – Septic System Projects, the Biological Nutrient Removal (BNR) Program, the Supplemental Assistance Program, the Water Supply Financial Assistance Program, the Hazardous Substance Cleanup Program, and a new program for fiscal 2015 – the Mining Remediation Program. The programs address MDE's goals of ensuring safe and adequate drinking water, improving and protecting Maryland's water quality, and reducing Maryland citizens' exposure to hazards. Descriptions of the nine programs follow.

- **Water Quality Revolving Loan Fund** – The WQRLF was created to provide low-interest loans to counties and municipalities to finance water quality improvement projects. The fund was established by the federal government in the Clean Water Act of 1987 and by the State of Maryland in Sections 9-204 and 9-1604 of the Environment Article to replace the federal construction grants program that was phased out. Projects eligible for funding include wastewater treatment plants (WWTP); failing septic systems; and nonpoint source projects, such as urban stormwater control projects. The federal Act requires a 20% State match. For fiscal 2015, at least 10% of the federal funding must be used for Green Reserve projects – water efficiency, energy efficiency, green infrastructure, and environmentally innovative projects – and no more than $2.288 million may be used for loan forgiveness/grants. WQRLF projects are prioritized based on a U.S. Environmental Protection Agency (EPA) approved Integrated Project Priority System. The priority system for WQRLF projects consists of a system for evaluating, rating, and ranking of both point source and nonpoint source water quality projects. The Integrated Project Priority System was revised by MDE and approved by EPA in 2010 to target financial assistance to projects that help meet Maryland's Phase I Watershed Implementation Plan (WIP) to address the Chesapeake Bay Total Maximum Daily Load (TMDL). The Integrated Project Priority System focuses on compliance, documented public health concerns, relative effectiveness of projects to the Chesapeake Bay, sustainability criteria, and water quality restoration. In accordance with this system, the projects are rated and ranked by MDE's Water Quality Financing Administration and are listed in ascending ranking order on the Project Priority List. Through January 1, 2014, the program has executed $1.843 billion in loans, loan forgiveness, and grants, including American Recovery and Reinvestment Act of 2009 (ARRA) funding.

- **Drinking Water Revolving Loan Fund** – The DWRLF was established in accordance with a federal capitalization grant approved by Congress in 1996 in anticipation of future federal capitalization grants. This program was authorized by the General Assembly in 1993 to provide loans to counties and municipalities to finance water supply improvements and upgrades. In accordance with the federal legislation, these funds may also be loaned to private parties. The federal Act requires that a minimum of 20% of State matching funds for each year's federal capitalization grant be deposited into the fund. For fiscal 2015, no more than $3.9 million of the federal funding may be used for grants or loan forgiveness. Similar to the WQRLF, DWRLF projects are prioritized based on an EPA-approved Drinking Water Project Priority System that focuses on many criteria, the most important being public health benefit.

Through January 1, 2014, the program has executed approximately $291.3 million in loans, loan forgiveness, and grants including ARRA funding.

- **Bay Restoration Fund – Wastewater Projects** – The BRF (Chapter 428 of 2004) was created to address the significant decline in Chesapeake Bay water quality due to overenrichment of nutrients such as phosphorus and nitrogen. This dedicated fund, financed in large part by WWTP users, is used to upgrade Maryland's 67 major WWTPs with enhanced nutrient removal (ENR) technology. Chapter 150 of 2012 increased the BRF fee beginning July 1, 2012, in order to address a significant funding shortfall that would have made it very difficult to complete the upgrades to the 67 major publicly owned WWTPs by calendar 2017, as required by the WIP. Chapter 150 also made several other changes such as establishing additional uses for the fund beginning in fiscal 2018. As a result, the State will be better positioned to complete the WWTP upgrades by calendar 2017. ENR takes water that has gone through the BNR process and further refines the effluent physically, biochemically, or chemically to an average level of 3.0 milligrams per liter (mg/L) nitrogen and 0.3 mg/L phosphorus. Revenue from this fund also supports upgrades to septic systems. A portion of the funding ($5 million in the fiscal 2015 allowance) is budgeted in the MDE operating budget for operations and maintenance of WWTPs upgraded to ENR status. The ENR Program provides grants to local governments to institute ENR technology at the 67 largest WWTPs in Maryland. Overall, upgrading these WWTPs will reduce nitrogen loading to the Chesapeake Bay and its tributaries by an additional 7.5 million pounds per year in order to reach Maryland's commitment under the TMDL as implemented by the WIP.

- **Bay Restoration Fund – Septic System Projects** – The BRF includes a separate program to fund replacement of failing septic systems. This program is funded as part of the BRF legislation by a fee on users of septic systems and sewage holding tanks, of which 60% of the revenue is allocated to MDE for the septic system upgrade program and 40% to the Maryland Department of Agriculture for the Cover Crop Program. While Chapter 280 of 2009 (Chesapeake Bay Nitrogen Reduction Act of 2009) already required best available technology for new and replacement systems in the Chesapeake Bay Critical Area or the Atlantic Coastal Bays Critical Area, new regulations finalized in September 2012 expand septic system upgrade requirements to include best available technology for all septic systems serving new construction in the Chesapeake and Atlantic Coastal Bays watersheds and in the watershed of any nitrogen impaired water body. MDE provides grants to upgrade failing systems and holding tanks with the best available technology for nitrogen removal. Overall, the program gives priority to projects that involve failing systems in environmentally sensitive areas that are ready to proceed. The program is administered by county governments or other parties; contractors conducting the septic system upgrades are directly reimbursed for their work. Applications are prioritized as follows: (1) failing septic systems or holding tanks in the Critical Areas; (2) failing septic systems or holding tanks outside the Critical Areas; (3) non-conforming septic systems in the Critical Areas; (4) non-conforming septic systems outside of the Critical Areas; (5) other septic systems in the Critical Areas, including new construction; and (6) other septic systems outside the Critical Areas, including new construction. Homeowners with household income less than or equal to $300,000 per year are eligible for 100% grants of the best available technology cost, and all other homeowners are

eligible for grants covering 50% of the cost. Non-profit entities are eligible for 100% grants. For-profit businesses are eligible for 50% grants.

- **Biological Nutrient Removal Program –** This program provides cost-share grant funds to local governments to retrofit or upgrade WWTPs to remove a greater portion of nutrients (nitrogen and phosphorus) from discharges. The goal of the program is to support the WIP implementation of the Chesapeake Bay TMDL point source nutrient reduction strategy. The State provides up to 50% of the total eligible project cost, with the ability to provide 100% of the project cost, as provided under Title 9, Sections 9-348 of the Environment Article. BNR biologically removes the total nitrogen to an average level of 8 mg/L and the total phosphorus to an average level of 2 mg/L prior to discharging the water into the receiving waters. The next level of treatment is provided by an upgrade to ENR technology. All WWTPs upgraded to BNR by MDE will have the capacity to accommodate ENR upgrades in the future.

- **Supplemental Assistance Program –** The Supplemental Assistance Program provides grant assistance to local governments for planning, designing, and constructing WWTP improvements; for connection of older communities with failing septic systems; for correction of combined sewer overflows and sanitary sewer overflows; and for correction of excessive infiltration and inflow throughout the State. Funds are targeted principally to two types of projects: (1) maintaining compliance at existing WWTPs; and (2) eliminating failing septic systems in older communities. Funds are directed principally to projects where local governments need a subsidy to undertake the needed water quality or public health project. This program is often used in conjunction with other sources of federal and State financial assistance to achieve project affordability. This program funds up to 87.5% of eligible costs for sewer projects and up to 25.0% of the BNR project costs for small, lower-income jurisdictions. In addition, this program has taken on the needs of the Sewer Rehabilitation Program, which no longer is receiving BRF – Wastewater funding.

- **Water Supply Financial Assistance Program –** The General Assembly created the Water Supply Financial Assistance Program in 1982 to address the deteriorating condition of the State's water supply infrastructure and the lack of adequate financing available to local governments to upgrade water supply systems. This program provides grants to assist small communities in the acquisition, construction, equipping, rehabilitation, and improvement of publicly owned water supply facilities. The State may provide up to 87.5% of total eligible project costs (not to exceed $1.5 million per project), and a minimum 12.5% local match is required. In recent years, all assistance has been in the form of grants rather than loans. This program is often used in conjunction with other sources of federal and State financial assistance (such as the DWRLF) to achieve project affordability.

- **Hazardous Substance Cleanup Program** – The Hazardous Substance Cleanup program provides funds for cleaning up uncontrolled waste sites listed on the federal National Priorities List (Superfund) and other uncontrolled waste sites within the State that do not qualify for federal funding through the Superfund program. The State provides up to 100% of the costs of cleanup for the projects not included on the National Priorities List. At orphan sites, sites lacking a financially viable responsible party to pay for the cleanup, the State provides 100%

of the cost of the preliminary site assessment. In all cases, the program seeks cost recovery when possible from responsible parties. The program also provides the State's share (10%) of remediation costs for federal Superfund orphan sites with the remainder provided through the federal share (90%).

- **Mining Remediation Program** – The Mining Remediation Program is a new addition to MDE's capital program for fiscal 2015. Where there is no financially viable responsible party, the program provides funding for remediation of abandoned lands and waters impacted by inadequate coal mining reclamation practices prior to the passage of the federal Surface Mine Control and Reclamation Act of 1977. The program will work through the Maryland Abandoned Mine Land Division. Projects include reclamation of surface mine high walls and pits, stabilization of landslides, restoration of stream banks to address flooding, extinguishing underground coal mine and coal refuse fires, stabilization of coal refuse piles, water supply replacement, stabilizing buildings and roads that are impacted by underground mine subsidence, and acid mine drainage treatment projects.

Performance Measures and Outputs

In January of each year, MDE solicits interest for funding from the WQRLF and the DWRLF. The solicitation of interest is available to local governments and private drinking water providers. MDE's funding solicitation in January 2013 for fiscal 2015 funding is reflected in **Exhibit 1.** MDE's solicitation distinguishes between clean water and drinking water type projects with the majority of funding solicited for clean water projects. As reflected in the exhibit, the funding demand of $773.1 million exceeds the $152.0 million in the fiscal 2015 allowance for the WQRLF and the DWRLF.

