



## **Bay Restoration Fund Advisory Committee**

**Robert M. Summers, Ph.D., Acting Chairman**

## **Annual Status Report June 2010**

**Report to:**

**Governor Martin O'Malley**

**The President of the Senate**

**The Speaker of the House**

**The Senate Education, Health, and Environmental Affairs Committee**

**The Senate Budget and Taxation Committee**

**The House Environmental Matters Committee**

**The House Appropriations Committee**

## Bay Restoration Fund Advisory Committee Members

Committee Members	Affiliation
Robert M. Summers, PhD	Maryland Department of the Environment
Delegate Barbara Frush	Maryland House of Delegates
James L. Hearn	Washington Suburban Sanitary Commission
Gregory B. Murray	Washington County
Jenn Aiosa	Chesapeake Bay Foundation
Beverly Stinson, PhD	AECOM
William P. Ball, Ph.D.	Johns Hopkins University
Mayor Don William Bradley	Town of Hurlock
Jeff Horan	Maryland Department of Natural Resources
Wayne Green	Office of Comptroller of Maryland
John Leocha	Maryland Department of Planning
Norman Astle	Maryland Department of Agriculture
Kerry Topovski	Anne Arundel County Department of Health

## **PURPOSE OF THIS REPORT**

Section 1605.2 of Chapter 9 of Environment Article requires that beginning January 2006, and every year thereafter, the Bay Restoration Fund (BRF) Advisory Committee must provide an update to the Governor and the General Assembly on the implementation of the BRF program, and report on its findings and recommendations.

## **EXECUTIVE SUMMARY**

The Bay Restoration Fund Advisory Committee is pleased to present to Governor Martin O'Malley and the Maryland Legislature, its fifth annual Legislative Update Report. Great strides have been made in implementing this historic Bay Restoration Fund, but many challenges remain as we continue with the multi-year task of upgrading the State's wastewater treatment plants and onsite sewage disposal systems and the planting of cover crops to reduce nitrogen and phosphorus pollution in Chesapeake Bay.

### **Accomplishments**

- As of September 30, 2009, the Comptroller of Maryland has deposited \$241.95 million in the Maryland Department of the Environment Wastewater Treatment Plant fund, \$31.02 million in the Maryland Department of Environment Septic Systems Upgrade fund, and \$20.72 million in the Maryland Department of Agriculture Cover Crop Program fund.
- Enhanced Nutrient Removal (ENR) upgrades of the State's major sewage treatment plants are currently underway. Upgrades to 10 facilities have been completed and are in operation. Upgrades to 10 other facilities are under construction, 25 are in design, and 14 are in planning. MDE is continuing to work to bring the remaining seven major systems into the program by urging the facilities to proceed with the ENR upgrade and/or by adding nutrient loading limits and compliance schedules in the discharge permits.
- MDE conducted an intense campaign to promote septic system upgrades. This campaign included radio commercials featuring the Governor and a direct mail-out to the 51,000 septic system owners in the Critical Area. Through this effort over 1,300 septic systems were upgraded through the BRF in 2009 compared to 350 in 2008. As of December 31, 2009, 1,998 septic systems had been upgraded through the BRF. The 1,998 upgraded septic systems result in a decrease of approximately 29,970 pounds of nitrogen per year that would have been discharged to the waters of the State. During the last quarter of 2008, MDE received an average of 150 applications per month. From March through June of 2009, the Department averaged over 400 direct applications per month.
- The Department simplified the process whereby a homeowner selects a vendor/contractor for upgrading a septic system to remove nitrogen through the BRF. Homeowners now have the option of selecting one of two preselected fixed cost vendors.
- The Maryland Department of Agriculture dedicates its portion of BRF funds for the implementation of the statewide Cover Crop Program. In FY2010, farmers applied for 330,500 acres, 72% of Maryland's Chesapeake Bay Program 2-year Milestone goal. MDA's portion of funds projected from BRF annually for cover crops support approximately 120,000 acres in the program. Additional funding was made available from the 2010 Chesapeake Bay Trust Fund in 2009 to support increased

level of participation. Cover crops are planted in the fall to tie up nitrogen remaining from the previous crop. They are recognized as the State's single most cost effective best management practice (BMP) available to control nitrogen movement to groundwater and subsequently the Bay. Cover crops also prevent soil erosion and improve soil quality.

- The Maryland Department of Agriculture contracted with the University of Baltimore, Schaeffer Policy Center in 2009 to conduct a survey to evaluate the Cover Crop Program and determine if program modifications could improve performance and farmer participation. Farmers were supportive of current program requirements. The most often cited concerns for inability to carry out contracts and maximize acreage planting related to time available in the fall and labor capacity to get the work done. As a result of the survey, MDA made modifications to the 2010 program to increase flexibility to allow farmers until the spring to designate which acres will be harvested and provide farmers the option of receiving a partial payment in the fall.
- MDE and Maryland Department of Planning (MDP) are continuing their efforts to implement the requirements of House Bill 893, which was passed in the 2006 session and requires MDE and MDP, in consultation with local governments to report on the impact that an ENR upgraded wastewater treatment plant has on growth in the jurisdiction it serves. As part of this report, MDE and MDP evaluated the impact during 2008 as required by the legislation.

### **Challenges**

- Wastewater treatment plant construction costs on recently opened bids are significantly higher than the original pre-planning level estimates. As a result the total capital cost for the ENR Upgrades is likely to be higher than the \$750 million to \$1 billion range estimated at the time of legislation. These estimates were made as an order of magnitude estimate prior to the passage of the Bay Restoration Fund legislation and before the performance of any detailed engineering analyses at any of the facilities. Based on the estimated revenue projections and bond issuance, it is estimated the current fee schedule (\$30/year) can help finance approximately \$880 million in ENR upgrades by 2018. The current ENR capital cost is estimated at \$1.540 billion leaving a potential deficit of \$660 million. The funding gap is expected to begin in 2012. The Committee is considering five options. As an initial step to eliminate the funding shortfall, the Committee supports MDE in seeking statutory changes that allow the Bay fees to make debt service payment on bonds issued by local governments (for ENR eligible cost) that have a term of up to 30 years. The Committee will be evaluating all the options and will provide recommendations to fully close the funding gap as part of the next annual report.
- Advanced septic systems that remove nitrogen require electricity and have moving parts that require regular maintenance. MDE has evaluated the electrical use of the different advanced systems and can now provide property owners with more complete information. The EPA strongly recommends that management systems be in place to ensure the long-term performance of advanced septic systems. The BRF has no provisions for ongoing management of nitrogen reducing septic systems.
- The Department enters into contracts to upgrade septic systems directly with the property owner and upon completion of the upgrade pays the property owner. In a small minority of cases either the Comptroller has withheld payment due to back taxes or the property owner has failed to pay the contractor. This has resulted in some vendor complaints. To this point, MDE has only issued grant money directly to the homeowner, not the contractor. However, after some consideration, the Department has revised its policy about direct payments. Beginning with applications approved on or after January 3, 2010, the Department will ask homeowners to authorize payment directly to the

vendor. Once the homeowner has indicated that the work has completed to satisfaction, MDE will issue the amount of the grant to the contractor.

## **Conclusions**

- The implementation of the Bay Restoration Fund program is proceeding in the right direction at a good pace, which is expected to further improve in the upcoming years.
- With the development and implementation of the BayStat process MDE has improved its benchmarks and tracking of implementation efforts to ensure that projects remain on schedule.
- The funding gap for wastewater treatment plant upgrades is expected to begin in 2012. The Committee will be evaluating all the options and provide recommendations to fully close the funding gap as part of the next annual report.
- There has been a significant response to the State's outreach campaign for the BRF septic system program that significantly increased the number of septic systems upgraded, the number of applicants to the program, and created a waiting list which necessitated prioritizing grants from the Fund. The demand on the Fund to cover the costs of the new technology required for systems in the Critical Area is particularly high due to legislation passed last year that requires all new and replacement systems in the Critical Area to be upgraded. While MDE anticipates that funding will be available for the required upgrades for failing systems in the Critical Area, funding will not likely be available for the construction of new homes in the Critical Area.

## **Programs and Administrative Functions**

### **Comptroller's Office:**

The role of the Comptroller of Maryland (CoM) is to act as the collection agent for the Bay Restoration Fund (BRF) and make distributions to the Maryland Department of the Environment (MDE) and the Maryland Department of Agriculture (MDA) as required.

In the third year of administering the BRF, the CoM began the compliance phase of the fee administration. The law specifies that the BRF shall be administered under the same provisions allocable to administering the sales and use tax. Granted that authority, the CoM began the audit process for both filers and non-filers of BRF quarterly reports.

For non-filers, CoM has begun contacting the billing authorities and users who have failed to file or pay the BRF and is obtaining sufficient documentation to make an assessment and begin collection activity. Federal government billing authorities and users have to date refused to participate in the BRF process. MDE secured an agreement with several defense organizations having wastewater treatment plants to upgrade their systems over a defined period of time and they were then exempted from the BRF by MDE. A copy of the agreement was provided by MDE to CoM, and those BRF accounts were subsequently placed on inactive status. The CoM has begun to audit billing authorities who are not collecting the BRF from federal agencies and will make assessments as appropriate against those billing authorities for those uncollected fees.

Additionally, the CoM is working with MDE to obtain historical flow data from billing authorities and users, which will be compared to returns filed by billing authorities and users to ensure accurate BRF returns have been filed and paid.

### **Maryland Department of the Environment:**

Three units within the Maryland Department of the Environment (MDE) are involved in the implementation of the Bay Restoration Fund.

