MARYLAND

Department of the Environment

Maryland Bay Restoration Fund

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Water Management Administration

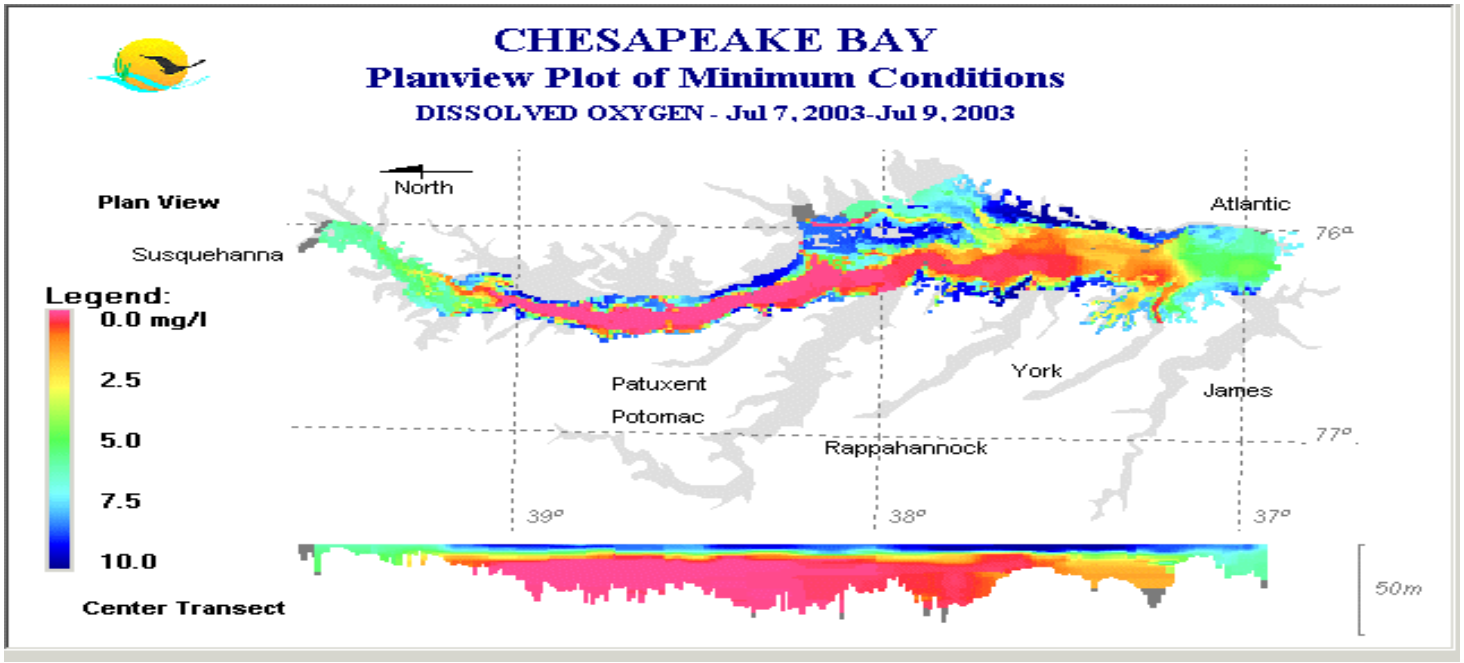
Maryland Department of Environment

MDE

2000 Chesapeake Bay Agreement

Bay and River Water Quality Commitment

By 2010, correct the nutrient- and sediment-related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act.