Exhibit 1
MDE Capital Program Funding Solicitation for Revolving Loan Funds
Fiscal 2015

Project Type	Applications	Total Project Cost	Funding Requested from MDE
Clean Water			
Advanced Treatment	33	$695,359,326	$310,554,743
Sewerage (Including I/I and CSO)	66	272,890,263	232,396,966
Stormwater	21	9,073,982	7,178,522
Small Creeks and Estuaries	4	8,641,497	5,981,600
Landfills	2	9,541,000	9,403,000
Other	2	17,034,373	7,977,200
Subtotal	***128***	***$1,012,540,441***	***$573,492,031***
Drinking Water			
Source Water Development	7	$7,506,725	$6,517,859
Water Treatment Plant	7	8,848,887	6,955,387
Transmission/Distribution Mains	25	46,928,660	45,637,339
Water Storage	9	188,420,000	135,701,007
Other	9	5,993,043	4,746,443
Subtotal	***57***	***$257,697,315***	***$199,558,035***
Total	**185**	**$1,270,237,756**	**$773,050,066**

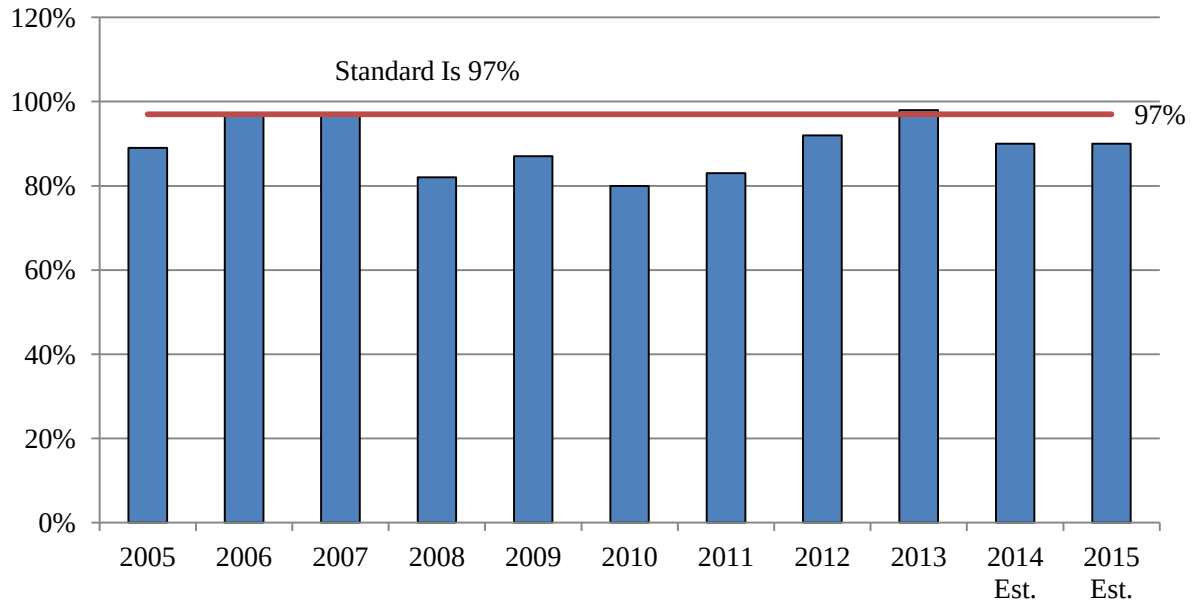
CSO: combined sewer overflow
I/I: infiltration or inflow
MDE: Maryland Department of the Environment

Source: Maryland Department of the Environment

Drinking Water Revolving Loan Fund

Exhibit 2 shows that due to the changing nature of the underlying standards to which MDE applies a 97% significant compliance goal, it is difficult to see long-term trends in public water system compliance with rules. Instead, there appears to be a trend toward increasing compliance with a standard for a couple of years after the standard is created until a new standard is developed and the process starts over. For instance, Maryland met the standard for complying with the 2002 rules in fiscal 2006, but then new rules were developed, and the compliance dropped to 82% in fiscal 2008. Five new federal regulations required new State rules in fiscal 2010. As of October 2013, MDE notes that monitoring requirements for two new contaminant levels have reduced the fiscal 2014 and 2015 compliance levels. However, as noted previously, the overall trend is toward a cleaner public water system in Maryland.

Exhibit 2
Marylanders Served by Public Water Systems In Significant Compliance
Fiscal 2005-2015 Est.



Note: Up to fiscal 2008, the basis for significant compliance with public water systems rules was 97% of the rules adopted in 2002. For fiscal 2008, the basis for significant compliance is 97% of the rules adopted since fiscal 2002. For fiscal 2009 and onward, significant compliance is measured as 97% of the rules adopted as of fiscal 2009. In fiscal 2010, State regulations were adopted to reflect five new federal regulations: arsenic, radionuclide, stage 2 disinfection byproduct, long-term 2 enhanced surface water treatment, and revised lead and copper. MDE notes that fiscal 2014 and 2015 estimates have been adjusted to reflect short-term compliance issues from more than 500 water systems implementing new monitoring requirements, as of October 2013, for two new maximum contaminant levels.

Source: Governor's Budget Books, Fiscal 2008-2015

Bay Restoration Fund – Wastewater Projects

Exhibit 3 shows the status of efforts to install BNR and ENR technology at the 67 major WWTPs. BNR technology allows WWTPs to achieve wastewater effluent quality of 8 mg/L total nitrogen and 3 mg/L total phosphorus. As of January 2014, of the 67 major WWTPs, 88% are operating at the BNR level (equal to the 88% as of January 2013), and 46% are operating at the ENR level (up from 39% as of January 2013).

Exhibit 3
Status of BNR and ENR Construction
Through January 2014

	BNR	ENR
Pre-planning	1	1
Planning	1	4
Design	2	11
Construction	4	20
Under Operation	59	31
Total	**67**	**67**

BNR: biological nutrient removal
ENR: enhanced nutrient removal

Note: The Bay Restoration Fund Advisory Committee added the Hampstead wastewater treatment plant, increasing the major plants to 67.

Source: Maryland Department of the Environment

Bay Restoration Fund – Septic System Projects

The septic system data provided in **Exhibit 4** reflects the large numbers of septic systems to be upgraded by the program. The greatest number of the State's septic systems in the Critical Area and upgrades funded by the BRF is in Anne Arundel County. Between January and December 2013, 1,247 septic systems in total have been upgraded with BRF funding, which includes 709 in the Critical Area. Since the program's inception, a total of 539 systems have been upgraded using non-BRF funding with the greatest number of upgrades in Somerset County.

Exhibit 4
Septic System Data
December 2013

County	Systems	Systems in Critical Area	Systems Not in Critical Area	BRF Upgraded Septic Systems	Critical Area BRF Upgraded Septic Systems	Total Number of Septic Systems Upgraded without BRF Funding
Allegany	4,169	0	4,169	13	3	0
Anne Arundel	40,538	12,911	27,627	694	590	58
Baltimore City	0	0	0	0	n/a	0
Baltimore County	28,000	2,130	25,870	145	37	1
Calvert	25,341	4,832	20,509	428	364	33
Caroline	8,463	1,135	7,328	113	67	1
Carroll	33,441	0	33,441	65	n/a	1
Cecil	20,209	3,503	16,706	217	146	3
Charles	22,067	1,132	20,935	106	68	26
Dorchester	6,883	3,321	3,562	298	278	15
Frederick	31,031	0	31,031	113	n/a	6
Garrett	11,897	0	11,897	26	n/a	0
Harford	33,568	182	33,386	136	27	0
Howard	17,131	0	17,131	61	n/a	3
Kent	4,850	1,914	2,936	208	143	12
Montgomery	32,800	0	32,800	112	n/a	16
Prince George's	10,348	209	10,139	9	0	0
Queen Anne's	9,074	4,525	4,549	373	324	16
Somerset	6,058	2,529	3,529	660	321	196
St. Mary's	21,882	5,994	15,888	368	300	11
Talbot	7,732	4,045	3,687	244	215	75
Washington	18,626	0	18,626	158	n/a	16
Wicomico	20,619	1,589	19,030	299	97	10
Worcester	7,039	1,520	5,519	163	89	40
Total	**421,766**	**51,471**	**370,295**	**5,009**	**3,069**	**539**

BRF: Bay Restoration Fund

Note: The information on the total number of septic systems is based on 2009 Maryland Department of Planning data, while the number of systems in the Critical Area is based on 2004 Maryland Department of Planning data. Certain counties have no septic systems in the Critical Area. In the column "Critical Area BRF Upgraded Septic Systems," the information for these counties is designated as not applicable, or "n/a."

Source: Maryland Department of the Environment

The Phase II WIP strategy for septic system upgrades is 43,181 additional septic systems not planned for connection to WWTPs. This figure is comprised of 15,141 systems in the Critical Area, 15,498 systems outside the Critical Area but within 1,000 feet of a perennial stream, and 12,542 additional systems outside the Critical Area and beyond 1,000 feet of a perennial stream. MDE notes that along with the approximately 1,200 septic systems upgraded per year with BRF funding that the new regulations requiring best available technology for new construction and repairs to existing homes in the Chesapeake Bay watershed, paid for by homeowners, will help convert most septic systems to best available technology over the septic systems 30-year life cycle.

Exhibit 5 shows the septic systems upgraded by county for fiscal 2008 to 2013. Between fiscal 2008 and 2010 MDE implemented a concurrent program with the county reimbursable program, which is reflected under the label "Statewide." The average number of septic systems upgraded over the time period shown, is 747, which is most likely lower than the expected 1,200 upgrades per year because the BRF fee was only recently doubled by Chapter 151 of 2012.

Exhibit 5
Septic System Best Available Technology Installations
Fiscal 2008-2013

Jurisdiction	2008	2009	2010	2011	2012	2013
Allegany				1	2	2
Anne Arundel	44	72	0	134	135	186
Baltimore				9	16	18
Calvert	35	49	55	79	63	91
Caroline	10	17	7	9	24	19
Carroll				3	2	3
Cecil		1	26	23	34	60
Charles	19	16	51	1	5	5
Dorchester		11	5	68	69	34
Frederick	14	17	0	11	16	37
Garrett				7	5	8
Harford			45	1	7	4
Howard				3	7	7
Kent	12	28	2	21	42	46
Montgomery				4	8	9
Prince George's				0	0	0
Queen Anne's				71	59	73
St. Mary's				58	49	111
Somerset				23	28	38

Jurisdiction	2008	2009	2010	2011	2012	2013
Talbot	49	52	10	31	21	37
Washington		16	25	20	22	39
Wicomico	48	19	77	51	30	32
Worcester	8	34	61	23	8	11
Statewide	53	569	751	0	0	0
Total Upgrades	**292**	**901**	**1115**	**651**	**652**	**870**
Subset of Total Upgrades: Critical Area BAT Upgrades	189	418	551	569	540	583

BAT: best available technology

Note: Gray-shaded cells reflect no reimbursement funding being provided to a county for that year.

Source: Bay Restoration Fund Advisory Committee

Hazardous Substance Clean-up Program

The performance measure for the Hazardous Substance Clean-up Program is the number of properties on the State Master and Non-Master Lists that are given a "No Further Action" determination and moved to the Formerly Investigated Sites category or archived. The State Master List identifies potential hazardous waste sites in Maryland and includes sites identified under the EPA's Superfund Program. The Non-Master List is comprised of sites currently under investigation or that have previously been investigated but are not on the State Master List.

