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Environmental Policies

### Living in the Chesapeake Bay Watershed

For people living in more urban areas, the Chesapeake Bay may seem like it is extremely far-removed from every day life, only remembered when its time to go on holiday.

Unfortunately, this dismissal of the Bay has caused serious problems in pollution, and despite the many benefits it provides to those living in its watershed, the urban areas have almost completely ignored the damage that they have caused. Nonpoint source pollution from sewage waste, specifically waste which comes from older septic tanks and point source pollution damages the Bay from sewage waste plants, which makes these both very large contributors to the harm being done to the Bay. But there can be best management practices implemented to increase awareness in communities, and encourage better practices.

When the 2000 deadline was missed, the Environmental Protection Agency, Maryland, Virginia, Pennsylvania, and Washington D.C. set up a new deadline, 2010. (Fahrenthold, 2007) In December of 1983, Virginia, Maryland, and Pennsylvania's governor, as well as Washington D.C.'s mayor held a conference and decided on what would be the "first interstate Chesapeake Bay Agreement." (Our History, 2006) This agreement posed a 2000 deadline to have the Bay cleaned up, but from the start, there were already problems. One of the first things that the Save the Bay foundation had to do was press Virginia to make its budget for the program larger. (Our History, 2006) And that is really the crux of the problem with getting the Bay cleaned up, there are a lot of different measures being taken, but there is not enough money and the programs that

are started have not been happening fast enough to make the changes and improvements happen, all while even more pollution is entering the Bay. The original deadline was set because the different states and the EPA were under the impression that they were going to be able to point to a specific source of pollution. (Fahrenthold, 2007) But non-point source pollution has reared its ugly head, and the different governments and agency realized that it wasn't a huge corporation or one specific place they could point at, force to make changes, and essentially fix the Bay. Some of the biggest problems facing the Bay were "manure, fertilizers and human waste," obviously all coming from urban areas and farms. The human waste is coming from older septic systems as well sewage plants. The septic tanks would have to be replaced, and if done by the owner, would cost them a huge amount of money that some homeowners just don't have, while the sewage plants would have to be updated because both release pollution into the water, especially nitrogen. While one of the states, Maryland, has money to help replace these septic systems in homes, they do not have enough money to do it by 2010 (or anywhere close to it), and even if they did, it would take a lot of manpower and check ups to do so, which unfortunately, Maryland also does not have. (Fahrenthold, 2007) In Maryland, there are currently 420, 000 onsite disposal systems, or septic tanks, and of these, the ones that are failing are going to be given priority. If the septic tanks are changed, 7.5 million pounds of nitrogen and 260 thousand pounds of phosphorus could be prevented from entering the Bay, but this is only about a third of what Maryland promised by the 2000 deadline. (Bay Restoration Fund (Senate Bill 320), 2004) On average, residents with a septic tank pump nine pounds of nitrogen pollution into the Bay every year, while those residents on a public sewer system pump only about two. (6 Common 'Flush Fee' Myths, 2007)

The nitrogen being released from the septic tanks and sewage plants is causing a lot of damage to the Bay because of the easy way that it can be transferred from one place to the other. It is easily run off into the water, can be absorbed by the soil (Fahrenthold, 2007), and when it reaches the water, it can create “nitrification... denitrification... and nitrogen reduction,” (Water Chemistry at the RIM Stations, 2004) These different combinations are very dangerous because when there is too much nitrogen in the water, “blue-green algae and bacteria” are able to turn atmospheric nitrogen (through nitrogen fixation) into ammonium. Ammonia and organic nitrogen are also released into the water because they are commonly in fertilizer, and because of the way that wastes (whether they are human or animal), these nonpoint sources of pollution are entering the watershed without any type of control. (Water Chemistry at the RIM Stations, 2004)