#### ***I. Maryland Water Quality Financing Administration:***

The Maryland Water Quality Financing Administration (MWQFA) was established under Title 9, Subtitle 16 of the Maryland Code. MWQFA has primary responsibility for the capital budget development and financial management and fund accounting of the Water Quality Revolving Loan Fund, the Drinking Water Revolving Loan Fund and the newly created Bay Restoration Fund. Specifically for the Bay Restoration Fund, the MWQFA is responsible for the issuance of revenue bonds, payment disbursements, and the overall financial accounting, including audited financial statements.

#### ***II. Engineering and Capital Projects Program:***

The Engineering and Capital Projects Program (ECP) manages the engineering and project management of federal capital funds consisting of special federal appropriation grants and state revolving loan funds for water quality and drinking water projects. The Program also manages projects funded by State grant programs, including Bay Restoration Fund, Special Water Quality/Health, Small Creeks and Estuaries Restoration, Stormwater, Biological Nutrient Removal, and Water Supply Financial Assistance. There may be as many as 250 active capital projects ranging in levels of complexity at any given time. Individual projects range in value from \$10,000 to \$150 million. A single project may involve as many as eight different funding sources and multiple construction and engineering contracts over a period of three

to ten years. ECPP is responsible for assuring compliance with the requirements for each funding source while achieving the maximum benefit of funds to the recipient and timely completion of the individual projects. ECPP consists of two divisions: (1) the Bay Restoration Project Management Division; and (2) the Water and Wastewater Project Management Division.

### III. Wastewater Permits Program:

The Wastewater Permits Program (WWPP) issues permits for surface and groundwater discharges from municipal and industrial sources and oversees onsite sewage disposal and well construction programs delegated to local approving authorities. Large municipal and all industrial discharges to the groundwater are regulated through individual groundwater discharge permits. All surface water discharges are regulated through combined state and federal permits under the National Pollutant Discharge Elimination System (NPDES). These permits are issued for sewage treatment plants, some water treatment plants and industrial facilities that discharge to State surface waters. These permits are designed to protect the quality of the body of water receiving the discharge.

Anyone who discharges wastewater to surface waters needs a surface water discharge permit. Applicants include industrial facilities, municipalities, counties, federal facilities, schools, and commercial water and wastewater treatment plants, as well as treatment systems for private residences that discharge to surface waters.

WWPP will ensure that the enhanced nutrient removal goals and/or limits are included in the discharge permit of facilities upgraded under the BRF. To accommodate the implementation of the Onsite Sewage Disposal System (OSDS) portion of the Bay Restoration Fund, the WWPP Deputy Program Manager has been designated as the lead for the onsite sewage disposal system upgrade program.

### **Maryland Department of Agriculture:**

The Maryland Department of Agriculture (MDA) delivers soil conservation and water quality programs to agricultural landowners and operators using a number of mechanisms to promote and support the implementation of best management practices (BMPs). Programs include information, outreach, technical assistance, financial assistance and regulatory requirements under the Water Quality Improvement Act. Soil Conservation Districts are the local delivery system for many of these programs.

The Chesapeake Bay Restoration Fund provides a dedicated fund source to support the Cover Crop Program. In prior years, funding fluctuated and program guidelines were modified accordingly to try to get the best return on public investment. Results from a 2005 survey of 3000 farm operators, who had previously participated in MDA Water Quality Incentive programs, indicated that changing Cover Crop Program guidelines and funding uncertainty discouraged participation. This survey was repeated in 2006 and 2009 and used to make program adjustments, with a goal to maximizing program participation and water quality benefits. Since funding was reduced in FY2010, MDA reduced the base payment for traditional cover crops by \$5 an acre and instituted an acreage cap, but allowed farmers to enroll additional acres as “stand by.” MDA had adequate funds to approve all enrolled acres including stand by this year. Other program adjustments included having one application for both the traditional cover crop program and commodity cover crop program rather than separate program applications. This increases flexibility for enrollment and management at the farm level. In SFY 2010 eligibility requirements consistent with findings from a scientific panel under the auspices of BayStat were continued. The incentive structure was adjusted to maximize nutrient reductions. In addition to incentives for early planting, farmers could receive increased payments for planting cover crops after corn or vegetables, planting cover crops on fields where manure was used as a nutrient source, planting rye, using certain

tillage methods or planting in priority watersheds. With added incentives payments ranged from \$25 per acre to \$85 per acre.

FY2010 saw application requests for approximately 330,500 acres. MDA approved all eligible applications for 330,500 acres. In 2010, the BRF will fund approximately 229,000 acres of cover crops. The General Assembly transferred a one- time allocation of an additional \$5 million from revenue that funds MDE's program for septic system upgrades to the Cover Crop Program in 2010, nearly doubling BRF support of this program. The 2010 Chesapeake Bay Trust Fund was used to supplement existing funds, and in conjunction with general funds and limited watershed specific funding, helped expand program availability. Recent 2-year Chesapeake Bay Milestones call for 460,000 acres of cover crops annually.

MDA administers the Cover Crop Program through the Maryland Agricultural Water Quality Cost Share Program or MACS. MACS program provides financial assistance to farm operators to help them implement approximately 30 BMPs. Cover crops are one of the most cost effective methods for tying up excess nitrogen from the soil following the fall harvest of crops. They minimize nitrogen loss caused by leaching into nearby streams and aquifers, prevent soil erosion and improve soil quality.

### **Maryland Department of Planning:**

The Maryland Department of Planning (MDP) is a statutory member of Bay Restoration Fund Advisory Committee (BRFAC). The Department's general mandate is to advise State agencies, local governments, the General Assembly, and others on planning matters. More specifically, the Department is focused on implementation of Smart Growth policies and programs at all levels of government. Generally, the BRF program supports State Planning and Smart Growth policies to the degree that WWTP capacity is allocated to serve existing and new development in locally certified and State recognized Priority Funding Areas (PFAs).

Specific functions that MDP carries out that relate directly or indirectly to the BRF programs are summarized below. HB 893 enacted by the 2007 legislative session, added an additional BRF reporting responsibility which is discussed in another section.

#### **1. State Clearinghouse Review**

All State and federal financial assistance applications, including those for BRF funds are required to be submitted for review through the State Clearinghouse which is part of MDP. The Clearinghouse solicits comments on these applications from all relevant State agencies and local jurisdictions. The applicant and funding agency are subsequently notified of any comments received. This review ensures that the interests of all reviewing parties are considered before a project is sent forward for final federal or State approval.

#### **2. Review and Comment on County Water and Sewerage Plans and Amendments**

MDP is directed by law to advise MDE regarding the consistency of County Water and Sewerage Plans and amendments with "local master plan and other appropriate matters" (Environment Article § 9-507 (b)(2)). This includes review for consistency with State Smart Growth policy. MDP carries out this review and provides advisory comments to MDE for consideration before MDE makes an approval decision on Water and Sewerage Plans or amendments.



The law also requires that County Water and Sewerage Plans and amendments be consistent with the local master or comprehensive plans. Therefore, if a plan or amendment is not consistent with a comprehensive plan, it is subject to disapproval by MDE. Since facility construction, discharge, and other permits must also be consistent with the County Water and Sewerage Plans, the legal chain, from comprehensive plans to Water and Sewerage Plans to permits, helps to assure that all BRF projects are consistent with local comprehensive plans before funding is approved and construction can begin.

### 3. Priority Funding Areas (PFA)

One specific feature of State Smart Growth policy is the designation of Priority Funding Areas (PFAs). These areas are delineated by local governments in accordance with statutory criteria that focus on concentrating high density growth in and near existing communities. If the local PFA boundaries do not meet the legal requirements in the law, MDP would overlay a “comment area” delineation to so indicate. The PFA statute lists the specific State financial assistance programs that are required to focus their funding on projects inside the PFA, with certain specified exceptions. BRF funds and projects are not listed as a PFA covered program. The rationale for this was that BRF funds will only pay to upgrade existing treatment capacity and will not pay for any capacity expansions.

HB 893, which is discussed further in another section, raises certain issues related to the BRF exclusion from the PFA requirement.

### 4. Local Comprehensive Plan Review and Comment

Local Comprehensive Plans must be prepared by every county and municipality in Maryland, pursuant to Article 66B of the Annotated Code. MDP provides comments on all draft local Comprehensive Plans and amendments. Through the Clearinghouse review process, other State agencies are also provided the opportunity to comment before they can be adopted by local governing bodies. However, since these plans are not subject to State approval, comments provided are advisory only. Depending on the wishes of the jurisdiction, MDP works closely with, and provides technical assistance to, local governments in the processes leading to adoption of local comprehensive plans. MDP advises them on planning issues and methods supporting State Planning and Smart Growth policies and practices.

HB 1141, enacted by the 2006 General Assembly, added new required elements to local comprehensive plans. One of these is a Water Resources Element which must be completed by every jurisdiction by October 1, 2009. This element is required to address water supply and wastewater infrastructure, and water quality issues to assure that these considerations are more fully integrated into comprehensive planning. In addition to the comprehensive plan interagency review process described above, MDE is specifically mandated to establish criteria for this element and to review the element for consistency with these criteria and MDE’s overall water resources programs. However, as with all local comprehensive plans, there is no provision for State approval. It is expected that preparation and local adoption of these elements will further improve guidance for effective use of BRF funds for all of its authorized purposes.

#### **Monthly BayStat Review of the BRF:**

All BRF-funded ENR upgrades are closely monitored through planning, design, construction, and implementation by MDE, and are overseen monthly by the Governor through BayStat, a monthly meeting of cabinet-level state officials where updated Bay-related data are reviewed and discussed. MDE submits a monthly report to BayStat showing the status of each ENR upgrade; a recent BayStat ENR monthly report is available via this link:

These monthly reports show expected completion dates for each step of the process at each location, and highlight delays and other key changes in status. BayStat meetings devote particular attention to those upgrades due to become effective during the current two-year Bay milestone period.