As shown in **Exhibit 6**, there are 387 archived sites and 313 current sites being investigated, possibly an indication of progress toward reducing Maryland citizens' exposure to hazards. However, there is no trend to be gleaned from this data. In addition, there is a third list of sites to be remediated, which is not considered here – the Voluntary Cleanup Program sites. MDE indicates that it is in the process of combining State Master List, Non-Master List, and Voluntary Cleanup Program sites into a single Brownfield Master Inventory List to be published on its website. While the Hazardous Substance Clean-up Program may not necessarily have jurisdiction over all of these sites, the completed inventory will provide an overall look at hazardous sites in Maryland. **DLS recommends that, for the fiscal 2010 to 2015 time period, MDE comment on the number of sites on the State Master and Non-Master List at the beginning of the fiscal year, added during the fiscal year, and removed during the fiscal year, both with and without Hazardous Substance Clean-up Program assistance.**

Exhibit 6
State Master and Non-Master List Sites
January 2014

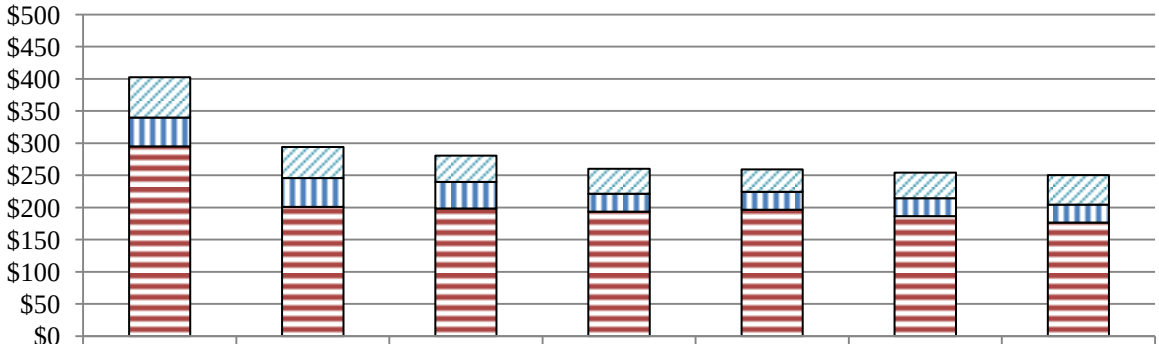
List	Current Sites	Archived Sites
State Master	223	211
Non-Master	90	176
Total	**313**	**387**

Source: Maryland Department of the Environment

Budget Overview

In the Governor's budget, MDE's fiscal 2015 capital program, as introduced, includes $1.0 million in general funds, $197.6 million in special funds, $41.3 million in federal funds, and $40.4 million in general obligation (GO) bonds for a total of $280.4 million. The overall change between fiscal 2014 and 2015 is a $13.5 million decrease, as shown in **Exhibit 7**. The decrease in funding between fiscal 2013 and 2014 is attributable to the reduction in the WQRLF special fund appropriation to more accurately reflect expected encumbrances. For the out-years, the steady decrease in funding is attributable to a reduction in BRF – Wastewater Projects special fund grant awards as the 67 major wastewater treatment plants complete the upgrade to enhanced nutrient removal technology and funding instead is budgeted in MDE's operating budget for debt service payments on the estimated $480.0 million in revenue bonds to be issued.

Exhibit 7
MDE Capital Programs Funding
Fiscal 2013-2019 Est.
($ in Millions)



	2013 Approp.	2014 Approp.	2015 Request	2016 Est.	2017 Est.	2018 Est.	2019 Est.
Total	$402.1	$293.9	$280.4	$260.0	$259.0	$254.0	$250.0
GO Bonds	$62.6	$48.2	$40.4	$38.5	$34.5	$39.5	$45.5
PAYGO FF	$44.8	$44.6	$41.3	$28.0	$28.0	$28.0	$28.0
PAYGO SF	$294.7	$200.7	$197.6	$192.5	$195.5	$185.5	$175.5
PAYGO GF	$0.0	$0.3	$1.0	$1.0	$1.0	$1.0	$1.0

FF: federal funds
GF: general funds
GO: general obligation
MDE: Maryland Department of the Environment
SF: special funds

Source: Governor's Capital Budget, Fiscal 2015; Department of Budget and Management Capital Budget Worksheets

Multiple Sources of Funding

Similar to prior years, a number of projects in the fiscal 2015 allowance receive funding from multiple MDE pay-as-you-go programs. **Exhibit 8** shows water quality-related project funding across programs, for which there are six projects receiving multiple sources of funding in fiscal 2015. The Back River WWTP improvements project receives funding from three programs. **Exhibit 9** shows drinking water-related project funding across programs, for which there is one project receiving multiple sources of funding in fiscal 2015 – St. Michaels Arsenic Removal System.

Exhibit 8
Water Quality-related Project Funding Across Programs
Fiscal 2015

Subdivision	LD	Project Title	Estimated Cost	WQRLF	SAP	BNR	ENR	Total	Reasons for Multiple Allocations
Allegany	1B	Bedford Road Sanitary Sewer Rehabilitation Phase 4	$1,000,000	$125,000	$875,000			$1,000,000	Project eligible for 87.5% of total cost as Supplemental Assistance Grant; balance offered as loan.
Allegany	1B	Braddock Run Sanitary District Rehabilitation Phase 3	1,000,000	1,000,000				1,000,000	Not applicable.
Allegany	1C	Cumberland – Evitts Creek CSO Upgrades Phase 3 – Gravity Sewer	1,414,950	1,375,000				1,375,000	Not applicable.
Allegany	1B	Frostburg CSO Elimination Phase VII-B-2 (Paul Street)	1,645,000	116,000	1,439,000			1,555,000	Project eligible for 87.5% of total cost as Supplemental Assistance Grant; balance offered as loan.
Allegany	1B	LaVale Sanitary Commission Manhole Rehabilitation	1,000,000	125,000	875,000			1,000,000	Project eligible for 87.5% of total cost as Supplemental Assistance Grant; balance offered as loan.
Allegany	1B	LaVale Sewage Pump Station Rehabilitation	1,000,000	375,000	625,000			1,000,000	Project eligible for 87.5% of total cost as Supplemental Assistance Grant, not to exceed $1.5 million per applicant. Since $875,000 was requested in grant for the LaVale Sanitary Commission Manhole Rehabilitation Project, the balance of $1.5 million is requested here.
Allegany	1A	Westernport Combined Sewer Overflow (CSO) Elimination and Stormwater Diversion – Johnson Street North	3,600,000	3,600,000				3,600,000	Not applicable.

Subdivision	LD	Project Title	Estimated Cost	WQRLF	SAP	BNR	ENR	Total	Reasons for Multiple Allocations
Allegany	1A	Westernport CSO Elimination and Stormwater Diversion – Maryland Avenue	1,200,000	1,200,000				1,200,000	Not applicable.
Anne Arundel	46	Patapsco Sewershed Sewer Improvements SC-903	28,338,000	5,784,000				5,784,000	Not applicable.
Baltimore	46	Dundalk Sewershed Sewer Improvements SC-902	12,171,000	5,793,000				5,793,000	Not applicable.
Baltimore	45	Outfall Sewershed Sewer Improvements SC-919	47,765,000	25,698,000				25,698,000	Not applicable.
Baltimore	44A	South Gwynns Falls Sewer Improvements SC-920	26,345,000	16,776,000				16,776,000	Not applicable.
Baltimore	11	Templegate Pumping Station Improvements	1,945,000	1,606,000				1,606,000	Not applicable.
Baltimore City	6	Back River Wastewater Treatment Plant Improvements	698,335,000	4,659,000		21,200,000	80,000,000	105,859,000	This is a multi-year project with multiple contracts. BNR and ENR have been encumbered according to eligibility and as bids have opened.
Baltimore City	46	Dundalk Sewershed Sewer Improvements SC-902	12,171,000	4,712,000				4,712,000	Not applicable.
Baltimore City	40	High Level Interceptor Cleaning SC-933	8,140,100	4,062,000	1,500,000			5,562,000	The maximum $1.5 million per applicant was requested in Supplemental Assistance Grant for this project; balance offered as loan.
Baltimore City	46	Low Level Sewershed (Eastern) Sewer Improvements SC-912	18,224,000	13,776,000				13,776,000	Not applicable.
Baltimore City	45	Outfall Sewershed Sewer Improvements SC-919	47,765,000	17,345,000				17,345,000	Not applicable.
Baltimore City	44A	South Gwynns Falls Sewer Improvements SC-920	26,345,000	7,134,000				7,134,000	Not applicable.

Subdivision	LD	Project Title	Estimated Cost	WQRLF	SAP	BNR	ENR	Total	Reasons for Multiple Allocations
Carroll	5	Taneytown Wastewater Treatment Plant – Miscellaneous Improvements	5,845,000	1,765,000				1,765,000	Project has portions that are not ENR-eligible; applicant has requested WQRLF funding for those ineligible portions.
Washington	2A	Winebrenner Wastewater Treatment Plant – Miscellaneous Improvements	14,469,000	8,729,000				8,729,000	Applicant has requested WQRLF for local share of BNR upgrade and for portions of project that are not ENR-eligible.
Worcester	38B	Fruitland Wastewater Treatment Plant – Miscellaneous Improvements	7,865,000	3,226,000				3,226,000	Project has portions that are not ENR-eligible; applicant has requested WQRLF funding for those ineligible portions.
Worcester	38A	Pocomoke City – Clarke Avenue Pump Station Rehabilitation	1,677,000	1,019,000				1,019,000	Not applicable.
Statewide	99	Minor Wastewater Treatment Plant – Enhanced Nutrient Removal Program	1,000,000				1,000,000	1,000,000	Not applicable.
Total			**$970,260,050**	**$130,000,000**	**$5,314,000**	**$21,200,000**	**$81,000,000**	**$237,514,000**	

BNR: biological nutrient removal
ENR: enhanced nutrient removal
SAP: Supplemental Assistance Program
WQRLF: Water Quality Revolving Loan Fund

Note: This exhibit reflects only fiscal 2015 funding. For instance, Back River WWTP improvements is scheduled for $74.4 million in BNR funding and $90.0 million in ENR funding in the out-years.