There are many different policy changes that could result in a reduction of nitrogen entering the Bay. These could include subsidies for farmers who adopt best management practices such as riparian buffers or taxes on lawn fertilizers. Incentives for making these changes should be more widely available. For those that have already installed buffer zones or other environmentally friendly practices, or want to implement these changes, one of the suggestions being offered is that because these are such costly changes, then the farm community should be given more incentives, like “grant based funds... as well as supplementary funds to cover maintenance and taxes.” (WV Potomac Tributary Strategy: Chapter 7 Challenges to Implementation, 2005) Government agencies need to also be working together, not only for providing incentives for farmers, but because there is still so much to do in the Bay, that even the Environmental Protection Agency has been charged with dallying, as well as trying to set up programs that are very costly, as well as inefficient. (Fahrenthold, 2007) The fact that the federal government has cut funding for sewage plants and the money that is supposed to be given to

farmers that are trying to implement these changes, is indicative of an Administration that is not “committed” to saving the Bay. (GAO Slams Federal Agency Charged with Chesapeake Bay Clean-up, 2005)

Maryland has a very successful program when it comes to trying to reduce the amount of waste that the state, sewage plants and septic tanks contribute to the Chesapeake Bay. It is “directed toward improving the operation of municipal sewage treatment plants through improved financial management and operator training, improved regulation and monitoring of industrial discharges which go into the municipal waste stream to be treated at sewage treatment facilities, and enhanced compliance enforcement efforts.” (Chesapeake Bay Monitoring "Monitoring for Management Actions") The Chesapeake Bay Restoration Act was signed into law in 2004, and the sixty-six sewage plants have already been chosen, with the largest amount right around the coastline. (Chesapeake Bay Restoration, 2006) This monitoring helps make sure that the individual sewage plants do not pollute more than they should, keeping in compliance with what the state is allowing. The plant operators are used for gathering the data that is needed in order to make sure that they are in compliance, information which is evaluated and used as reference points for different projects. And while there hasn't been a dramatic reduction in the amount of nitrogen being contributed into the Bay, it has remained “fairly stable in the face of increasing sewage flows.” (Chesapeake Bay Monitoring "Monitoring for Management Actions")

In January of 2005, Maryland residents had to start paying what is referred to as a ‘flush tax’; a tax that is supposed to help “upgrade wastewater treatment plants” because most of these treatment plants empty into the Susquehanna watershed, which is also a “drinking water source” for the residents of this state. (Derek Williams, 2005) For those that have septic tanks, a \$30/ year fee is being paid, while those that use the sewage system pay \$2.50 per monthly bill;

businesses are exempt from paying the tax only if they have not received federal or state grants. Bruce Michael, a water quality expert who heads the Tidewater Ecosystem Assessment Division for Maryland's Department of Natural Resources, is guesstimating that the tax will raise around \$600 million in the ten years after it is implemented. The money will go to improving 66 of the largest wastewater treatment plants in Maryland. The state is trying to meet the 2010 deadline the EPA set up to try and reduce the amount of nutrients, nitrogen down to 3 milligrams from 18 to 20 milligrams per liter and phosphorus levels to 0.3 milligrams per liter), it lets into the Bay. (Derek Williams, 2005)

The sewage plants are not the only ones that are going to benefit from the 'flush tax.' Money from "420, 000 septic tank users will be used to upgrade or replace failing septic systems." (Derek Williams, 2005) Not only will the funds be helping replace the septic systems, but they will also provide "financial assistance to farmers so they can plant cover crops to prevent runoff from fields," (Derek Williams, 2005) because Maryland has such a large farm community and animal waste is also up there with the amount of pollution that it contributes. (Derek Williams, 2005) Mr. John Boris, project manager with the department that is providing onsite disposal systems for Caroline, Kent, Talbot, Queen Annes, Dorchester, Harford, Carroll, Garrett, Frederick, Howard, Allegheny, Washington, Wicomico, and Cecil County said that on average, replacing septic tanks cost individual residents from \$5, 000-15, 000 dollars. But, he added, there are grants that the resident can apply for, on average, the individual can receive anywhere from \$8, 000-15, 000. (Boris, 2008)

In 2009's fiscal year, \$50.9 million will go to Frederick County, MD wastewater treatment plants, which is very near the total budget of \$77.9 million for various projects in the county. The money will be given in two different ways, \$30 million will be for a loan in order to

expand the Ballenger Wastewater Treatment Plant which the state hopes will help eliminate the need for smaller plants, while “\$10 million will be used for nutrient removal improvements” at this specific plant. (Bernhardt, 2008) The county is expanding the plant not only to take in more waste but because it hopes to close all of the different, smaller plants that do not have to adhere to the state’s regulations, which will lower the amount of pollution into the Bay. (Bernhardt, 2008)