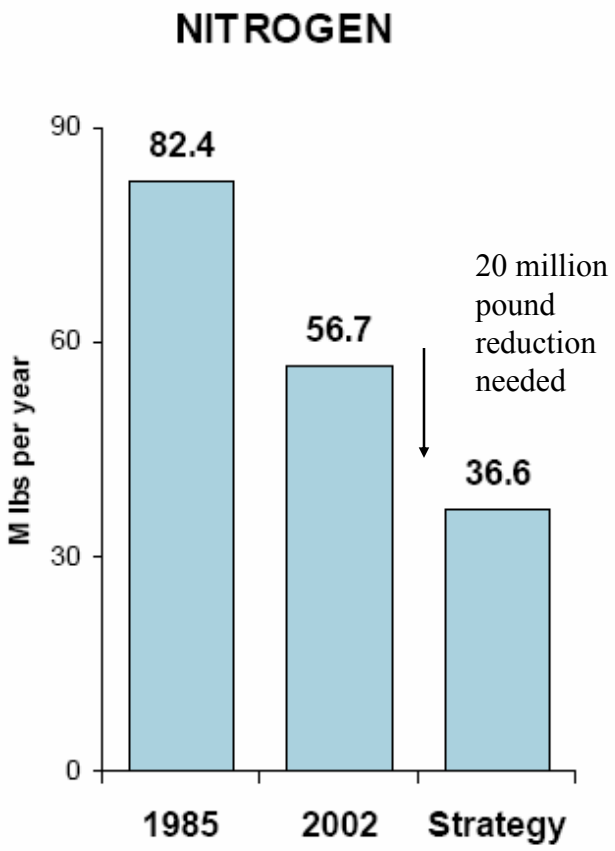
Cap Load Allocations by State

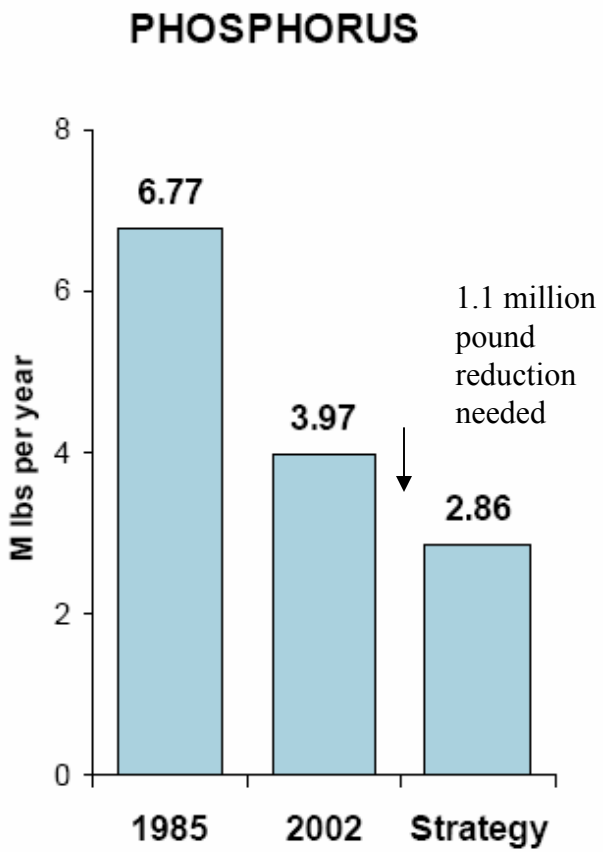
	Nitrogen Allocation (million pounds/year)	Phosphorus Allocation (million pounds/year)
PENNSYLVANIA	72	2.3
MARYLAND	37	2.9
VIRGINIA	51	6.0
DISTRICT OF COLUMBIA	2	0.3
NEW YORK	13	0.6
DELAWARE	3	0.3
WEST VIRGINIA	5	0.4
SUBTOTAL	183	12.8
CLEAR SKIES REDUCTION	-8	
BASIN-WIDE TOTAL	175	12.8