Source: Maryland Department of the Environment

Exhibit 9
Drinking Water-related Project Funding Across Programs
Fiscal 2015

Subdivision	LD	Project Title	Estimated Cost	DWRLF	Water Supp.	Total	Reasons for Multiple Allocations
Allegany	1A	Westernport Water Distribution System, Phase III	$2,400,000	$1,200,000		$1,200,000	Not applicable.
Anne Arundel	30A	Annapolis Water Treatment Plant (WTP) Replacement	49,624,000	6,737,029		6,737,029	Not applicable.
Baltimore City	40	Druid Lake Tanks, WC-1204	143,560,000	6,000,000		6,000,000	Not applicable.
Calvert	27B	East Prince Frederick Tower and Well	3,500,000	2,750,000		2,750,000	Project eligible for 25.0% of total cost as Water Supply Grant; balance offered as loan.
Garrett	1A	Frostburg – Savage Raw Water and Energy Conservation Project, Phase II	663,369	431,684		431,684	Not applicable.
Garrett	1A	Oakland Bradford Water Plants Improvement Project	480,000	480,000		480,000	Not applicable.
Harford	34A	Havre de Grace WTP, Phase II	3,701,000	3,330,000		3,330,000	Not applicable.
Talbot	37B	St. Michaels Arsenic Removal System	1,550,887	193,887	$1,357,000	1,550,887	Project eligible for 87.5% of total cost as Water Supply Grant; balance (12.5%) offered as loan.
Washington	2B	Sharpsburg WTP – Transite Intake Line Replacement and Pre-sedimentation Basin	1,471,000	877,400		877,400	Project eligible for 25.0% of total cost as Water Supply Grant; applicant did not want loan in fiscal 2014 but requested loan in fiscal 2015 for balance of cost.
Wicomico	38B	Fruitland Water Tower and Morris Mill Urban Service Water District	7,939,610		3,000,000	3,000,000	Not applicable.
Total			**$214,889,866**	**$22,000,000**	**$4,357,000**	**$26,357,000**	

DWRLF: Drinking Water Revolving Loan Fund

Source: Maryland Department of the Environment

Highlights

The changes in funding between fiscal 2014 and 2015 are reflected in **Exhibit 10**.

Exhibit 10
MDE Capital Funding Changes
Fiscal 2014-2015
($ in Millions)

Program	2014 Approp.	2015 Request	Difference
Water Supply Financial Assistance Program	$3.450	$4.357	$0.9
Hazardous Substance Clean-up Program	0.300	1.000	0.7
Mining Remediation Program	0.000	0.500	0.5
Maryland Water Quality Revolving Loan Fund	130.000	130.000	0.0
Maryland Drinking Water Revolving Loan Fund	22.000	22.000	0.0
Septic System Upgrade Program	15.000	15.000	0.0
Supplemental Assistance Program	5.925	5.314	-0.6
Bay Restoration Fund – Wastewater Projects	88.000	81.000	-7.0
Biological Nutrient Removal Program	29.200	21.200	-8.0
Total	**$293.875**	**$280.371**	**-$13.5**

MDE: Maryland Department of the Environment

Source: Department of Budget and Management; Department of Legislative Services

The highlighted changes in new funding for fiscal 2015 are as follows:

- **Water Supply Financial Assistance Program** – The Water Supply Financial Assistance Program funding of $4.4 million in GO bonds increases by $907,000 relative to the fiscal 2014 funding level and by $1.9 million relative to the 2013 *Capital Improvement Program* (CIP) programmed amount for fiscal 2015. The fiscal 2015 funding includes budget bill language notwithstanding the $1.5 million project cap so that $3.0 million may be used to provide a grant to Fruitland for the design and construction of the Fruitland Water Tower and Drinking Water Distribution System for the Morris Mill Area residents. Trichloroethylene contamination in drinking water wells has necessitated the extension of water service to the residents of Morris Mill Road. Funding is needed now despite the problem extending back to fiscal 2009 due to the recent decision to pursue the water line extension from Fruitland.

Funding was previously provided for the project through the Hazardous Substance Clean-up Program for site assessment activities.

- **Hazardous Substance Clean-up Program** – The fiscal 2015 allowance includes $1.0 million in general funds for the Hazardous Substance Clean-up Program, which is an increase of $700,000 from the fiscal 2014 appropriation but is level with the 2013 CIP amount programmed for fiscal 2015. Of the $1.0 million in fiscal 2015 proposed funding, $300,000 would continue the site assessment activities and $700,000 would be used for clean-ups at six sites, including the Morris Mill project, which is also receiving funding under the Water Supply Financial Assistance Program. Of note, MDE indicates that it does not have sufficient resources to monitor the financial condition of program responsible parties on a regular basis. **The Department of Legislative Services (DLS) recommends that MDE comment on the operating costs versus the potential savings of seeking more resources to monitor the financial condition of program responsible parties.**

- **Mining Remediation Program** – The Mining Remediation Program is a new addition to MDE's capital program for fiscal 2015 and was not included in the 2013 CIP. The program is programmed for $500,000 in GO bonds each year from fiscal 2015 through 2019. MDE is requesting funding for the program because federal funding from the U.S. Department of the Interior – Office of Surface Mining is used primarily for priority public health and safety projects, such as landslides and subsidence, while State funding could be used for the environmental remediation of acid mine drainage affecting the health of Western Maryland streams. The federal funding was $2,847,000 in fiscal 2013, as a result of the sequester reducing funding from the $3,000,000 mandated level, and is anticipated to be $2,750,000 to $3,000,000 in fiscal 2014 and 2015, respectively. State funding will provide a stable source of funding since the federal funding is prioritized for public health and safety projects and will allow the federal funding to be used for the purchase of treatment materials, equipment, and labor for the operation of 50 existing acid mine drainage treatment systems. MDE notes that since its inception in 1982, the Maryland Abandoned Mine Lands Program has completed 250 projects totaling $37 million in construction funding, primarily from federal grants. Projects addressed include landslide stabilization, public waterline extensions, mine subsidence control, coal refuse fires, reclaiming surface mine high walls and pits, sealing of deep mine entries, well replacement, flood controls, and coal refuse pile stabilization. In total, these projects have reclaimed 2,260 acres. Federal grant funding from the EPA directed toward environmental restoration, the focus of the Mining Remediation Program, has allowed for the construction of 50 acid mine drainage treatment systems, which have restored or improved 90 miles of streams. The operation and maintenance costs of these treatment systems (purchase of treatment chemicals, equipment, and labor) are approximately $500,000 annually. Of the $500,000 in annual operation and maintenance costs, $321,000 is for the stream quality improvements in the North Branch Potomac. **DLS recommends that MDE comment on how it will fund the purchase of treatment materials, equipment, and labor for the operation of acid mine drainage treatment systems when the federal funding ends at the end of federal fiscal 2021.**

- **Maryland Water Quality Revolving Loan Fund** – MDE's fiscal 2015 allowance is even with the fiscal 2014 appropriation, although it reflects an increase of $20.0 million relative to the 2013 CIP due to an increase in the federal capitalization amount, which requires a greater match. The federal capitalization amount increased because the final budget was a continuing resolution as opposed to President Barack H. Obama's proposed budget. In addition, MDE is requesting an increase in the revolving special fund appropriation. MDE's plan to encumber $201.0 million in fiscal 2014 is estimated to leave a $5.8 million balance at the end of fiscal 2014. The fiscal 2015 allowance includes $91.3 million in special funds, $32.3 million in federal funds, and $6.5 million in GO bonds used for the 20% match to the federal funds. MDE indicates that it anticipates future federal allocations to be lower, which is reflected in the 2014 CIP as $18.0 million per year through fiscal 2019. MDE notes that if demand for funding exceeds $200.0 million, then it may consider issuing revenue bonds.

- **Maryland Drinking Water Revolving Loan Fund** – The DWRLF allowance for fiscal 2015 is even with the fiscal 2014 appropriation and is even with the overall 2013 CIP amount, although there are fund split changes. For fiscal 2015, the federal fund appropriation is slightly lower than projected for fiscal 2015, which requires a slightly lower GO bond match as well. However, MDE's fiscal 2015 special fund appropriation increases to compensate for the reductions in the other fund sources. The fiscal 2015 allowance includes $10.4 million in special funds, $9.0 million in federal funds, and $2.6 million in GO bond authorization used as matching funding. The 2011 U.S. EPA National Drinking Water Needs Survey has been published, and it indicates Maryland's need is increasing, which means Maryland's federal capitalization allocation will increase from 1.55 to 1.70% in fiscal 2016. MDE attributes the increase in need to new drinking water treatment rules and aging infrastructure and also Maryland's utilities being diligent in completing the needs survey. The 2014 CIP reflects this increased allocation but also accounts for a smaller base amount projected for the out-years, and so the overall federal allocation is not expected to change. MDE indicates that it did not request the 4% federal "non-project set aside" funding for fiscal 2015 since it has sufficient funding from a prior federal authorization. There are two large projects in fiscal 2015: $6.7 million for the Annapolis Water Treatment Plant replacement, the final State funding for the project; and $6.0 million for the Druid Lake tanks replacement. Legislation has been introduced in the 2014 legislative session – SB 101 (Environment – Drinking Water Revolving Loan Fund – Use of Funds) to allow the DWRLF monies to be used for all the federal permitted uses: grant, loan forgiveness, and negative interest rate.

- **Septic System Upgrade Program** – There is no change in the $15.0 million special fund appropriation for the Septic System Upgrade Program. The program anticipates upgrading 1,200 systems.

- **Supplemental Assistance Program** – The Supplemental Assistance Program funding for fiscal 2015 of $5.3 million in GO bonds reflects a decrease of $611,000 relative to fiscal 2014; however, this is partially due to a fiscal 2014 one-time appropriation of $550,000 to provide a grant to Talbot County for the design and construction of sewer system infrastructure to support the Shore Health System Regional Medical Center. MDE notes that this project is on hold because the medical center is on hold. The fiscal 2015 allowance is $314,000 greater

than the amount projected in the 2013 CIP in order to fully fund five projects addressing public health and compliance issues as opposed to split-funding the projects.

- **Bay Restoration Fund – Wastewater Projects** – Funding for BRF – Wastewater Projects decreases by $7.0 million in special funds relative to fiscal 2014 but increases by the same amount relative to the 2013 CIP. The increase relative to the 2013 CIP is due to additional fee revenue being available as a result of BRF revenue bond issuance postponements and, thus, reduced debt service costs. MDE's current plan is to issue revenue bonds in the amount of $90.0 million in fiscal 2014, $140.0 million in fiscal 2015, $140.0 million in fiscal 2016, $80.0 million in fiscal 2017, and $30.0 million in fiscal 2018 for a total issuance of $530.0 million, including $50.0 million issued in fiscal 2008, in order to fund the $1.296 billion cost of upgrading the 67 major WWTPs to ENR technology. For fiscal 2015, $1.0 million in planning funding is programmed for five major-minor upgrades – facilities with a design capacity of less than 500,000 gallons per day: Twin Cities, Betterton, Smithsburg, Galena, and the Eastern Correctional Facility, which is operated by the Maryland Environmental Service. The Maryland Environmental Service has been apprised of the possible upgrade funding and has submitted preliminary planning documents. MDE indicates that these WWTPs were chosen based on project status and ongoing discussions with the towns. A multi-year allocation plan is being developed. Starting in fiscal 2018, the fee increase legislation – Chapter 150 of 2012 – establishes additional authorized uses including septic upgrade and stormwater remediation projects. For projection purposes, MDE is allocating funding for septic upgrade and stormwater remediation projects as provided for in Chapter 150 at $25.0 million each in fiscal 2018 and then $20.0 million each for fiscal 2019 and 2020.

- **Biological Nutrient Removal** – The BNR Program decreases by $8.0 million in GO bonds relative to the fiscal 2014 authorization but is even with the amount projected in the 2013 CIP. Out-year funding increases relative to the 2013 CIP. MDE notes that this is due to the estimate for the State's share of the Back River WWTP BNR upgrade increasing from $68.0 million to $140.0 million and the need to provide funding for the upgrade of the major-minors to BNR technology at approximately $10.0 million per year. The Back River upgrade cost has increased due to more refined information about engineering requirements for this large WWTP. The future request for the Back River upgrade is estimated to be $74.4 million.