### Bay Restoration Fund Status

The Bay Restoration Fund (BRF) fees collected from wastewater treatment plant users are identified as “Wastewater” fees and those collected from users on individual onsite septic systems as “Septic” fees. These fees are collected by the State Comptroller’s Office and deposited as follows:

- Wastewater fees (net of local administrative expenses) are deposited into MDE’s “Wastewater Fund.”
- Sixty percent (60%) of the Septic fees (net of local administrative expenses) are deposited into MDE’s “Septic Fund.”
- Forty percent (40%) of the Septic fees (net of local administrative expenses) are deposited into Maryland Department of Agriculture’s (MDA) “Septic Fund.”

The status of the cash deposits from the State Comptroller’s Office to MDE and MDA for each of the sub-funds identified above, as of September 30, 2009, is as follows:

#### Wastewater Fund (MDE 100% for ENR & Sewer Infrastructure)

<u>Sources:</u>		<u>Uses:</u>	
Cash Deposits	\$241,947,460	Capital Grant Awards	\$169,883,010
Cash Interest Earnings	\$ 17,972,460	Admin. Expense Allowance	\$ 3,629,211
Net Bond Proceeds	<u>\$ 51,623,877</u>	FY ’10 Bond DS Allowance	<u>\$ 4,615,954</u>
Total	\$311,543,797	Total	\$178,128,175

ENR PROJECTS		
Applicant		Grant Amount
Aberdeen ENR		1,700,000.00
Allegany Co/ Georges Creek ENR		10,588,000.00
Allegany Co/ Celanese ENR		2,333,382.00
Anne Arundel Co/ Annapolis WRF		200,000.00
Anne Arundel Co/ Broadneck WRF		200,000.00
Baltimore City/Back River WWTP ENR		5,000,000.00
Baltimore City/Patapsco ENR		10,000,000.00
Bowie ENR		8,867,000.00
City of Brunswick/WWTP ENR		8,263,000.00
Cambridge ENR		100,000.00
Chestertown ENR		1,490,854.14
Crisfield WWTP ENR		4,231,000.00
Cumberland WWTP ENR		26,779,000.00
Delmar WWTP ENR		2,544,000.00
Denton WWTP ENR		200,000.00

<b>ENR PROJECTS</b>		
<b>Applicant</b>		<b>Grant Amount</b>
Easton WWTP ENR		8,660,000.00
Elkton ENR		7,960,000.00
Emmitsburg WWTP ENR		50,000.00
Federalsburg ENR		3,360,000.00
City of Hagerstown/WWTP ENR II		10,857,000.00
Harford Co./ Joppatown ENR		888,000.00
Harford Co./ Sod Run ENR		4,283,000.00
Havre de Grace WWTP ENR		11,289,000.00
Howard County/Little Patuxent ENR		530,000.00
Hurlock WWTP ENR		941,147.75
Indian Head ENR		6,484,000.00
La Plata ENR		110,000.00
Leonardtown WWTP ENR		510,000.00
MD Env Serv/Freedom District WWTP ENR		100,000.00
Mt Airy ENR		200,000.00
Perryville ENR		4,000,000.00
Pocomoke WWTP ENR		200,000.00
Poolesville WWTP ENR		100,000.00
Queen Anne's/ Kent Island ENR		6,380,645.09
Salisbury WWTP ENR		3,000,000.00
St. Mary's Co./Marlay Taylor Water Reclam.		200,000.00
Talbot Co/St Michaels ENR		2,000,000.00
Taneytown/WWTP ENR Up Planning & Des		310,000.00
Thurmont WWTP ENR		300,000.00
Washington Co./Winebrenner		100,000.00
Westminister WWTP ENR		20,000.00
WSSC/Blue Plains WWTP ENR		2,000,000.00
WSSC/Damascus WWTP ENR		325,000.00
WSSC/Western Branch WWTP ENR		1,000,000.00
<b>ENR SUBTOTAL</b>		<b>158,654,028.98</b>
<b>SEWER PROJECTS</b>		
<b>Applicant</b>		<b>Grant Amount</b>
Balto City Gwynns Run Sewer		1,575,000.00
Balto. City Greenmount Branch Sewer Interc.		2,300,000.00
Balto. City Greenmount Branch Sewer Interc. II		1,000,000.00
Denton - Lockerman St. Lift Station		100,000.00
Emmitsburg/South Seton Ave Sewer Line		600,000.00
Frostburg Combined Sewer Overflow Phase IV		1,000,000.00
Frostburg CSO - Phase V		800,000.00
City of Fruitland Infiltration & Inflow Sewer		300,000.00
Moutain Lake Park - Sewer Rehab III		750,000.00
Port Deposit Inflow & Infiltration Reduction		178,199.00
Secretary/Gordon Street Lift Station		150,000.00
Secretary Infilt/Inflow Reduction		172,068.00
St. Mary's METCOM/Evergreen Park Sewer		203,714.00
Talbot/St Michaels Sewer & Upgrade		1,000,000.00

<b>SEWER PROJECTS</b>	
<b>Applicant</b>	<b>Grant Amount</b>
Talbot/St Michaels Reg.II Sewer & Upgrade	450,000.00
City of Taney Town/Balt St Water Main	200,000.00
Washington Co. Halfway Inflow/Infilt Reduction	200,000.00
Town of Williamsport/Inflow & Infiltration Red.	250,000.00
<b>SEWER SUBTOTAL</b>	<b>11,228,981.00</b>
<b>TOTAL (ENR &amp; SEWER)</b>	<b>169,883,009.98</b>

**Septic Fund (MDE 60% for On-Site Disposal System upgrades except 22.4% in FY 2010)**

Sources:

Cash Deposits	\$31,021,602
Cash Interest Earnings	\$ 2,115,514
Total	\$33,137,116

Uses:

Capital Grant Awards	\$27,712,080
Admin. Expense Allowance	\$ 2,481,728
Total	\$30,193,808

Applicant	Grant
Anne Arundel Co Health Dept.	2,448,863.52
Calvert Co Dept of Planning/Zoning	933,000.00
Calvert Co. Planning & Zoning #2	1,582,000.00
Canaan Valley Institute/Frederick Co	712,000.00
Canaan Valley Institute/Washington #2	750,000.00
Caroline Co Health Dept.	144,000.00
Caroline Co Health Dept.#2	277,000.00
Cecil Co. Health Dept.	650,000.00
Charles Co Health Dept.	604,000.00
Charles Co Health Dept. II	900,000.00
Dorchester Co. Health Dept.	409,000.00
Harford Co. Health Dept.	1,038,000.00
Kent Co Dept. of Water/WW	597,000.00
MD DNR - Queen Annes Co.	0.00
Talbot Co Dept. of Natural Resources	1,168,000.00
Wicomico Co Health Dept.	771,000.00

Applicant	Grant
Wicomico Co Health Dept.#2	1,948,000.00
Worcester Co Dept. of Environ. Programs	1,142,000.00
County Septic SubTotal (ITD)	16,073,863.52
<b><u>DIRECT SEPTIC GRANTS:</u></b>	
MDE Direct Individual Septic Grants: Inception thru 9/30/09	11,638,217.28
<b>TOTAL SEPTIC</b>	<b>27,712,080.28</b>

**Septic Fund (MDA 40% for Cover Crops)**

Sources:

Cash Deposits\* \$20,681,000

Uses:

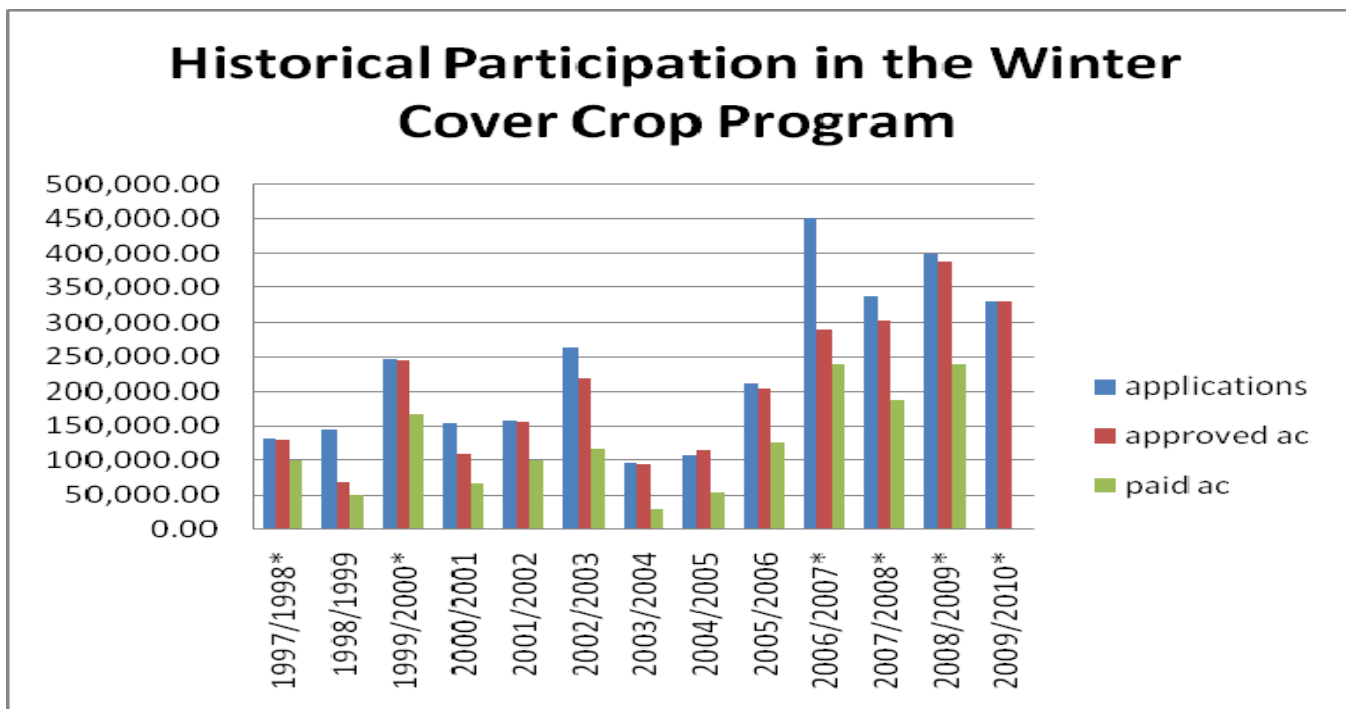
Grant Awards \$19,190,926

Admin. Expense \$ 540,000

Total \$19,730,926

\*Cumulative revenue as of 6/30/09

Historically there is attrition between acres approved for funding and actual payments for cover crops planted under the Maryland Agricultural Water Quality Cost Share Program. The main cause of reduced acreage is one of time and labor availability in the fall planting of cover crops after harvest. Related causes are delays caused by weather and other uncontrolled factors. In FY2009, farmers were able to enroll in a commodity cover crop option which allows harvest at a reduced incentive. This option effectively has eliminated the attrition that occurred in past years due to opting out of the program for harvest in the spring. The chart below illustrates the “typical” program attrition profile. Since the FY2009 program underwent a number of changes, a margin of error should be factored into use of historic rates to predict attrition this year.



## Potential Funding Gap and Recommended Action:

Based on current total estimated ENR capital cost of \$1.540 billion and BRF wastewater (WW) fund projected cash flow, the WW fund can provide \$880 million in grants and is expected to have a funding deficit of \$660 million by 2018. Under the current ENR project schedule and anticipated cash flow needs, the WW fund will be able to provide up to 100% grants for ENR expenditures through FY 2011. This will be accomplished by issuing approximately \$530 million in revenue bonds in addition to using the Bay fee cash balances (See Attachment 1 for details). The primary reasons for the anticipated funding gap are the higher ENR project costs and the 15-year term limitation on the bay bonds, as required under the Maryland Constitution for State supported debt. MDE investigated the issuance of 20-year bonds, which would have allowed the State to issue \$100 million more in revenue bonds than the 15-year term. However, it was later determined by the State Treasurer that since the BRF fee is assessed practically from all State residents, any bonds leveraged against the fee must have the same terms as the General Obligation debt, which is set by the State Constitution not to exceed 15 years.

The Advisory Committee will be evaluating the following options and will provide its recommendations as part of the next year annual report:

- a. Increase the Bay fee, which is currently \$2.50 per month per Equivalent Dwelling Unit. This option requires legislative approval.
- b. Reduce the ENR grant, which currently is at 100% of eligible costs. This option does not require legislative approval as the law states that funding can be provided for up to 100% of eligible costs.
- c. Reprioritize the upgrade of the 67 ENR projects while delaying or not undertaking the upgrade of certain WWTPs. This option does not require legislative approval as prioritization can be completed in accordance with the existing law. However, the requirements under the Bay Total Maximum Daily Loading (TMDL) need to be considered.
- d. Seek Bay Restoration Fund statutory changes that allow the Bay fees to make debt service payment on bonds issued by local governments (for ENR eligible cost) that have a term of up to 30 years. MDE should seek legislative approval to make this option available even if MDE and local governments later decide not to exercise the option.
- e. Seek Bay Restoration Fund statutory changes to discontinue the annual operation and maintenance grants, which can use up to \$5 million of the fund annually.

As an initial step to eliminate the funding shortfall, the Committee supports MDE in seeking statutory changes that allow the Bay fees to make debt service payment on bonds issued by local governments (for ENR eligible cost) that have a term of up to 30 years. The Committee will be evaluating all the options and provide recommendations to fully close the funding gap as part of the next annual report.

## Wastewater Treatment Plant Upgrades With Enhanced Nutrient Removal (ENR)

### Status of Upgrades:

The Maryland Department of the Environment (MDE) is implementing a strategy known as Enhanced Nutrient Removal (ENR) and is providing financial assistance to upgrade wastewater treatment facilities in order to achieve ENR. The ENR Strategy and the Bay Restoration Fund set forth annual average nutrient goals of WWTP effluent quality of Total Nitrogen (TN) at 3 mg/l as “N” and Total Phosphorus (TP) at 0.3 mg/l as “P”, where feasible, for all significant wastewater treatment plants with a design capacity of 0.5 million gallons per day (MGD) or greater. Other wastewater treatment plants may be selected by the Department for upgrade on a case-by-case basis, based on the cost effectiveness of the upgrade, environmental benefits and other factors. Specifically, Maryland’s 67 major sewage treatment facilities are targeted for the initial upgrades.

MDE has taken advantage of the momentum generated by the existing biological nutrient removal (BNR) program and has proceeded with the ENR strategy as a continuation of the BNR program. Facilities that were in the planning or design phase to upgrade to BNR (achieving 8 mg/l total nitrogen) were asked to revise their plans to include ENR capability to achieve 3 mg/l total nitrogen and 0.3 mg/l total phosphorus. Consequently, ENR upgrades are underway at many plants, and to date, 10 facilities have been completed and are in operation. 10 other facilities are under construction, 25 are in the design stage, and 15 are in the planning stage. MDE is continuing to work to bring the remaining seven major systems into the program by urging the facilities to proceed with the ENR upgrade and/or by including nutrient loading limits and a compliance schedule in the discharge permits. The City of Salisbury has completed the construction to upgrade its treatment plant. However, the upgraded plant failed to achieve the ENR goal, and the City is proceeding with a corrective action plan to bring the facility into compliance.

The following are the facilities that have completed the upgrade and are in operation:

No.	Facility	Design Flow in Million Gallons Per Day	Date Completed	Total Cost	BRF Cost	Nitrogen Load Reduction At Design Flow (Lbs/year)	Phosphorus Load Reduction At Design Flow (Lbs/year)
1	Hurlock	1.65	May 2006	\$7,585,000	\$1,000,000	75,000	8,500
2	Celanese	2.00	Nov. 2006	\$15,833,000	\$2,022,000	91,000	10,300
3	Easton	4.00	June 2007	\$37,453,000	\$8,000,000	60,000	20,700
4	Kent Narrows	3.00	Aug. 2007	\$35,019,000	\$6,493,000	137,000	15,500
5	APG-Aberdeen	2.80	Mar. 2006	\$6,300,000	\$0	127,000	14,500
6	Swan Point	0.60	May 2007	\$8,080,000	\$0	27,000	3,100
7	Chestertown	0.90	June 2008	\$9,802,000	\$2,000,000	68,000	7,700
8	Brunswick	1.40	Sept. 2008	\$14,945,000	\$8,263,000	63,000	7,200
9	St. Micheals	0.66	Oct. 2008	\$13,036,000	\$2,000,000	30,000	3,400
10	Indian Head	0.50	Jan. 2009	\$14,942,000	\$6,484,000	22,000	2,600
	<i>Total</i>	17.17		\$162,995,000	\$36,262,000	700,000	93,500

As an estimate of the total benefit of these capital projects, the above load reductions were determined based on the difference between what would be the facility's load without the upgrade versus the load with the upgrade at the ultimate design capacity. These load reductions would allow the upgraded facilities to maintain their Tributary Strategy loading caps of nitrogen and phosphorus even after reaching their design capacity and the 20-year projected growth.

### **Chesapeake Bay TMDL Implications:**

In early November, 2009, the US Environmental Protection Agency (EPA) officially transmitted the watershed implementation plan (WIP) guidance and working target loads to the Bay States and Washington DC. Current model estimates are that the States' Bay water quality standards can be met at basin-wide loading levels of 200 million pounds of nitrogen per year and 15 million pounds of phosphorus per year. Maryland's current target loads are 41.04 million pounds of nitrogen per year and 3.04 million pounds of phosphorus per year.

The States and Washington DC are required to submit their preliminary Phase I WIPs to EPA by June 1, 2010. The WIPs must allow for attaining specific load reductions with 60% of the load reductions to be achieved by 2017 and the final targets by 2025. The WIPs must also:

- Identify Program gaps and strategy
- Commit to develop and implement 2-year milestones at the county scale
- Identify allowable loads
  - for major river basin, tidal segment watershed, county and pollutant source sectors
  - for each 2-year milestone load to full implementation no later than 2025
- Develop contingencies

Consequences of not achieving expectations may include:

- Assigning more stringent pollution reductions to regulated point sources (e.g., wastewater, stormwater, CAFOs)
- Objecting to state-issued NPDES permits
- Limiting or prohibiting new or expanded discharges (e.g., wastewater, stormwater) of nutrients and sediment
- Withholding, conditioning or reallocating federal grant funds

Maryland's strategy in developing watershed waste load allocations (WLA) is to assume that point source cap will achieve the WLAs through the ENR upgrades. To ensure the success of Maryland's TMDL strategy and to allow for attaining 60% load reductions by 2017, ENR upgrades need to be completed before that year.