Maryland Annual Nutrient Loading Cap

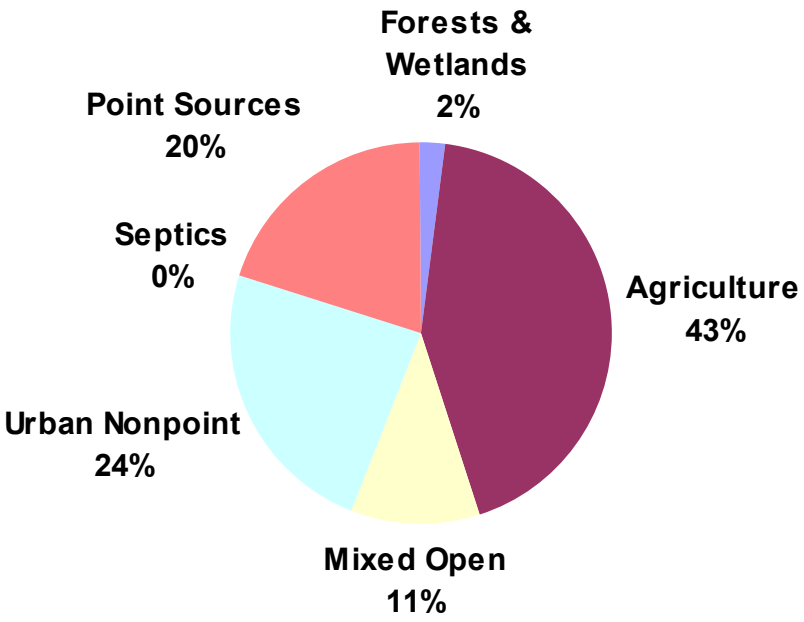
Nitrogen – 37.25 Million pounds

Phosphorus – 2.92 Million pounds



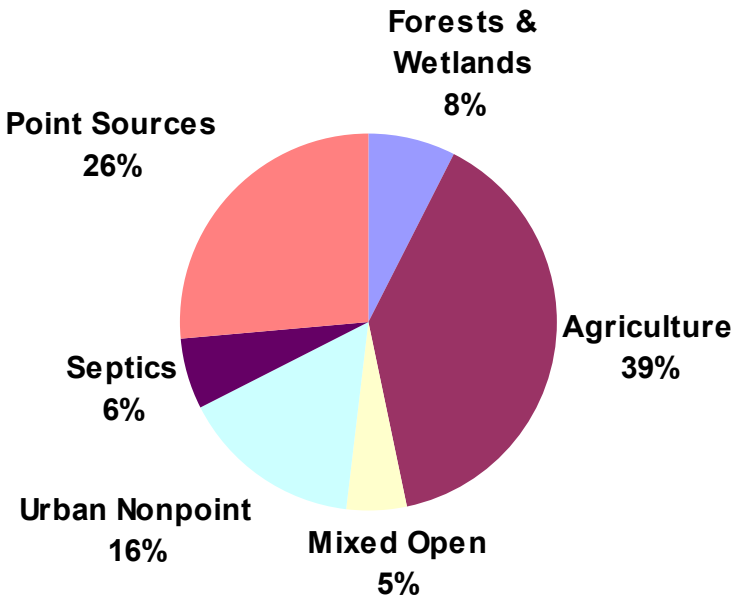


MD Nutrient Sources (2002)