State Highway Administration – WIP Efforts

As part of the State's WIP efforts to meet the TMDL limitations imposed by the U.S. EPA on the amount of nitrogen, phosphorus, and sediments entering waters that drain to the Chesapeake Bay, the State Highway Administration (SHA) is implementing strategies to reduce the effect of runoff from impervious portions of the State's highway system. These strategies include structural and nonstructural best management practices, environmentally sensitive designs, stream and wetland restoration, and afforestation. The total cost of the SHA WIP program is estimated in the 2014 to 2019 CTP to be $582.5 million including $72.1 million expended prior to fiscal 2015. **Exhibit 11** shows the sources and uses of the programmed funding.

Exhibit 11
SHA Watershed Implementation Plan
Fiscal 2015-2019
($ in Thousands)

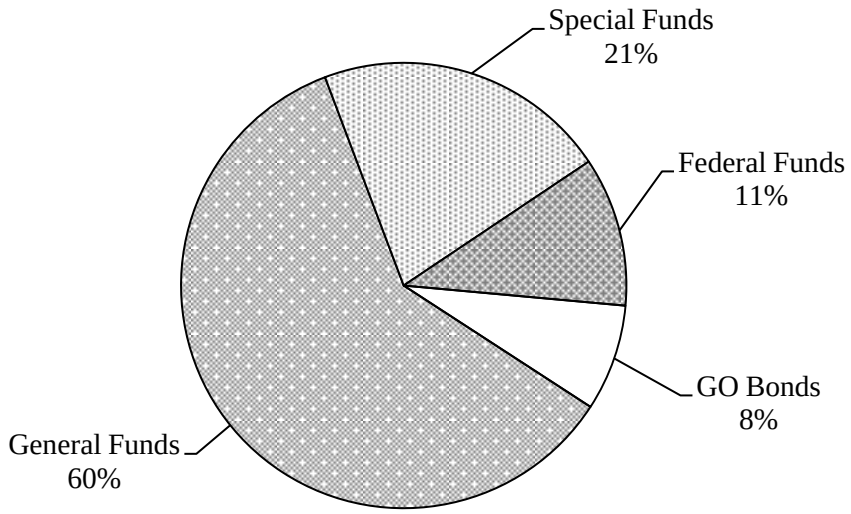
	Prior Auth.	2015	2016	2017	2018	2019	Total
Source							
General Funds	$0	$0	$65,000	$85,000	$100,000	$100,000	$350,000
Special Funds	25,306	25,200	21,800	20,800	23,000	8,300	124,406
Federal Funds	46,794	10,000	5,000	1,000	300	0	63,094
GO Bonds	0	45,000	0	0	0	0	45,000
Total	**$72,100**	**$80,200**	**$91,800**	**$106,800**	**$123,300**	**$108,300**	**$582,500**
Use							
Engineering	$15,200	$7,200	$6,500	$4,500	$4,500	$4,500	$42,400
Construction	56,900	73,000	85,300	102,300	118,800	103,800	540,100
Total	**$72,100**	**$80,200**	**$91,800**	**$106,800**	**$123,300**	**$108,300**	**$582,500**

GO: general obligation
SHA: State Highway Administration

Source: Maryland Department of Transportation; 2014-2019 *Consolidated Transportation Program;* 2014 *Capital Improvement Program*

As shown in **Exhibit 12**, general funds comprise the largest share of the projected fund sources accounting for 60% of the planned funding followed by special funds (21%), federal funds (11%), and general obligation bonds (8%).

Exhibit 12
SHA Watershed Implementation Plan
Total Program Funding Sources



GO: general obligation
SHA: State Highway Administration

Source: Maryland Department of Transportation; 2014-2019 *Consolidated Transportation Program*

The GO bond funding included in fiscal 2015 and the general funds programmed for fiscal 2016 though 2019 satisfy the requirement under the Transportation Infrastructure Investment Act of 2013 (Chapter 429) that the Governor include appropriations in either the operating or capital budgets totaling $395 million for SHA to use to comply with the WIP. Although the CIP programs the use of general funds, the original intent was to utilize GO bonds.

Issues

1. Bay Restoration Fund Use for Non-Major Wastewater Treatment Plants

One of the allowed uses of the BRF is to upgrade major-minor WWTPs – facilities with a design capacity of less than 500,000 gallons per day – as long as the focus of the upgrade funding is first on the major WWTPs. As the 67 major WWTPs near completion, the Administration has begun to look at a ranking process for upgrading the major-minors. The BRF Advisory Committee's January 2014 status report indicates that the goal is to complete the upgrade of at least five minor plants before fiscal 2017, which is consistent with Maryland's Phase II WIP. In addition, the report notes that additional minor plants will need to be upgraded after fiscal 2017 to meet the final fiscal 2025 target. As of the time of report, two minors had completed the ENR upgrade, two were under construction, three were under design, and three were in the planning stage.

The overall ENR project selection ranking sheet for minor facilities includes the following selection criteria: readiness to proceed, load reduction, unit cost, TMDL (WIP team rating), consent order status, and smart growth criteria. MDE notes that the selection criteria have been used to determine the final priority list of major-minor facility upgrades. In addition, it has been determined that major-minors that receive BRF funding must agree that the nutrient load reductions generated belong to MDE for assisting the State to meet its load reduction under the Chesapeake Bay TMDL. However, as noted in the BRF Advisory Committee's annual report, MDE still needs to work on a system to prioritize future BRF funding to the different sectors – major-minors, septic systems, and stormwater – by fiscal 2018.

For fiscal 2015, $1.0 million in planning funding is programmed for five major-minor upgrades: Twin Cities, Betterton, Smithsburg, Galena, and the Eastern Correctional Facility. As noted above, MDE indicates that these WWTPs were chosen based on project status and ongoing discussions with the towns and that a multi-year allocation plan is still being developed. **Exhibit 13** reflects the current ranking for the top 12 plants, which includes the five plants to be funded in fiscal 2015, but only reflects point-in-time information as of September 26, 2013, and thus does not account for the current status of major-minor upgrades reflected in the BRF Advisory Committee's January 2014 status report. The full list of major-minors is reflected in **Appendix 1** of this analysis.

The targeted major-minors account for 11.8 millions of gallons used per day, and if upgraded in full, amount to an estimated 504,932 pounds of total nitrogen reduced per year after upgrade, and an estimated total cost of $269.9 million for both BNR and ENR upgrades. The Phase II WIP reflects an overall cost of upgrading five major-minors of $62.0 million, and the 2014 CIP includes $40.0 million in fiscal 2017 for the upgrade of major-minors. For comparison purposes, the WWTP sector is programmed to reduce nitrogen by 1.78 million pounds between calendar 2012 and 2025. Therefore, upgrading all of the targeted major-minor facilities would equate to 28% of the projected load reduction that is already programmed to be attained by upgrading the major WWTPs to ENR technology. **DLS recommends that MDE comment on what decision criteria it intends to use to determine the allocation of BRF funding to the different sectors – major-minors, septic systems, and stormwater – by fiscal 2018.**

Exhibit 13
Targeted Major-Minor WWTP Facilities and Permitted Flow
September 26, 2013

Rank	County	Facility Name	Status	ENR Funded Highest Permitted Flow (MGD)	TN Reduction (Pounds/Year)	Est. BNR and ENR Cost ($ in Millions)	Cost Per Pound Over 20 Years
1	Cecil	Rising Sun WWTP	Construction	0.500	21,309	$6.00	$14.08
2	Caroline	Greensboro WWTP	Design	0.280	11,933	3.69	15.46
3	Washington	Boonsboro WWTP	Operation	0.530	22,951	6.00	13.07
4	Dorchester	Twin Cities WWTP	Planning	0.281	11,975	5.00	20.88
5	Kent	Worton – Butlertown WWTP	Operation	0.250	10,654	5.00	23.47
6	Kent	Betteron WWTP	Design	0.200	9,624	4.00	20.78
7	Kent	Rock Hall WWTP	Waiting	0.480	20,456	6.00	14.67
8	Queen Anne's	Sudlersville WWTP	Design	0.200	8,523	2.17	12.73
9	Washington	Smithsburg WWTP	Pre-planning	0.333	14,192	6.00	21.14
10	Kent	Galena WWTP	Planning	0.080	3,409	5.00	73.34
11	Queen Anne's	Queenstown WWTP	Design	0.085	3,622	2.02	27.89
12	Somerset	Eastern Correctional Institute	Planning	0.720	33,362	6.00	8.99

BNR: biological nutrient removal
ENR: enhanced nutrient removal
MGD: millions of gallons used per day
TN: total nitrogen
WWTP: wastewater treatment plant

Source: Bay Restoration Fund Advisory Committee

2. State Revolving Loan Fund Leveraging

Chapter 151 of 2012 required the 10 large jurisdictions with stormwater permits to establish a local stormwater remediation fee to assist in financing the implementation of the stormwater-related targets under the Chesapeake Bay TMDL. As shown in **Exhibit 14**, the overall stormwater costs of $2,073.6 million are estimated to exceed the revenues by $368.2 million over fiscal 2014 to 2018.

Exhibit 14
Projections of Stormwater Management Revenues and Costs
($ in Millions)

Jurisdiction	Fee Revenues	Bond Revenues	Other Revenues	Total Revenues	Fiscal 2014-2018 Projected Costs	Surplus/Deficit
Anne Arundel	$110.2	$292.5	n/a	$402.7	$402.7	$0.0
Baltimore City	129.2	103.8	n/a	233.0	228.5	4.5
Baltimore	121.5	n/a	$50.0	171.5	167.0	4.5
Carroll	n/a	n/a	23.0	23.0	34.1	-11.1
Charles	7.4	31.7	3.6	42.7	47.4	-4.7
Frederick	0.0	n/a	22.4	22.4	112.0	-89.6
Harford	43.1	n/a	n/a	43.1	90.0	-46.9
Howard	54.4	n/a	43.2	97.6	210.0	-112.4
Montgomery	147.3	120.0	6.2	273.4	332.9	-59.5
Prince George's	58.0	338.0	n/a	396.0	449.0	-53.0
Total	**$671.0**	**$886.0**	**$148.4**	**$1,705.4**	**$2,073.6**	**-$368.2**

Source: Department of Legislative Services

In addition to providing below market rate interest loans using fund equity and reserve bonds, MDE has indicated that, if necessary, it will use its authority under Environment Article Section 9-1605(d)(3) to reduce the borrowing costs of local governments through the WQRLF guarantee. MDE will set aside a certain amount of WQRLF loan repayments for use as a guarantee or insurance pool for local government stormwater remediation bond issuances in order to improve local government bond ratings when they go to the market. If a local government is unable to cover the debt service costs, and it has signed a reimbursement agreement with MDE, then MDE will provide money from the guarantee or insurance pool, which otherwise is earning interest, to the local government. This money may be provided free of cost if the local government repays its obligation

within a short period of time (on the order of 60 days) but could be structured as an interest bearing loan if a longer repayment period becomes necessary.