### **Update on Fees from Federal Facilities**

On July 19, 2006, the State of Maryland and the Department of Defense (DoD) signed a Memorandum of Understanding (MOU) to resolve a dispute regarding the applicability of the Bay Restoration Fee to DoD. The State's legal position is that the federal government is not exempt from paying the Bay Restoration Fund (BRF) fee; however, the DoD asserts that the BRF fee is a tax and that the State may not tax the federal government. On July 19, 2006, with the advice of counsel, the State chose to settle the matter with DoD rather than to litigate. In the MOU, neither party concedes any legal position with respect to



the BRF fee. The MDE has agreed to accept DoD's proposal to undertake nutrient removal upgrades at certain DoD-owned wastewater treatment plants at its own expense (estimated cost \$22.5 million) in lieu of paying the BRF fee. No other Federal agency is exempt from paying the BRF fee.

One DoD facility, Aberdeen Proving Ground – Aberdeen, has been upgraded to achieve ENR level of treatment. MDE will continue to work with DoD to upgrade the other facilities as specified in the MOU. The goal is complete the targeted DoD facilities by 2012. Specifically, the following are the targeted DoD facilities with their projected construction completion dates:

<b>DoD Facility</b>	<b>Projected Construction Completion Date</b>
Fort Detrick	June 2011
Fort Mead	December 2012
Aberdeen Proving Ground – Edgewood	December 2012
Naval Station – Indian Head	December 2011

#### **Annual Operation and Maintenance Grants for the Upgraded Facilities:**

Starting in fiscal year 2010 (FY 2010), the BRF legislation allows up to 10 percent of the annual fee generated from users of wastewater treatment facilities to be earmarked to provide grants for a portion of the operation and maintenance costs of the enhanced nutrient removal technology. To ensure that each upgraded facility receives a reasonable and fair amount of grant, MDE, in consultation with the Advisory Committee, is allocating the annual operation and maintenance grant at a rate of up to \$18,000 per million gallons per day of design capacity of the facility not to exceed \$216,000 per facility. On October 7, 2009, the Maryland Board of Public Works approved the following grants previously authorized under FY 2010 budget:

<b>ENR Wastewater Treatment Plant</b>	<b>Facility Owner/ Grant Recipient</b>	<b>Approved Design Capacity (in MGD)</b>	<b>Maximum Annual WWTP O&amp;M Allowance</b>	<b>Estimated Start of ENR Operation</b>	<b>Months in Operation In Calendar Year 2008</b>	<b>FY2010 Operation &amp; Maintenance Grant</b>
Brunswick	City of Brunswick	1.400	\$25,200	Sep-08	4	\$ 8,400
Celanese	Allegany County	2.000	\$36,000	Nov-06	12	\$ 36,000
Chestertown	Town of Chestertown	0.900	\$16,200	Jun-08	7	\$ 9,450
Easton	Easton Utilities	4.000	\$72,000	Jun-07	12	\$ 72,000
Hurlock	Town of Hurlock	1.650	\$29,700	May-06	12	\$ 29,700
Kent Island	Queen Anne's County	3.000	\$54,000	Aug-07	12	\$ 54,000
Talbot Region II	Talbot County	0.660	\$11,880	Oct-08	3	\$ 2,970
<b>Total Grant Request</b>						<b>\$212,520</b>

For FY 2011, MDE is proposing the following grant allocations for facilities expected to be in operation during calendar year 2009:

Facility	Approved Design Capacity (in MGD)	Facility Annual Allocation	Est. Start of ENR Operation	Months in Operation In CY 09	FY-2010 O&M Grant
Federalburg	0.75	\$13,500	Aug-09	5	\$5,625
Boonsboro	0.53	\$9,540	Nov-09	2	\$1,590
Elkton	3.050	\$54,900	Sep-09	4	\$18,300
Crisfield	1.000	\$18,000	Sep-09	4	\$6,000
Indian Head	0.500	\$9,000	Jan-09	12	\$9,000
Mattawoman	20.000	\$216,000	Jan-09	12	\$216,000
Brunswick	1.400	\$25,200	Sep-08	12	\$25,200
Celanese	2.000	\$36,000	Nov-06	12	\$36,000
Chestertown	0.900	\$27,000	Jun-08	12	\$16,200
Easton	4.000	\$72,000	Jun-07	12	\$72,000
Hurlock	1.650	\$29,700	May-06	12	\$29,700
Kent Island	3.000	\$54,000	Aug-07	12	\$54,000
Swan Point	0.600	\$10,800	May-07	12	\$10,800
Talbot Region II	0.660	\$11,880	Oct-08	12	\$11,880
					\$515,880

### House Bill 893 Implementation

House Bill 893, enacted on April 24, 2007, requires that: “Beginning January 1, 2009, and every year thereafter, the Department [MDE] and the Department of Planning shall jointly report on the impact that a wastewater treatment facility that was upgraded to enhanced nutrient removal during the calendar year before the previous calendar year with funds from the Bay Restoration Fund had on growth within the municipality or county in which the wastewater treatment facility is located.”

As required by this legislation, MDP and MDE have advised the Bay Restoration Fund Advisory Committee regarding the best available information available to address this mandate, and the analysis of that data. MDE and MDP have concluded that the available data do not indicate that upgrading a wastewater treatment plant to ENR has had an impact on growth to date.

This first Report addresses the following Bay Restoration Fund financed facilities that were upgraded to ENR with Bay Restoration Fund and were completed prior to January 1, 2009:

- Celanese WWTP, Allegany County
- Chestertown, Kent County
- Town of Easton WWTP, Talbot County

- Town of Hurlock WWTP, Dorchester County
- KNSG (Kent Island) WWTP, Queen Anne’s County
- Brunswick, Frederick County
- Talbot Region II, Talbot County

**Available Capacity**

The chart below illustrates that some of the plants increased capacity at the time of the ENR upgrade, and compares the actual 2008 flow with the original design capacity. As of 2008, flows at all of these facilities were well below design capacity. Therefore capacity was available to accommodate the 2008 growth independently of the ENR upgrade.

Facility	Design Capacity (MGD)		Actual 2008 Flow	
	Original	At Upgrade	(MGD)	% of Design Capacity
Celanese, Allegany County	2.00	2.00	1.48	74.0%
Town of Easton, Talbot County	2.35	4.00	1.93	82.1%
Town of Hurlock, Dorchester County	2.00	1.65	0.46	23.0%
Kent Island (KNSG), Queen Anne's County	2.00	3.00	1.60	80.0%
City of Brunswick, Frederick County	0.70	1.40	0.39	55.7%
Town of Chestertown, Ken County	0.90	0.90	0.66	73.3%
Talbot Region II, Talbot County	0.50	0.66	0.34	68.0%

**The Data**

MDP used three kinds of data to investigate the impact of ENR upgrades on growth:

1. Sewer Service Area Data. The boundaries of the areas served or planned to be served by sewer were obtained from County Comprehensive Water and Sewerage Plans. These boundaries are updated when the county plans are updated or amended.
2. PFA Area Data. PFA boundaries are determined by removing mapped PFA “comment areas” from locally certified PFAs. A “comment area” refers to an area certified by the local jurisdiction as a PFA, but which does not meet the PFA statutory criteria. PFA boundaries are updated regularly.
3. Parcel Point Data from Maryland Property View (MDPV). MDPV is a tax map and parcel information collection of county data. MDP used MDPV 2007 and 2008 data to identify parcels that had been improved by construction during the reporting year. An “improved parcel” is defined as any parcel with an improvement value of \$10,000 or more. The information is updated once every twelve months, but the update may not coincide with a calendar year.

**Analysis**

For each wastewater treatment plant (WWTP) service area, MDP identified the number of parcels that had been improved in the reporting year. No distinction was made among types of uses – residential, commercial, etc. MDP assumed that improved parcels located inside of existing service areas (S-1)

(based on the County Water and Sewerage Plans) are connected to the WWTP and improved parcels located outside of existing service are on septic systems. This is the baseline against which the annual future changes in the number of connections will be measured. Note that, due to lagging data updates, it is possible in some cases that improved parcels in areas designated as planned service area (S-2) and the future service area (S-3) in County Comprehensive Water and Sewerage Plans could be connected to the public sewer system.

The focus of the analysis is on the number of newly improved parcels from one year to the next. MDP has identified these parcels as being inside or outside an S-1 service area and inside or outside the PFA. The analysis is presented in the table below. The vast majority of new lots in areas assumed to be served by WWTPs that have been upgraded with BRF money are in PFAs.

**Table 1 - Base Year Connections to 2008 Completed ENR Upgraded WWTPs Inside and Outside of PFAs**

<b>ENR WWTP</b>	<b>Start of Operation Date</b>	<b>Number of Connections Inside PFA 2007</b>	<b>Number of Connections Inside PFA 2008</b>	<b>Number and Percent of All Connections Outside PFA 2007</b>	<b>Number and Percent of All Connections Outside PFA 2008</b>
<b>Celanese, Allegany County</b>	<b>NOV-06</b>	<b>1854</b>	<b>1871</b>	<b>64 / 3.3%</b>	<b>67 / 3.5%</b>
<b>Town of Easton, Talbot County</b>	<b>JUN-07</b>	<b>5899</b>	<b>6067</b>	<b>102 / 1.7%</b>	<b>103 / 1.7%</b>
<b>Town of Hurlock, Dorchester County</b>	<b>MAY-06</b>	<b>796</b>	<b>794</b>	<b>6 / 0.7%</b>	<b>6 / 0.8%</b>
<b>Kent Island Queen Anne's</b>	<b>AUG-07</b>	<b>6134</b>	<b>6176</b>	<b>504 / 7.6%</b>	<b>514 / 7.7%</b>
<b>Chestertown, Kent County</b>	<b>JUN-08</b>	<b>1545</b>	<b>1606</b>	<b>236 / 13.3%</b>	<b>239 / 13.0%</b>
<b>Brunswick, Frederick County</b>	<b>SEP-08</b>	<b>2100</b>	<b>2110</b>	<b>67 / 3.1%</b>	<b>67 / 3.1%</b>
<b>Talbot Region 2, Talbot County</b>	<b>OCT-08</b>	<b>1003</b>	<b>1006</b>	<b>205 / 17.0%</b>	<b>205 / 17.0%</b>