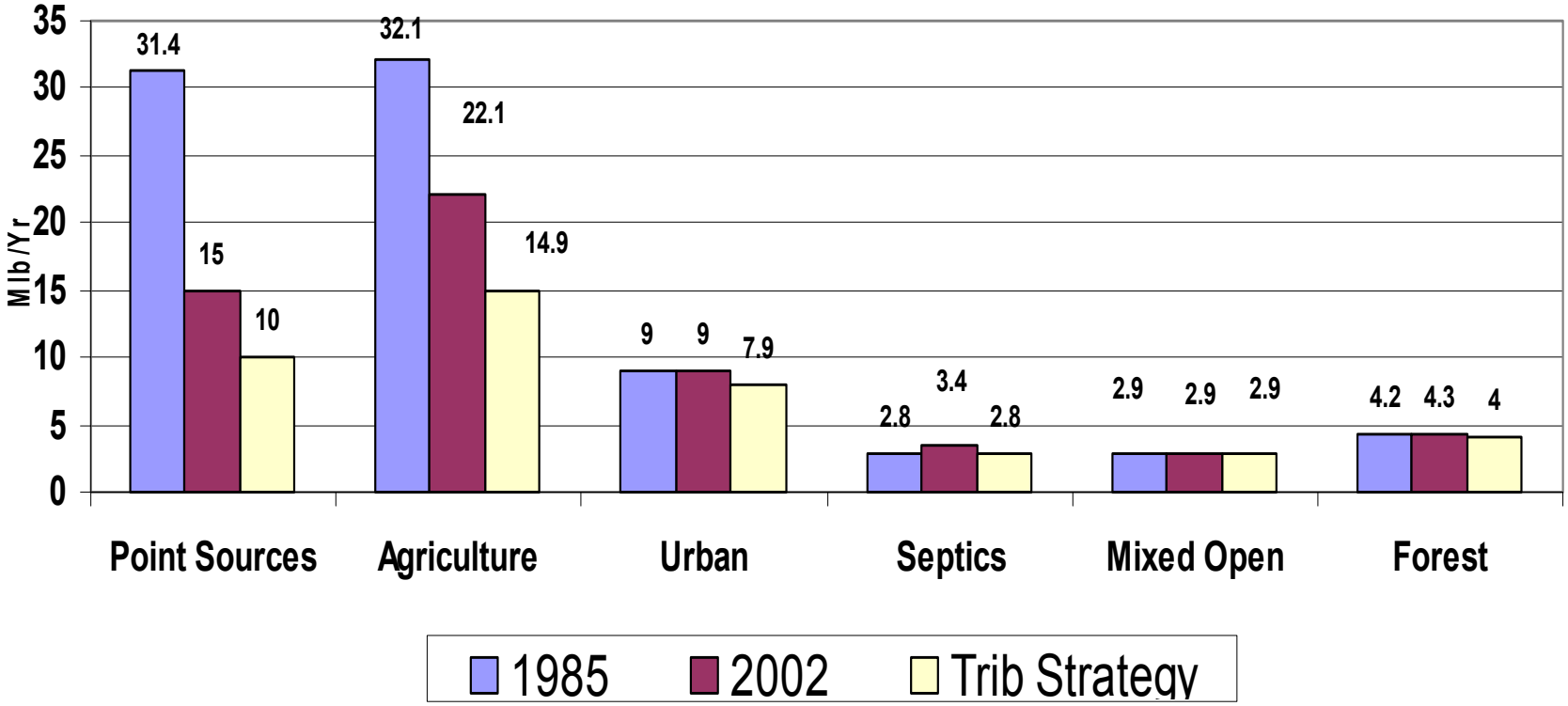


Phosphorus

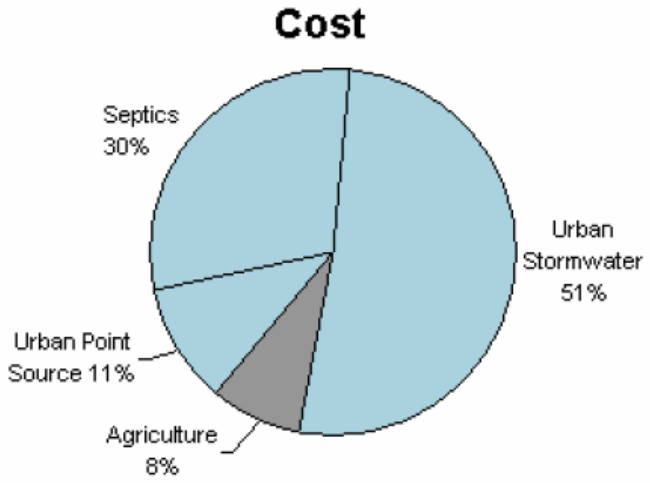
Nitrogen



Nitrogen Loading from MD Sources

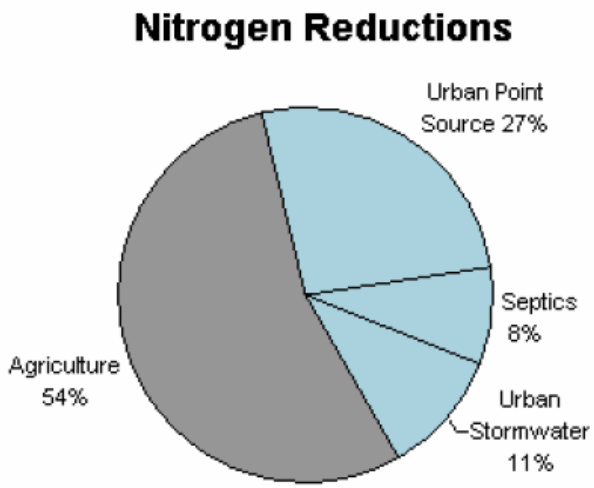


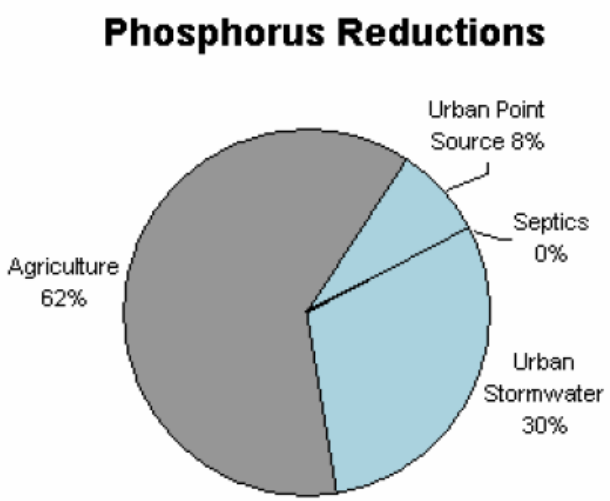