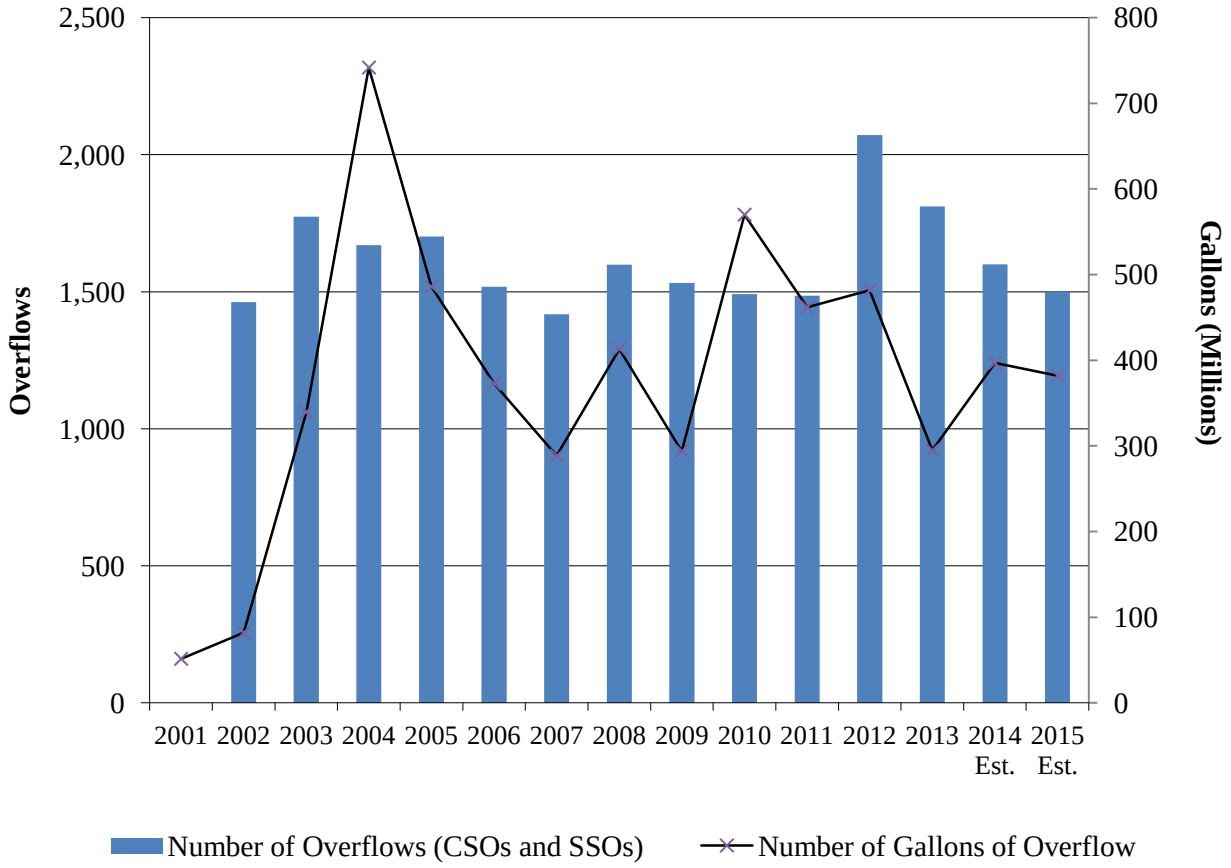
The amount to be set aside for the guarantee or insurance pool has yet to be determined and will depend on local government interest. In addition, MDE's stormwater financing policy will be to offer below-market interest rate loans, first using equity, then issue revenue bonds to enhance funding capacity if there is sufficient interest and demand, and finally to provide the loan guarantees, in particular in instances where the local debt issuance is structured for a period of longer than 20 years, which is the current program limit. **DLS recommends that MDE comment on the amount of funding it would set aside for the guarantee or insurance pool, the expected value to local governments that this insurance pool would provide, and an estimate of the reduction in the stormwater remediation shortfall that the guarantee or insurance pool would provide.**

3. Combined Sewer Overflows and Sanitary Sewer Overflows

A number of Maryland's jurisdictions have consent decrees, requiring the upgrade of their sewer systems due to the release of untreated sewage from facilities with National Pollutant Discharge Elimination System permits. These releases are called combined sewer overflows (CSO) if a jurisdiction has a single system carrying both storm and sanitary sewer water, and it is called a sanitary sewer overflow (SSO) if the two systems are separated. As illustrated in **Exhibit 15**, the number of sewage overflows and gallons of sewage released decreased between fiscal 2012 and 2013. Over the fiscal 2001-2013 period, it appears very little progress has been made to reduce the number of overflows or gallons of sewage released. MDE has noted previously that funding for sewer rehabilitation and the amount of rainfall will determine future sewer overflow reductions. For instance, while not necessarily reflected in Exhibit 17, MDE notes that predictions about more substantial storms due to global warming have led to higher overflow estimates for future years.

MDE notes that the high cost associated with many of the CSO and SSO projects has led to extended schedules in order to make the projects more affordable. Even so, progress toward eventually reducing the total number of overflows dramatically by fiscal 2025 is being made, in terms of construction upgrades, in part due to the approximately $14 million in Supplemental Assistance Program grants, $11 million in BRF grants, and $168 million from the WQRLF provided for CSO and SSO projects over the last 10 years. **Exhibit 16** shows the current consent decree status for eight jurisdictions across the State. **DLS recommends that MDE comment on how the possibility of more severe storms and aging infrastructure will impact CSO and SSO overflows in the State and what can be done proactively to mitigate these impacts. DLS also recommends that MDE comment on what other actions need to be taken to reduce the number of overflows and the gallons of sewage released, given that little progress has been made so far.**

Exhibit 15
CSO and SSO Overflows
Fiscal 2001-2015 Est.



CSO: combined sewer overflow
SSO: sanitary sewer overflow

Note: The number of gallons of overflow is calculated by the annual net change in number of gallons of overflows from the 2003-2005 average to that average.

Source: Governor's Budget Books, Fiscal 2005-2015

Exhibit 16
CSO and SSO Status Update

Community	Status Update
Allegany County	The county is in its ninth year of a 20-year implementation plan with two projects currently under construction.
Cumberland	The city is in its ninth year of a 20-year implementation plan. Two projects are scheduled to go to construction in spring 2014.
Frostburg	The town is in its ninth year of a 20-year implementation plan with one project currently under construction.
LaVale	The town is in its ninth year of a 20-year implementation plan. Two projects are scheduled to go to construction in spring and summer 2014.
Westernport	The town is in its ninth year of a 20-year implementation plan with one project currently under construction.
Baltimore City	The consent decree initiated by the Maryland Department of the Environment (MDE) and the U.S. Environmental Protection Agency (EPA) in April 2002 required the city to complete approximately $1 billion of infrastructure rehabilitation within 15 years. Most of the city's sewer infrastructure issues are related to SSOs. Relatively few combined sewer overflow (CSO) corrections would be needed. To date, the city has completed 27 sanitary sewer overflow (SSO) and CSO projects using MDE funding and more than twice the number of projects using local funds. It is anticipated that the city will meet the consent decree's deadline.
Salisbury	The city has a consent order for SSO. Whereas the city continues to be at risk of overflow events, stipulated penalties will be paid per event per day as required by the consent order and judgment (Civil Action No. C10-0204) entered in court on February 3, 2010. Until Salisbury completes construction to upgrade its wastewater treatment plant (WWTP) headworks and collection system that will significantly reduce SSO, it will pay a stipulated penalty per overflow event. The WWTP headworks upgrade is being completed as part of the enhanced nutrient removal project, which is currently in design.
Cambridge	Cambridge CSO separations project (with all its phases) was completed on November 14, 2012. Cambridge met its consent decree requirement by completing the construction. Post construction monitoring is expected to be completed by July 31, 2014, to ensure the project success based on EPA policy. If the project is determined to be successful, all CSO locations will be eliminated, and Cambridge will no longer be considered a CSO system.

Source: Maryland Department of the Environment

Updates

1. Hazardous Substance Clean-up Program Site Assessments

The fiscal 2015 funding for the Hazardous Substance Clean-up Program includes $300,000 in general funds for site assessments. MDE notes that a complete site assessment may cost anywhere from $50,000 to $300,000 and may be completed over multiple years. Cost assessment costs vary depending on a number of factors as follows: geological complexity of the site, size of the property, number of domestic wells in the area, type of hazardous waste, existing historical data, and geographic location, among other factors.

MDE notes that a number of sites are in the site assessment pipeline in terms of being either completed, continued, or initiated and, thus, funding is needed in fiscal 2015. **Exhibit 17** shows the site assessments being conducted or considered in fiscal 2014.

Exhibit 17
Hazardous Substance Clean-up Program Site Assessments
Fiscal 2014

Site	County	Description	Schedule
Doe Run	Wicomico	It was determined that homes had levels of a banned pesticide in their wells that posed a risk. New wells are being drilled into a deeper clean aquifer to correct the problem since no public water is available.	Undetermined.
Salisbury (Morris Mill)	Wicomico	The extent of contamination and the source were determined, and alternative safe water was provided until a permanent solution (public water) can be provided.	Undetermined. Monitoring to continue until water line is constructed.
Spring Hill (Stebbins Burnham)	Baltimore	The extent of the groundwater contamination was determined, and granulated carbon units were installed in the affected homes until a water line can be extended to the area.	Undetermined.
Elkridge Perchlorethylene	Anne Arundel	A number of homes affected by a chlorinated solvent have been identified, and bottled water or carbon units have been installed. Additional assessment is anticipated if MDE is granted access to remaining properties to conduct well sampling.	Undetermined.
Chemical Metals Industries, Inc.	Baltimore City	The Maryland Department of the Environment (MDE) has been working with the U.S. Environmental Protection Agency (EPA) to conduct a more in-depth investigation at the 2001 Annapolis	Undetermined due to site access issues.