Table 1 shows that the number and percentages of connections outside of the PFA varies significantly from one service area to the next. Connections occur outside of the PFA for a number of reasons. Sometimes sewer service is extended beyond the PFA to address a public health problem, such as failing septic systems. Some service areas were established before the PFA law. Even today, however, there is no requirement that Water and Sewerage Plans be consistent with the PFA boundaries: State law requires

only that Water and Sewerage Plans be consistent with the local Comprehensive Plan. The sole purpose of PFAs is to focus State investment programs listed in the PFA statute into PFAs. As discussed elsewhere, the BRF is not a listed program. Notwithstanding the lack of a requirement that these two plans be consistent with PFA boundaries, MDP and MDE encourage the County Water and Sewerage and local comprehensive planning processes to direct growth to designated Priority Funding Areas. The Easton Wastewater Treatment Plant received an ENR upgrade during the 2007- 2008 BRF Annual Reporting Period. Of the seven upgraded wastewater treatment plants reported in this 2010 BRF Report, the Town of Easton has experienced the most significant growth in terms of newly improved parcels (or connections) in its Existing Sewer Service Area (S-1) and inside the portion of PFA that overlies its sanitary districts (S-1, S-2, S-3 and NP). In 2007, MDP determined that Easton had 5,899 improved parcels inside of the PFA portion of its sanitary district. In 2008, the analysis indicates 6,067 improved parcels inside of the PFA portion of its sanitary district. Approximately, 6,000 of these improved parcels are presently located in the Existing Sewer Service Area (S-1). This is a significant increase from 2006, when Easton had approximately 5,600 improved parcels within its Existing Sewer Service Area.

The maps of Easton on pages 32 and 33 illustrate the locations of newly improved parcels and previously improved parcels with respect to sewer service areas and the PFA, respectively. The first map shows all improved parcels (red dots) from the previous reporting year and all of the newly improved parcels (yellow dots) of the current reporting year that fall within the S-1 (Existing Service) Sewer Service Category. The second map shows the overall relationship between the Easton Sanitary District (S-1, S-2, S-3 and NP) and the certified Priority Funding Area (PFA).

## **Onsite Sewage Disposal System (OSDS) Upgrade Program**

### **OSDS Identification and Billing**

There are an estimated 420,000 OSDS's in Maryland that needed to be identified by local jurisdictions and billed. Working with the Advisory Committee, Maryland Department of Planning and the State Department of Assessment and Taxation, all jurisdictions have identified, and are now billing, septic system users.

### **Use of the OSDS BRF**

The Bay Restoration Fund legislation states that funds generated by the OSDS user fee may be used for the following:

With priority first given to failing systems and holding tanks located in the Chesapeake and Atlantic Coastal Bays Critical Area and then to failing systems that the Department determines are a threat to public health or water quality, grants or loans for up to 100% of:

- A. The costs attributable to upgrading an onsite sewage disposal system to the best available technology for removal of nitrogen;
- B. The cost difference between a conventional onsite sewage disposal system and a system that utilizes the best available technology for the removal of nitrogen;
- C. For a low income user the cost of repairing or replacing a failing onsite sewage disposal system with a system that uses the best available technology for nitrogen removal
- D. The cost, up to the sum of the costs authorized under item A of this item for each individual system, of replacing multiple onsite sewage disposal systems located in the same community with

a new community sewerage system that is owned by a local government and that meets enhanced nutrient removal standards.

Above items C and D were not included in the initial legislation; rather they were added in subsequent legislative sessions.

### **Best Available Technology (BAT)**

The Department developed a procedure for determining which technologies should be considered grant eligible, and the BRF Advisory Committee established a workgroup that included local health and public works agencies and industry representatives, to develop specifications for approved OSDS technologies. Referred to as Best Available Technology (BAT) Workgroup, this group of professionals was responsible for establishing the procedures for determining what specific types of systems will be eligible for grants under the OSDS portion of the BRF. MDE and the BAT workgroup reviewed programs in other states, published research and third party verification programs. Current research indicates that nitrogen discharges from OSDS's can be reduced by 50 to 60 percent.

The BAT Workgroup adopted a protocol used by the Environmental Protection Agency for Environmental Technology Verification (EPA/ETV) to establish a procedure to verify the performance of proprietary nitrogen reducing OSDS. During the past year one new technology was added to the approved list bringing the total number of proprietary technologies that have been evaluated by the EPA/ETV program and are eligible for BRF funding in Maryland to thirteen. A review team comprised of two engineers from MDE and one County Environmental Health Director review applications to ensure that each technology has been third-party evaluated to a standard at least as stringent as the EPA/ETV's.

For non-proprietary technologies the vendor/applicant must provide a detailed description of the technology process illustrating sound scientific fundamentals and engineering practice. Acceptable technologies may be approved as a highly managed system. Highly managed systems must have either a renewable operating permit or be managed as part of a service district. No jurisdictions have availed themselves of the use of highly managed systems.

The BAT protocol requires an application for technology review to be submitted to MDE. The technical review team with experts in the field will review each application for approval of a particular technology and information collected to verify the effectiveness of that technology. If the technology has not undergone independent third-party verification or certification indicating consistent reduction of more than 50 percent of the nitrogen, the technology will be allowed a limited number of types of installations. These technologies will be monitored for a one to two-year field evaluation period. After this period the technical review team will determine if the technology receives an unconditional approval, needs further field testing or is rejected from the program. This evaluation period will allow the Department to further define what should be considered a BAT and to perform cost benefit analyses.

One vendor failed to perform the required sampling and approval of this technology was suspended until the sampling is 75 percent complete and the data reviewed. Three technologies have completed the required sampling; two of the technologies removed approximately 60 percent of the nitrogen and one of the technologies a borderline 50 percent. For the borderline 50 percent technology, the data is under review at the time of drafting this report to determine if it should remain an approved technology.

### **BAT Project Selection**

The goal of the OSDS portion of the BRF is to curtail the amount of nitrogen discharged from OSDS into the waters of the State. This benefits the State by helping to restore the estuarine environment and provides for better protection of drinking water supplies. The Bay Restoration Fund statute states that funds may be used to provide grants for the incremental cost of upgrading OSDS to BAT for nitrogen removal. Only as a lesser priority for low income users can the BRF provide funding for an entire OSDS replacement or repair that includes BAT and other material (gravel & pipe) and labor costs related to the directly the repair or replacement. The Department recognizes that operation and maintenance, design review, installation inspection and project management are essential parts of the cost of upgrading OSDS to BAT for nitrogen removal. The BRF grant funds will cover the initial cost of purchasing and installing the BAT unit. The cost for the initial 5 years of operation and maintenance may also be included in the cost of purchasing the BAT technology. The local implementing entity may also use a portion of the BRF funds for reasonable costs associated with identifying individual applicants, reviewing plans, and inspecting BAT unit installations.

The Department has outsourced some elements of the OSDS portion of the BRF implementing OSDS upgrades using the BRF funds granted to county and municipal government agencies. These agencies may, with approval from MDE, make grants to OSDS users who agree to upgrade their systems and provide the necessary ongoing operation and maintenance. As mandated by the legislation, addressing failing systems in either the Chesapeake Bay Critical Area or the Maryland Coastal Bay's Critical Area is highest priority.

There has been an overwhelming response to the Department's outreach campaign that has necessitated prioritizing funding awards for grants from the Bay Restoration Fund. As of December 31, 2009, 1,998 septic systems have been upgraded. At the same time last year, 504 systems had been upgraded. In April, May and June of 2008, the Department received 120 applications for septic system upgrades. For the same period in 2009, the Department received 1,261 applications. The overwhelming demand for BRF grants has necessitated the prioritization of applications. BRF grants continue to be made for BAT upgrades at failing systems in the Critical Area. This is the highest priority established by code; failing systems not in the Critical Area are the next highest priority. Applicants other than those with a failing system in the Critical Area are being waitlisted until July 1, 2010, at which time the available funds will be re-evaluated. Property owners that proceed with an upgrade at their own expense are not be eligible for reimbursement.

As of October 2009, the Department had waitlisted 2,800 applications for grants. The Department took a number of steps to manage this situation. These steps were carefully crafted to continue to generate enthusiasm and awareness of the need for upgrades, while at the same time managing expectations about the availability and timing of funds.

The steps included: targeting funds based on law and fund availability, implementation of income-based funding criteria, the "reprogramming" of unspent county grant funds, and an updated outreach campaign. Each of these steps is detailed below.

### **Targeting**

State law had already established priorities for Fund expenditures. The priorities, ranked from high to low, are as follows:

1. Upgrades for failing systems located in the Critical Area;
2. Failing systems outside of the Critical Area

3. All other systems including new and replacement systems

Based on the law, the Department began targeting available funds for failing systems in the Critical Area. Local jurisdictions administering the Program have been directed to follow the prioritization scheme. The Department will reassess availability of Funds for other systems by July 1, 2010. Any available funds will then be made available to applicants on the waiting list. The targeting prioritization is as follows:

1. Failing systems or holding tanks in the critical area
2. Failing systems outside of the critical area
3. New or replacement systems in the critical area
4. New or replacement systems outside the critical area

**Implementation of Income Based Funding Criteria**

The Department drafted plans to implement income-based funding criteria. To ensure an equitable distribution of the limited funds, grants for upgrading on-site sewage disposal systems would be awarded on a sliding scale based on federal income tax brackets. All commercial property, rental property, seasonally-occupied property, non-residential property, non-primary dwellings and property not owner-occupied would be eligible for a grant not to exceed 25 percent. The amount of the grant for an owner-occupied primary residential property would be a percentage based on projected federal income-tax brackets for 2008. The Department estimates that income based funding criteria will reduce State fund expenditures by about 40%. MDE intends to allocate the additional funds to eligible upgrades in priority order. While informed of the Departments intent to implement income-based funding criteria the Committee did not have time to evaluate the criteria and offer advice on the matter.