Cost-effectiveness



Total estimated cost 2004-2010 and beyond:

$10 Billion





Source: http://www.dnr.state.md.us/bay/tribstrat/exec_summary_5_6_2.pdf

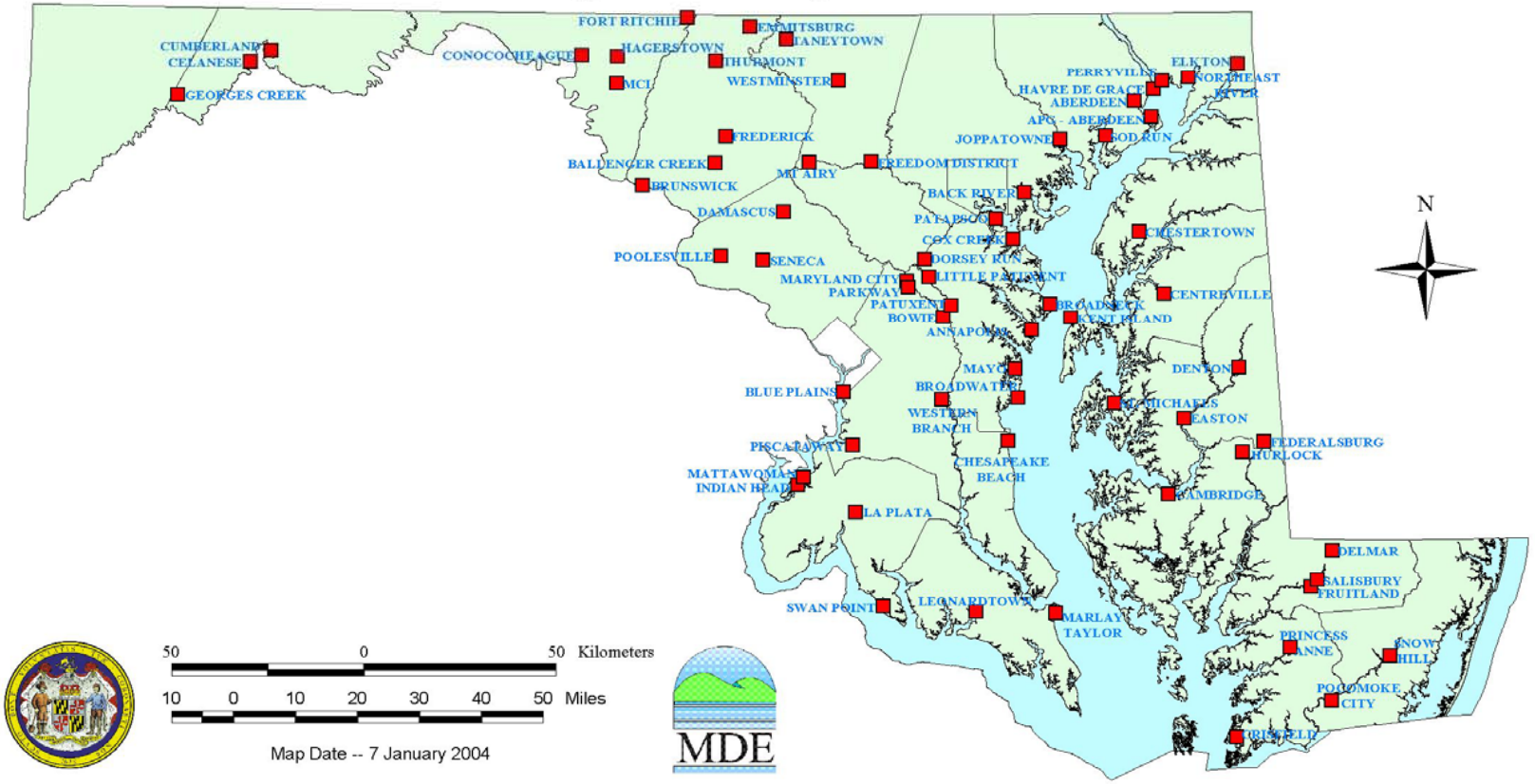
Biological Nutrient Removal (BNR)