Site	County	Description	Schedule
		Road site so that levels under the homes can be reduced to acceptable levels, eliminating the need and cost to maintain the vapor extraction units. MDE has been unable to gain legal access to the site from the surviving company officer and is now trying a different approach to gain legal access so that a remedial action can be initiated to eliminate the need for continued operation of the sub-slab treatment units. MDE is continuing to monitor the groundwater at 2103 Annapolis Road to see if further treatment is required.	
Jacksonville Perchlorethylene	Baltimore	As an offshoot of the Exxon gasoline spill in Jacksonville, two residential wells were initially discovered with levels of the chlorinated solvent perchlorethylene in excess of EPA's Maximum Contaminant Level. That number has now increased to three properties. MDE has installed carbon filtration units and has been monitoring the situation. MDE has completed some investigative work to identify a source, which appears to be local in nature. Plans to install monitoring wells were delayed after property owners refused to grant access to their properties. Additional monitoring of area wells indicates the plume may be growing, which will require MDE again to pursue the placement of monitoring wells to further delineate the source and direction of flow in the area.	Undetermined at this time.
Ordnance Products	Cecil	Removal activities at the site have been completed, and EPA anticipates the transfer of operation and maintenance for the wellhead treatment systems and the home vapor mitigation system to MDE in the next fiscal year. Future transfer of the operation and maintenance of the Plume 1 and Plume 2 groundwater treatment systems will likely take place 5 to 10 years from now. This is an EPA Superfund site, where the State is responsible for 10% of the cost of design and remediation of this project.	Transfer of operation and maintenance for the wellhead treatment systems and the home vapor mitigation system to MDE next fiscal year.
Fairchild Republic	Washington	This, now bankrupt, company manufactured aircraft on the property now occupied by the Hagerstown Airport and adjacent properties. Remediation of contaminated groundwater was accomplished by a pump and treat system that was turned off in 2004 and never restarted. Since then, Fairchild has gone through bankruptcy leaving no responsible party to assess the groundwater at the site, which could	Undetermined at this time.

Site	County	Description	Schedule
		impact a residential community adjacent to the site. MDE intends to redevelop the existing monitoring wells and, if required, repair or replace the groundwater treatment system.	
Drumco	Anne Arundel	After acquiring the property, additional contamination on this property was discovered that will require remediation. Based on a review of the investigation and purchase details, MDE determined that the current owner is not a responsible person under State guidelines. MDE has completed a survey of the contamination and is trying to determine costs to remove and cap the contaminated portions of the property. Due to the size of the area and no clear idea of future use of the property, this project may require future funding to complete.	MDE's Land Restoration Program anticipates expenditures in fiscal 2013 and 2014.
Lusby Crossroads	Anne Arundel	Pursuant to investigations of the former Annapolis Landfill, groundwater contaminated with trichloroethylene has been discovered in the vicinity of the landfill that appears to be emanating from another off-site source. MDE believes that additional investigation will be necessary to identify the source and possible responsible person for the contamination.	Undetermined at this time.
Taneytown Cleaners	Carroll	Due to the discovery of tetrachloroethylene in the Taneytown municipal well field, MDE believes that an investigation that includes this facility as a possible source should be initiated to determine if it is a contributor to the problem.	Undetermined at this time.
Elite Free State Cleaners	Washington	This former dry cleaning establishment was discovered during a site assessment conducted to examine former dry cleaning facilities that may be impacting drinking water supplies in groundwater use areas. Though it appears that the contamination is localized, the presence of a municipal well field nearby indicates that this possible source should be fully delineated to ensure that it will not affect the drinking water supply wells for the area.	Undetermined at this time.

Source: Maryland Department of the Environment

Exhibit 18 shows the new or continuing site assessments planned for the fiscal 2015 funding of $300,000 in general funds.

Exhibit 18
Hazardous Substance Clean-up Program Site Assessments
Fiscal 2015

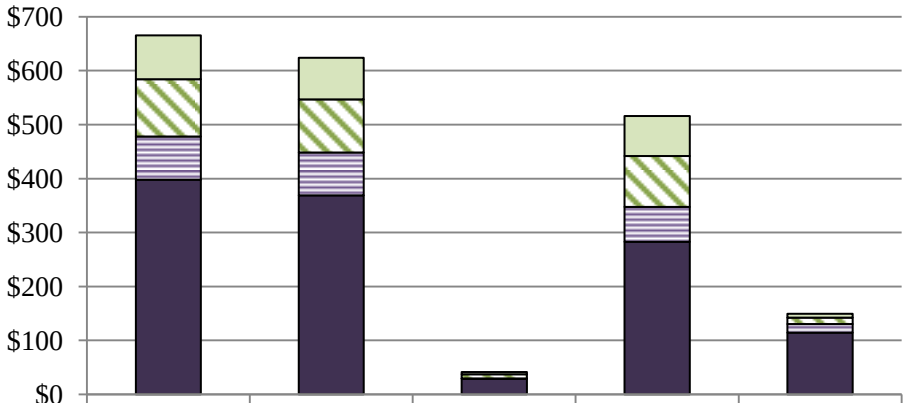
Site	County	Description	Determination
Spring Hill (Stebbins Burnham)	Baltimore	The extent of the groundwater contamination was determined, and granulated carbon units were installed in the affected homes.	It needs further site assessment.
Elkridge Perchlorethylene	Anne Arundel	A number of homes affected by a chlorinated solvent have been identified, and bottled water or carbon units have been installed.	It needs further detail site assessment.
Jacksonville Perchlorethylene	Baltimore	The Maryland Department of the Environment (MDE) discovered two residential wells with levels of the chlorinated solvent perchlorethylene in excess of U.S. Environmental Protection Agency's Maximum Contaminant Level. That number has now increased to three properties. MDE has installed carbon filtration units and has been monitoring the situation. MDE has completed some investigative work to identify a source but further detail assessment needs to occur.	It needs further detail site assessment.
Lusby Crossroads	Anne Arundel	Pursuant to investigations of the former Annapolis Landfill, groundwater contaminated with trichloroethylene has been discovered in the vicinity of the landfill that appears to be emanating from another off-site source. MDE believes that additional investigation will be necessary to identify the source and possible responsible person for the contamination.	A new site assessment needs to take place.
Taneytown Cleaners	Carroll	Due to the discovery of trichloroethylene in the Taneytown municipal well field, MDE believes that an investigation, that includes this facility as a possible source, should be initiated to determine if it is a contributor to the problem.	A new site assessment needs to take place.
Elite Free State Cleaners	Washington	This former dry cleaning establishment was discovered during a site assessment conducted to examine former dry cleaning facilities that may be impacting drinking water supplies in groundwater use areas. Though it appears that the contamination is localized, the presence of a municipal well field nearby indicates that this possible source should be fully delineated to ensure that it will not affect the drinking water supply wells for the area.	A new site assessment needs to take place.

Source: Maryland Department of the Environment

Encumbrances and Expenditures

Exhibit 19 reflects the encumbrance and expenditure levels for the Water Supply Financial Assistance, Supplemental Assistance, Septic System Upgrade, and BNR programs. In general, the exhibit reflects expenditure levels being proportionate to the total authorization for the program. The largest authorization reflected is for the BNR Program, which has $397.7 million authorized. Of this amount, $28.8 million remains to be encumbered, although the department's project list for the current fiscal year reflects full utilization and encumbrance of these funds in fiscal 2014. The $114.6 million that remains to be expended typically reflects the delays in reimbursement requests from local governments that are responsible for project procurement and implementation.

Exhibit 19
Water Supply Financial Assistance, Biological Nutrient Removal, Supplemental Assistance, and Septic System Upgrade Programs
Encumbrances and Expenditures
Program Inception through December 2013
($ in Millions)



	Total Authorized	Encumbered	To Be Encumbered	Expended	To Be Expended
Total	$665.5	$624.0	$41.5	$516.2	$149.3
Water Supply Financial Assistance	$81.3	$77.0	$4.3	$74.5	$6.8
Supplemental Assistance	$106.0	$98.5	$7.5	$94.0	$12.0
Septic System Upgrade	$80.5	$79.6	$0.9	$64.6	$15.9
Biological Nutrient Removal	$397.7	$368.9	$28.8	$283.1	$114.6

Source: Maryland Department of the Environment; Department of Budget and Management Capital Budget Worksheets

Explanations for some of the larger unencumbered or unexpended balances in MDE's programs are as follows.

- **BNR** – MDE indicates that 83% of the encumbered fiscal 2011 to 2013 funds in the BNR program are for the Back River, Patapsco, and Blue Plains WWTP upgrades. Due to the size and cost of these projects, they are multi-year funded projects. In terms of a status update, Blue Plains and Patapsco are under construction while Back River is expected to start construction in fiscal 2015. MDE expects all three projects to meet the WIP 2017 deadline for upgrade of the 67 major WWTPs to BNR and ENR technology.

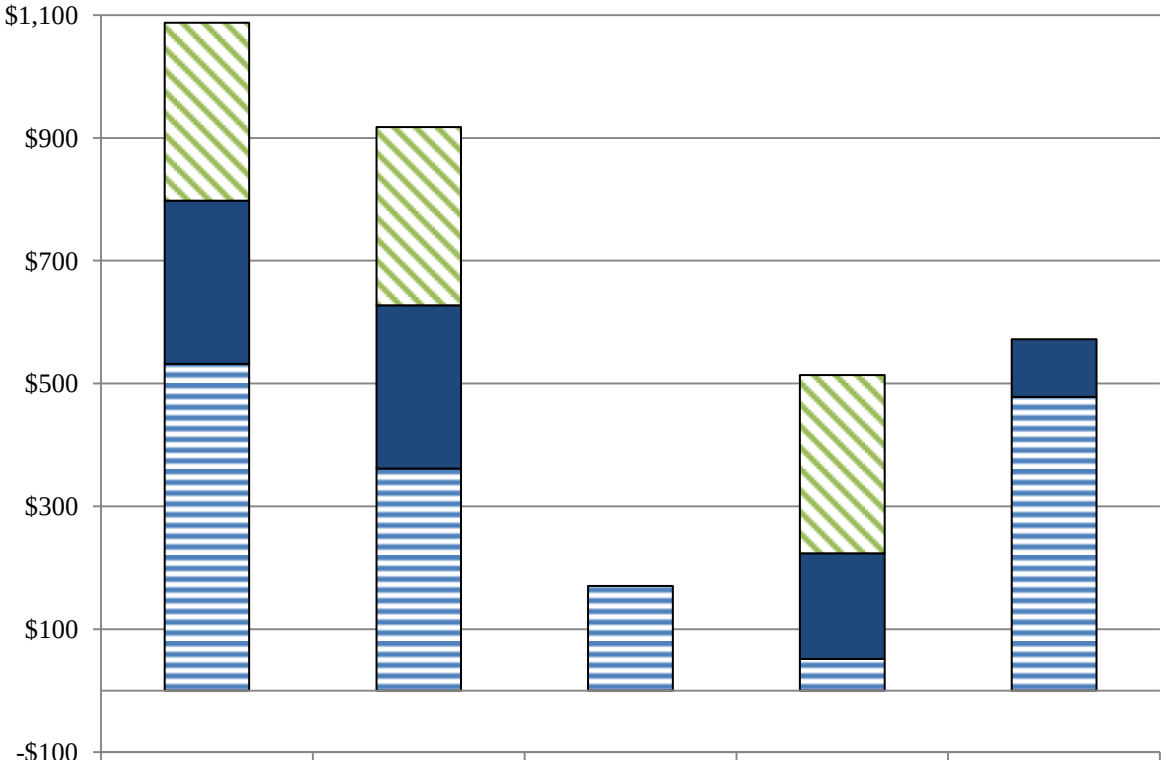
- **Supplemental Assistance Program** – MDE anticipates encumbering the remaining $7.5 million in available funding in fiscal 2014 except for the funding connected to the grant to Talbot County for the design and construction of sewer system infrastructure to support the Shore Health System Regional Medical Center. This project has been delayed, and so funding will not be encumbered for it yet.