<b>% grant</b>	<b>Tax rate</b>	<b>2008 taxable income Married couples filing jointly or Household Income</b>	<b>2008 taxable income Single filers</b>
100	10 % to 15 %	Up to \$65,100	Up to \$32,550
75	25 %	\$65,101 to \$131,450	\$32,551 to \$78,8500
50	28 %	\$131,451 to \$200,3000	\$78,851 to \$164,550
25	33 % to 35 %	Over \$200,301	Over \$164,551

Reprogramming of Unspent County Grant Funds

Through October 2009, the Department has closed out grants to six counties whose grant term had expired, making \$586,000 available for reprogramming. Charles, Calvert, Harford, Cecil and Wicomico Counties have funds that have not been awarded to individual projects. These Counties have been notified to only fund systems that are failing in the critical area. In February 2010, the Department will evaluate the Fund’s status and prioritize any further commitments.



## **Outreach**

The Department is redirecting outreach to education rather than proactively promoting septic upgrades through the Bay Restoration Fund. Presentations on implementing SB 554 and the availability of Funds have been made to the Conference of Environmental Health Directors, the Maryland Onsite Wastewater Professionals Association, a Board of Realtors Continuing Education Session and to Tributary Strategy Teams.

## **Payment to Contractors**

There have been instances where homeowners received a BRF grant from the state in order to upgrade their septic system, but have not used the money to pay the contractor responsible for the installation. To this point, MDE has only issued grant money directly to the homeowner, not the contractor. However, after some consideration, the Department has revised its policy about direct payments. Beginning with applications approved on or after January 3, 2010, the Department will ask homeowners to authorize payment directly to the vendor. Once the homeowner has indicated that the work has completed to satisfaction, MDE will issue the amount of the grant to the contractor.

Projects awarded before January 3, 2010 will proceed with payments directly to the homeowner. Should MDE be notified that a grant has been issued for an application approved before January 2, 2010 without payment to the contractor, the Department will issue a Dunning letter which will remind the homeowner of the intended use of the grant money and that the only legally permissible use of the funds is for payments to the approved contractor for upgrading the system.

## **Cover Crop Activities (Maryland Department of Agriculture)**

### **Recent Program Streamlining and Targeting to Achieve Maximum Nutrient Reduction:**

In FY2008, under the auspices of the BayStat management strategy, MDA working in conjunction with the University of Maryland Center for Estuarine Studies, organized a group of scientists to provide information on how best to utilize available funds for cover crops to achieve the greatest nutrient reductions. The findings included:

1. planting cover crops as early as possible in the fall
2. planting after crops that need higher fertilizer rates, such as corn and vegetables
3. using cover crops on fields that were fertilized using manure
4. planting method
5. use of rye

MDA applied these criteria to both the FY 2009 and FY2010 Cover Crop Programs by structuring the incentive payments to reward farmers who adhered to one or more of these priorities. Additional incentives were also provided for farmers who planted cover crops in priority watersheds selected in the BayStat process for a targeted effort by State agency actions.

In 2009, the Maryland Department of Agriculture engaged the Schaefer Center for Public Policy to conduct a follow up survey which resulted in questionnaires being sent to 5,600 agricultural operators across the State. The survey builds on those conducted in 2005 and 2006. The purpose was to assess the

Cover Crop Program and identify improvements that would result in additional acreage enrolled in the program.

Findings from the survey indicate the largest impediment to planting cover crops (mentioned by 70% of respondents) is the time available following harvest for the farmer to accomplish planting within established deadlines. Recommended changes to the program included partial payments in the fall and increasing the base payment rate per acre. 80% of respondents rated the program good to excellent overall, 91% rated customer service good to excellent and the majority of respondents believed that the program criteria is clear. The incentive structure influenced earlier planting (58%), previous crop type (52%) and manured fields (21%). Most farmers favored instituting an acreage cap if resources were scarce.

MDA also convened a meeting of agencies involved in delivery of the Cover Crop Program. Although most who attended were Soil Conservation District personnel, University of Maryland researchers and some cooperating agencies were also in attendance. Participants emphasized building in program flexibility when possible, especially as concerned traditional and commodity cover crop options.

Recommendations incorporated into the 2010 Cover Crop Program included offering a partial payment in the fall and instituting an acreage cap to ensure equity due to decreased funding levels. To increase flexibility MDA offered a blended cover crop program, allowing farmers to enroll both traditional and commodity (harvestable) acres under the same contract and allowing them to designate acres to be harvested in the spring rather than at sign-up.

#### **Status of Implementation of BRF for Cover Crop Activities:**

The Maryland Department of Agriculture portion of BRF funds is \$ 20,681,000 as of June 30, 2009. In 2009, an additional \$3.08 million from the 2010 Chesapeake Bay Trust Fund was also utilized to fund the Cover Crops Program. MDA will process a budget amendment to transfer the one-time legislative allocation of \$5 million from the MDE 60% CBRF allocation in FY2010.

## **Potential Funding Gap**

MARYLAND DEPARTMENT OF THE ENVIRONMENT  
 BAY RESTORATION FUND  
 ENHANCED NUTRIENT REMOVAL PROGRAM

FY 2011 Budget (June 2009 Draft)

May 2009	WVTP - NAME	ENR Cost (\$ M)	PROJECTED GRANT AWARDS (\$ MILLION)										Total Check (\$ M)					
			FY 2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		2016	2017	2018		
Operation	APG-Aberdeen	8.26		8.26														8.26
Operation	BRUNSWICK	2.49	2.50															2.50
Operation	CELANESE	2.00	0.10	1.90														2.00
Operation	CHESTERTOWN	8.66	3.43	5.23														8.66
Operation	EASTON	0.94	1.00															1.00
Operation	HURLOCK	6.48	6.48															6.48
Operation	INDIAN HEAD	6.36	6.49															6.49
Operation	KENT ISLAND	3.00	3.00															3.00
Operation	SALISBURY	-	PA \$ 2.98M															-
Operation	SWAN POINT	2.00	2.00															2.00
Construction	TALBOT CO. REG-2	4.23	4.23															4.23
Construction	CRISFIELD	7.96	0.10	7.86														7.96
Construction	ELKTON	3.36	0.36															3.36
Construction	FEDERALSBURG	10.59			3.00													10.59
Construction	GEORGE'S CREEK	10.86			10.43													10.86
Construction	HAGERSTOWN	11.29			0.65													11.29
Construction	HAYRE De-GRACE	4.00			10.89													4.00
Construction	PERRYVILLE	13.33			3.80													13.33
Design	ABERDEEN	14.00			0.20													14.00
Design	ANNAPOLIS	375.00																375.00
Design	BACKRIVER	39.40																39.40
Design	BALLENGER	8.86	0.10	0.50														8.86
Design	BOWIE	14.00			0.20													14.00
Design	BROADNECK	141.00																141.00
Design	COX CREEK	29.29			1.00													29.29
Design	CUMBERLAND	3.75			0.33													3.75
Design	DAMASCUS	3.14			0.20													3.14
Design	DELMAR	3.60																3.60
Design	DENTON	29.00																29.00
Design	FREDERICK CITY	36.00			0.53													36.00
Design	LITTLE PATUXENT	5.70																5.70
Design	MARYLAND CITY	13.45	0.20															13.45
Design	MOUNT AIRY	221.80																221.80
Design	PARKWAY	5.18																5.18
Design	PATAPSCO	5.95																5.95
Design	PATUXENT	0.50			10.00													10.50
Design	PISCATAWAY	9.15																9.15
Design	POOLESVILLE	4.10			0.30													4.10
Design	SENECA CREEK	29.45																29.45
Design	THURMONT	29.45			1.00													29.45
Design	WESTERN BRANCH	264.00			2.00													264.00
Planning	BLUE PLAINS																	



**FY 2011 Budget (June 2009 Draft)**  
 Maryland Department of the Environment  
 Maryland Water Quality Financing Administration

**Buy Restoration Fund**  
**WWTP Upgrade Cashflow Projection (does not include Septics)**

Fiscal Year	2005		2006		2007		2008		2009		2010		2011		2012		2013		
	Actual	Actual	Actual	Actual	Actual	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	
Revenues																			
Nat WWTP Revenue Transfer from COWP	\$ 7,022,667	\$ 57,696,674	\$ 57,466,812	\$ 56,068,046	\$ 56,174,913	\$ 56,174,913	\$ 56,736,662	\$ 57,304,028	\$ 57,877,069										
Nat Bond Sale Proceeds (1)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Est. Interest/retirement Earnings (0.4%)	\$ 38,738	\$ 961,410	\$ 3,964,467	\$ 6,022,118	\$ 6,022,118	\$ 5,770,000	\$ 7,017,000	\$ 3,344,000	\$ 3,386,000	\$ 148,500,000	\$ 148,500,000	\$ 148,500,000	\$ 148,500,000	\$ 148,500,000	\$ 148,500,000	\$ 148,500,000	\$ 148,500,000	\$ 148,500,000	\$ 148,500,000
Total Revenue for ENR/Sewer Upgrades	\$ 7,061,405	\$ 58,658,084	\$ 61,431,279	\$ 62,090,164	\$ 62,197,031	\$ 61,944,913	\$ 63,753,662	\$ 60,648,028	\$ 61,263,069	\$ 205,194,913	\$ 205,194,913	\$ 205,194,913	\$ 205,194,913	\$ 205,194,913	\$ 205,194,913	\$ 205,194,913	\$ 205,194,913	\$ 205,194,913	\$ 205,194,913