- In support of Maryland's commitment under the 1983 Chesapeake Bay Agreement, the State implemented the Biological Nutrient Removal (BNR) Program.
- The BNR program called for sewage treatment plans with design capacity of 500,000 gallons per day or more to upgrade to achieve 8 mg/l total nitrogen in effluent discharge water quality.

MDE

CHESAPEAKE BAY RESTORATION PARTNERSHIP

Maryland's Major Wastewater Treatment Plants in the Chesapeake Bay Watershed



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BNR Accomplishments

- The majority of the 66 targeted wastewater treatment plants have been upgraded with the BNR technology.
- Nitrogen load from point sources has been reduced from 1985 level by 16.9 million pounds per year (52%)
- Phosphorus load from point sources has been reduced from 1985 level by 1.7 mlb/yr (63%)

BNR Funding

Of the 66 major WWTPs in Maryland:

- 40 in operation with BNR
- 9 under construction for BNR
- 2 under construction for BNR/ENR
- 15 in BNR/ENR design or planning

State general obligation bond funding:

- $ 600 million total estimated State and local cost
- $ 300 million total estimated State share
- $ 208 million State funding authorized to date

Bay Restoration Fund

The Bay Restoration Fund (Senate Bill 320) will allow Maryland to achieve over 1/3 of the necessary additional nutrient reductions by:

- upgrading wastewater treatment plants with Enhanced Nutrient Removal facilities,
- upgrading septic systems in the Critical Area, and
- implementing cover crop on agricultural land.

Enhanced Nutrient Removal

ENR is defined in the law as:

- An enhanced nutrient removal technology that is capable of:
  - *3 mg/l total nitrogen*
  - *0.3 mg/l total phosphorus*
  - *calculated on an annually averaged basis*
- Or, the lowest level the Department determines is practicable for a facility

Sewage Treatment Plant Upgrade Priorities

- 66 major plants discharging to Chesapeake Bay will be upgraded first to reduce the nitrogen loading to the Bay by 7.5 million pounds per year
  - *These plants represent over 95% of Maryland's wastewater flow into the Bay*
  - *It is most cost-effective to upgrade the larger plants*
  - *Upgrading these plants alone will meet MD's wastewater nutrient reduction goals for the Bay*
- Other facilities may be upgraded later, based on consideration of:
  - *Cost effectiveness, water quality benefit, readiness to proceed, and nitrogen and phosphorus loading*

Bay Restoration Fund

- Two dedicated funds created:
- One, financed by sewage treatment plant users, will raise $60 million per year to upgrade Maryland's wastewater treatment plants to achieve enhanced nutrient removal (ENR)
- A second, financed by users of onsite sewage disposal systems, will raise $12.6 million per year to upgrade septic systems and implement cover crop activities to reduce nitrogen loading to the Bay

Revenue and Financing

- Estimated to generate $60 million annually from sewage treatment plant users
  - *Will be used to back over $750 million in revenue bonds to fund the upgrade of 66 major sewage treatment plants. Maryland will continue to seek federal funding to cover funding gaps.*
- Estimated to generate $12.6 million from septic system users
  - *60% to be used for septic system upgrades, 40% for cover crop activities*

Funding

- Supported by a $2.50 per month per household surcharge on sewer bills
- For commercial and industrial users, $2.50 per month per “equivalent dwelling unit” (EDU) based on wastewater flow
- $30 annual fee for users of septic systems, holding tanks or other onsite sewage disposal systems (OSDS)

Timing

- The surcharge on sewer bills and for septic system users that receive a water bill began on January 1, 2005.
  - *Collected by the water or sewer authority*
- The surcharge for septic systems begins on October 1, 2005.
  - *Collected by county governments*

Fund Management

- Maryland Water Quality Financing Administration (WQFA) is managing the financial and accounting aspects of the fund.
- In cooperation with the Comptroller's Office, WQFA has worked with water and sewer billing authorities to establish the billing process.
- Program status – billing has been initiated.