- **Water Supply Financial Assistance Program** – For fiscal 2011 funding, $650,000 of the $1,000,000 has been encumbered for the Charles County Water Systems project, and the remainder is anticipated to be encumbered in the second phase of construction proposed to begin in June 2015. Fiscal 2011 funding includes $294,534 to be expended for Salisbury's Milford Street two million gallon elevated water storage tank. Similar to the Supplemental Assistance Program, fiscal 2014 funding for the Shore Health System Regional Medical Center is on hold since the project has been delayed.

- **Hazardous Substance** – The prior year unexpended funding in this program is encumbered for the Ordnance Products EPA Superfund site. For this project, the State is obligated to pay 10% of the design and remediation costs. The State's share of approximately $1.0 million will be expended once EPA requests reimbursement in fiscal 2014. MDE notes that future funding requests may be made for the State's share as EPA completes the project.

Exhibit 20 reflects the encumbrances and expenditures for the BRF – Wastewater Projects. The overall authorization is $1,087.5 million, of which $170.1 million remains to be encumbered, and $572.1 million still remains to be expended. However, the entirety of the amount to be encumbered and the majority of the amount to be expended reflect MDE's authorization of $530.0 million in revenue bonds. MDE's plan is to hold the revenue bond issuances until the very end of the financing period. Since the revenue bonds will require debt service payments once they are issued, that will reduce available cash for reimbursement payments. To date, only $50.0 million in revenue bonds has actually been issued based on cash flow needs for project reimbursements. This $50.0 million issuance generated $51.8 million in revenue, due to a bond premium. Although only $50.0 million of the revenue bond authorization has been issued, MDE reflects the encumbrance or obligation of a portion of the remaining $480.0 million in authorization for projects in anticipation that the revenue bonds will be issued within the next couple of years.

Exhibit 20
Bay Restoration Fund – Wastewater Projects
Encumbrances and Expenditures
Program Inception through December 2013
($ in Millions)



	Total Authorization	Encumbered	To Be Encumbered	Expended	To Be Expended
Total	$1087.5	$917.3	$170.1	$513.6	$572.1
GO Bonds	$290.0	$290.0	$0.0	$290.0	$0.0
Special Funds	$265.7	$265.7	$0.0	$171.9	$93.8
Revenue Bonds	$531.8	$361.6	$170.1	$51.8	$478.2

GO: general obligation

Source: Maryland Department of the Environment

PAYGO Recommended Actions

1. Concur with the Governor's allowance for the Water Quality Revolving Loan Fund special fund appropriation of $91,250,000 and federal fund appropriation of $32,291,000.

2. Concur with the Governor's allowance for the Hazardous Substance Clean-up Program general fund appropriation of $1,000,000.

3. Concur with the Governor's allowance for the Drinking Water Revolving Loan Fund special fund appropriation of $10,370,000 and federal fund appropriation of $9,016,000.

4. Concur with the Governor's allowance for the Bay Restoration Fund – Wastewater special fund appropriation of $81,000,000.

5. Concur with the Governor's allowance for the Bay Restoration Fund – Septic Systems special fund appropriation of $15,000,000.

GO Bond Recommended Actions

1. Approve the $6,459,000 general obligation bond authorization for the Maryland Water Quality Revolving Loan Fund. This funding represents the 20% match to the $32,291,000 in federal funds.

2. Approve the $2,614,000 general obligation bond authorization for the Maryland Drinking Water Revolving Loan Fund. This funding represents the 20% match to the $9,016,000 in federal funds.

3. Approve the $21,200,000 general obligation bond authorization for the Biological Nutrient Removal Program. This funding provides for projects to remove nutrients at publicly owned sewage treatment works.

4. Approve the $5,314,000 general obligation bond authorization for the Supplemental Assistance Program. This funding is used to provide assistance to grant and loan recipients to meet the local share of construction costs.

5. Approve the $4,357,000 general obligation bond authorization for the Water Supply Financial Assistance Program. This funding provides for assistance to State and local government entities to acquire, design, construct, rehabilitate, equip, and improve water supply facilities. In addition, $3,000,000 of the funds is programmed to provide a grant to Fruitland for the design and construction of the Fruitland Water Tower and Drinking Water Distribution System for the Morris Mill Area residents.

6. Approve the $500,000 general obligation bond authorization for the Mining Remediation Program. This funding provides for projects to design, construct, and equip active and passive measures to remediate damage to water quality related to abandoned mining operations.

Appendix 1

Targeted Major-Minor WWTP Facilities and Permitted Flow
September 26, 2013

Rank	County	Facility Name	Status	ENR Funded Highest Permitted Flow (MGD)	TN Reduction (Pounds/Year)	Est. BNR and ENR Cost ($ in Millions)	Cost Per Pound Over 20 Years
1	Cecil	Rising Sun WWTP	Construction	0.500	21,309	$6.00	$14.08
2	Caroline	Greensboro WWTP	Design	0.280	11,933	3.69	15.46
3	Washington	Boonsboro WWTP	Operation	0.530	22,951	6.00	13.07
4	Dorchester	Twin Cities WWTP	Planning	0.281	11,975	5.00	20.88
5	Kent	Worton - Butlertown WWTP	Operation	0.250	10,654	5.00	23.47
6	Kent	Betteron WWTP	Design	0.200	9,624	4.00	20.78
7	Kent	Rock Hall WWTP	Waiting	0.480	20,456	6.00	14.67
8	Queen Anne's	Sudlersville WWTP	Design	0.200	8,523	2.17	12.73
9	Washington	Smithsburg WWTP	Pre-planning	0.333	14,192	6.00	21.14
10	Kent	Galena WWTP	Planning	0.080	3,409	5.00	73.34
11	Queen Anne's	Queenstown WWTP	Design	0.085	3,622	2.02	27.89
12	Somerset	Eastern Correctional Institute	Planning	0.720	33,362	6.00	8.99
13	Washington	Hancock Wastewater Lagoon	Waiting	0.380	16,195	6.00	18.52
14	Wicomico	Sharptown WWTP	Waiting	0.150	6,393	5.00	39.11

Rank	County	Facility Name	Status	ENR Funded Highest Permitted Flow (MGD)	TN Reduction (Pounds/Year)	Est. BNR and ENR Cost ($ in Millions)	Cost Per Pound Over 20 Years
15	Carroll	Manchester WWTP	Waiting	0.500	21,309	6.00	14.08
16	Cecil	Cherry Hill WWTP	Waiting	0.250	10,654	5.00	23.47
17	Cecil	Port Deposit WWTP	Waiting	0.700	32,266	6.00	9.30
18	Frederick	Myersville WWTP	Waiting	0.300	12,785	6.00	23.46
19	Frederick	Middletown East WWTP	Waiting	0.250	10,654	5.00	23.47
20	Frederick	Middletown WWTP	Waiting	0.250	10,654	5.00	23.47
21	Kent	Tolchester WWTP	Waiting	0.265	11,294	5.00	22.14
22	Allegany	Rawlings (if it becomes public)	Pre-planning	0.143	6,094	5.00	41.02
23	Caroline	Ridgely WWTP	Waiting	0.200	8,523	5.00	29.33
24	Carroll	Union Bridge WWTP	Waiting	0.200	8,523	5.00	29.33
25	Frederick	Jefferson WWTP	Waiting	0.300	12,785	6.00	23.46
26	Frederick	Woodsboro WWTP	Waiting	0.250	10,654	5.00	23.47
27	Frederick	New Market WWTP	Waiting	0.240	10,228	5.00	24.44
28	Frederick	Point of Rocks WWTP	Waiting	0.230	9,802	5.00	25.50
29	Frederick	Monrovia WWTP	Waiting	0.200	8,523	5.00	29.33
30	Talbot	Trappe WWTP	Waiting	0.200	8,523	5.00	29.33
31	Washington	Antietam WWTP	Waiting	0.163	6,947	5.00	35.99
32	Dorchester	Vienna WWTP	Waiting	0.137	5,839	5.00	42.82

Rank	County	Facility Name	Status	ENR Funded Highest Permitted Flow (MGD)	TN Reduction (Pounds/Year)	Est. BNR and ENR Cost ($ in Millions)	Cost Per Pound Over 20 Years
33	Frederick	Fountaindale WWTP	Waiting	0.200	8,523	5.00	29.33
34	Washington	Clear Spring WWTP	Waiting	0.200	8,523	5.00	29.33
35	Washington	Funkstown WWTP	Waiting	0.200	8,523	5.00	29.33
36	Wicomico	Willards WWTP	Waiting	0.200	8,523	5.00	29.33
37	Wicomico	Pittsville WWTP	Waiting	0.115	4,901	5.00	51.01
38	Queen Anne's	Millington WWTP	Waiting	0.140	5,966	5.00	41.90
39	Caroline	Preston WWTP	Waiting	0.115	4,901	5.00	51.01
40	Carroll	New Windsor WWTP	Waiting	0.115	1,400	3.00	107.14
41	Cecil	Cecilton WWTP	Waiting	0.100	4,262	5.00	58.66
42	Frederick	Mill Bottom WWTP	Waiting	0.100	4,262	5.00	58.66
43	Frederick	Pleasant Branch WWTP	Waiting	0.100	4,262	5.00	58.66
44	Somerset	Ewell WWTP	Waiting	0.065	2,770	5.00	90.25
45	Talbot	Oxford WWTP	Waiting	0.150	6,393	5.00	39.11
46	Talbot	Talbot County Region V WWTP	Waiting	0.150	6,393	5.00	39.11
47	Wicomico	Hebron WWTP	Waiting	0.101	4,304	5.00	58.09
48	Queen Anne's	Church Hill WWTP	Waiting	0.080	3,409	5.00	73.34
49	Allegany	Flintstone WWTP	Waiting	0.045	1,918	5.00	130.34
50	Cecil	Chesapeake City South WWTP	Waiting	0.088	3,750	5.00	66.67

Rank	County	Facility Name	Status	ENR Funded Highest Permitted Flow (MGD)	TN Reduction (Pounds/Year)	Est. BNR and ENR Cost ($ in Millions)	Cost Per Pound Over 20 Years
51	Cecil	Chesapeake City North WWTP	Waiting	0.075	3,196	5.00	78.22
52	Somerset	Fairmount WWTP	Waiting	0.040	1,705	5.00	146.63
53	Cecil	Elk Neck State Park	Waiting	0.060	2,557	5.00	97.77
54	St. Mary's	Point Lookout State Park WWTP	Waiting	0.090	3,836	5.00	65.17
Total				**11.776**	**504,932**	**$269.88**	

BNR: biological nutrient removal
ENR: enhanced nutrient removal
MGD: millions of gallons used per day
TN: total nitrogen
WWTP: wastewater treatment plant

Source: Bay Restoration Fund Advisory Committee