Fiscal Year	2005		2006		2007		2008		2009		2010		2011		2012		2013		
	Actual	Actual	Actual	Actual	Actual	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr		
Expenditures																			
ENR Capital Grants - AWWARDS	\$ -	\$ 30,000,000	\$ 43,000,000	\$ 29,000,000	\$ 15,000,000	\$ 302,000,000	\$ 195,000,000	\$ 220,000,000	\$ 4,000,000										
Sewer Infrastructure Grants	\$ -	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
ENR O&M Grants to WWTPs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Service Reserve (if applicable)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Admin. Expenses Allocation (up to 1.5%)	\$ 106,340	\$ 665,300	\$ 661,967	\$ 626,021	\$ 634,231	\$ 4,710,200	\$ 19,560,000	\$ 34,502,000	\$ 52,437,600										
Total Expenditure for ENR/Sewer Upgrades	\$ 106,340	\$ 35,665,300	\$ 48,661,967	\$ 34,626,021	\$ 25,634,231	\$ 308,002,200	\$ 210,634,231	\$ 254,502,000	\$ 57,437,600										

Fiscal Year	2005		2006		2007		2008		2009		2010		2011		2012		2013		
	Actual	Actual	Actual	Actual	Actual	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr	Assumes 1% revenue growth rate over prior yr		
Fund Balances																			
Beginning Balance	\$ -	\$ 6,956,065	\$ 29,738,849	\$ 42,297,141	\$ 120,185,160	\$ 156,064,905	\$ 29,723,994	\$ 21,893,606	\$ 3,422,074										
Ending Balance	\$ 6,956,065	\$ 29,738,849	\$ 42,297,141	\$ 120,185,160	\$ 156,064,905	\$ 29,723,994	\$ 21,893,606	\$ 3,422,074	\$ 1,247,186										

Bonds Sold (2) (Details below) \$ -

Chm. Debt Service Revenue \$ -

(1) Net of Bond Issuance Costs, estimated at 1.0% of bond issued, plus any premium

(2) Assumes 15-year term at WL Avg. 5.50% Interest rate with level debt service for future bond issues

Contact: Jay Korman, Director, MWQFA  
 Email: jkorman@mda.state.md.us  
 Phone: 410.537.3119

**FY 2011 Budget (June 2009 Draft)**  
 Maryland Department of the Environment  
 Maryland Water Quality Financing Act

**Bay Restoration Fund**  
**WWTP Upgrade Cashflow Projection (**

Fiscal Year	2014	2015	2016	2017	2018	Total
<b>Revenues</b>						
Net WWTP Revenue Transfer from O&M	\$ 58,465,839	\$ 59,040,398	\$ 59,630,802	\$ 60,227,110	\$ 60,829,381	\$ 759,138,125
Net Bond Sale Proceeds (1)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 508,823,877
Est. Interest/Investment Earnings (2)(4%)	\$ 1,199,000	\$ 1,154,000	\$ 1,192,000	\$ 1,214,000	\$ 1,221,000	\$ 37,757,733
Total Revenue for EIR/Sewer Upgrades	\$ 59,664,839	\$ 60,224,398	\$ 60,822,802	\$ 61,441,110	\$ 62,050,381	\$ 1,323,719,735
<b>Expenditures</b>						
EIR Capital Grants WWTPs - MWAWQS	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 3,000,000	\$ 4,000,000	\$ 881,000,000
Sewer Infrastructure Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 20,000,000
EIR O&M Grants to WWTPs	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 32,500,000
Debt Service Reserve (بلغ 1 applicable)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Debt Service	\$ 52,405,200	\$ 52,437,400	\$ 52,435,400	\$ 52,405,700	\$ 52,365,000	\$ 377,943,400
Admin. Expenses Allocation (up to 1.5%)	\$ 670,838	\$ 689,006	\$ 694,462	\$ 903,407	\$ 912,441	\$ 11,387,072
Total Expenditure for EIR/Sewer Upgrades	\$ 60,317,038	\$ 60,323,006	\$ 60,329,862	\$ 61,309,107	\$ 62,277,441	\$ 1,322,830,612
<b>Fund Balances</b>						
Beginning Balance	\$ 1,247,188	\$ 589,988	\$ 491,380	\$ 864,320	\$ 1,116,323	\$ 1,116,323
Ending Balance	\$ 589,988	\$ 491,380	\$ 864,320	\$ 1,116,323	\$ 889,268	\$ 889,268
<b>Bond Issuance</b>						
Bonds Sold (2) (Details below)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 530,000,000
Current Debt Service Revenue	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

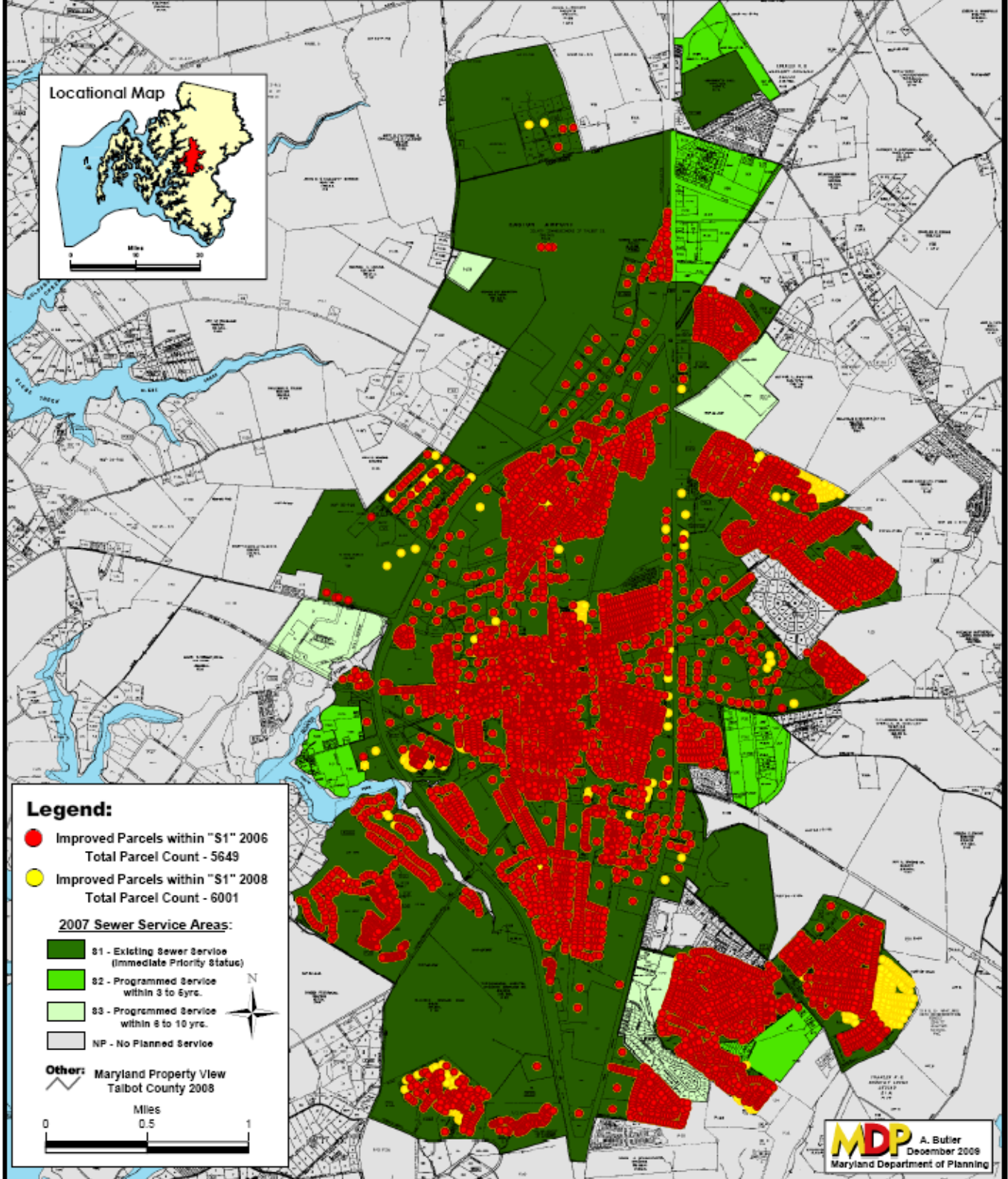
(1) Net of Bond Issuance Costs, estimated at 1.  
 (2) Assumes 15-year term at Wt. Avg. 5.50% Int

Contact: Jag Reuman, Director, MWQFA  
 Email: jreuman@mda.state.md.us  
 Phone: 410-637-3119

## **Sewer Service Areas**



# Easton Wastewater Treatment Plant Sewer Service Area 2008 & with Improved Parcel Datasets 2006 and 2008



**Legend:**

- Improved Parcels within "S1" 2006  
Total Parcel Count - 5649
- Improved Parcels within "S1" 2008  
Total Parcel Count - 6001

**2007 Sewer Service Areas:**

- S1 - Existing Sewer Service (Immediate Priority Status)
- S2 - Programmed Service within 3 to 5 yrs.
- S3 - Programmed Service within 6 to 10 yrs.
- NP - No Planned Service

**Other:** Maryland Property View  
Talbot County 2008

Miles  
0 0.5 1

# Easton Wastewater Treatment Plant Sewer Service Area 2008 & Certified Priority Funding Area Overlay