Wastewater Treatment Plant Upgrades

- Water Management Administration is managing the technical and administrative aspects of the fund.
- Priority List for WWTP ENR upgrades.
- CSO/SSO and Sewer Rehabilitation Projects.
- Financial Assistance for ENR Operation and Maintenance costs.
- Using existing procedures established for the BNR Program.
- Program Status – ENR upgrades are underway

Administrative Costs

- To carry out billing and fund management
  - *Comptroller's Office – up to 0.5%*
  - *Local governments/billing authorities – up to 5%*
- To implement the upgrade programs at the Department of the Environment
  - *up to 1.5% of wastewater treatment plant funds*
  - *up to 8% of septic system funds*

Eligible Uses of the WWTP Fund

- Up to 100% of the costs of planning, design, and construction of ENR upgrades for flows up to the design capacity
- Up to $5 million per year for Combined Sewer Overflow abatement and existing sewer rehabilitation (Fiscal Year 2005-2009)
- After Fiscal Year 2009, up to 10% for ENR operation and maintenance costs

"Full Speed Ahead"

- One facility has already been upgraded with ENR using state and federal grants (Princess Anne's).
- Four (4) facilities are under construction to be upgraded to BNR/ENR (Celanese, Easton, Kent Island and Hurlock).
- Eleven (11) facilities are under design to be upgraded to BNR/ENR.
- Twenty-eight (28) facilities have initiated the planning for ENR.

Septic System Upgrades

- There are over 420,000 septic systems in Maryland
- State and local agencies to develop and implement an upgrade program
  - *Identify the owners' names and addresses*
  - *Establish education and outreach to explain the program and availability of funding*
  - *Implement system upgrade program*
  - *Develop regulations to govern program*

Eligible Uses of the Septic System Fund

- With priority given to failing systems in the Critical Area, up to 100% of the cost of:
  - *upgrades of existing systems to best available technology for nitrogen removal*
  - *the cost difference between a conventional system and a system that uses best available technology for nitrogen removal*
- Implementation of the cover crop activities by the Maryland Department of Agriculture

Identify Users of OSDS

- No master inventory exists
- Data availability vary with county
- All counties have sewer service area maps
- All counties are covered by the MD Real Property Data Base

Method of collecting the OSDS fee

- Identify all improved properties using the Real Property Data Base (Maryland Department of Assessments and Taxation) and County records.
- Identify all properties in areas served by public water or sewer using County Master Water and Sewer Plans.
- Delete those properties in areas served by public water or sewer from all improved properties.
- Bill improved properties not in areas served by public water and sewer.
- Provide process to appeal, as not all improved properties will actually have onsite sewage systems.

OSDS Fund

- Approximately $6,500,000 per year available
- Approximately 700 system upgrades per year
- Best Available Technology (BAT) for nitrogen removal requirements are under development by a technical workgroup including State and local government and industry representatives

Cover Crops

- Approximately $4,700,000 per year available
- Maryland Department of Agriculture (MDA) is managing the technical and administrative aspects of the cover crop implementation.
- MDA is using existing procedures established for the Maryland Cover Crop Program.
- Program status – ongoing

OSDS & Cover Crop Fund Benefits

- Onsite system upgrades will reduce the nitrogen loading to the Bay by an additional 105,000 pounds per year by 2010.
- Cover crops will reduce the nitrogen loading to the Bay by additional 1.4 million pounds per year and phosphorus by additional 73,800 pounds per year.

Advisory Committee

- Evaluate the cost, funding and effectiveness of the wastewater treatment plant upgrades
- Recommend future changes to the restoration fee, if necessary
- Consult with and advise the counties and the Department regarding the septic system upgrade program

Advisory Committee Due Dates

- January 15, 2005 – Report on methods of collecting fees from users of on-site sewage disposal system (OSDS).
- January 1, 2006 (and every year thereafter) – Report on findings and recommendation.
- December 31, 2006 – Report on administrative costs to local governments for collecting fees and the reasonableness of allowable reimbursement.
- December 31, 2006 – Report on implementation and costs of MDE's OSDS outreach and upgrade program.

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For additional information

call 410-537-3567

or email webmaster@mde.state.md.us

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