Virginia has tried to implement a ‘flush tax,’ but it failed in the 2005 General Assembly session, who despite not passing this particular legislation, did approve adding “an extra \$50 million from the state’s general fund to clean up the Bay, plus there’s another \$32.4 million for environmental programs in the state budget.” (Williams, 2005) The Clean Stream Fee, as it was officially called, would require assessments of “residences connected to a municipal sewer system, septic system, or other wastewater treatment system” (Patterson, 2005) with a fee of \$52/year, and “industrial facilities connected to a municipal sewer system \$1, 200 per year.” (Patterson, 2005) The money that would have been collected was supposed to be put into the Water Quality Improvement Fund and was to “disbursed for the design and installation of state-of-the-art nutrient removal technology and for agricultural best management practices.” (Patterson, 2005) But while Virginia may not have passed that particular bill, it is still working on trying to remove the amount of waste that septic tanks let in to the Bay. “Virginia State law requires anyone within a Chesapeake Bay Preservation Area (CBPA) to have their septic tank pumped or inspected once every five years” (Frequently Asked Questions- Septic Tank Pump-out Program) even if the septic system is not full. Virginia also has created a fund that “will provide \$250 million per year over the next five years aimed specifically at improving water quality in Virginia’s portion of the Bay watershed.” (Virginia Receives National Award for

Water Quality Improvement Fund, 2007) “The money will be leveraged by taking limited funds in a reserve account and selling bonds using those funds as security” (Virginia Receives National Award for Water Quality Improvement Fund, 2007) so there is no mention of raising taxes on Virginia residents. Virginia is also trying to provide low-interest loans for farmers that want to improve their practices and help reduce their impact on water quality. (Virginia Receives National Award for Water Quality Improvement Fund, 2007)

Hopefully, with all of the new changes being implemented and the monitoring being done in order to preserve the Bay, there will be more marked improvements in the next ten years. While most of the goals that each of the states set for themselves will not be reached, they are finally recognizing that this is not a problem that can be easily fixed, but must be given a lot of time and money in order to see any sort of improvement.

## Works Cited

6 Common 'Flush Fee' Myths. (2007). Retrieved April 6, 2008, from Chesapeake Bay Foundation: <http://www.cbf.org/site/News2?id=12955&page=NewsArticle>

*Bay Restoration Fund (Senate Bill 320)*. (2004). Retrieved April 5, 2008, from Maryland Department of the Environment: <http://www.mde.state.md.us/Water/CBWRF/index.asp>

Bernhardt, M. (2008, January 18). *Frederick Getting Millions Back From Flush Tax*. Retrieved March 29, 2008, from FrederickNewsPost.com: <http://www.fredericknewspost.com/sections/news/display.htm?StoryID=70155>

Boris, J. (2008, April 9). Project Manager. (D. Torres, Interviewer)

*Chesapeake Bay Monitoring "Monitoring for Management Actions"*. (n.d.). Retrieved March 28, 2008, from Chesapeake Bay: Streams, Coastal Bays, Watersheds: [http://www.dnr.state.md.us/bay/monitoring/mon\\_mngmt\\_actions/chapter8.html](http://www.dnr.state.md.us/bay/monitoring/mon_mngmt_actions/chapter8.html)

*Chesapeake Bay Restoration*. (2006). Retrieved April 6, 2008, from Maryland: Department of the Environment: <http://www.mde.state.md.us/water/bayrestoration.asp>

Derek Williams, C. K. (2005, December 20). *'Flush Tax' Raises Funds to Fight Nitrogen and Phosphorus*. Retrieved March 28, 2008, from WTOPnews.com: <http://www.wtopnews.com/?nid=445&sid=608516>

Fahrenthold, D. A. (2007, January 29). *What Would It Take to Clean Up the Bay by 2010?* Retrieved March 18, 2008, from Washingtonpost.com: <http://www.washingtonpost.com/wp-dyn/content/article/2007/01/28/AR2007012801403.html>

*Frequently Asked Questions- Septic Tank Pump-out Program*. (n.d.). Retrieved April 6, 2008, from Hanover County Department of Public Works: <http://www.co.hanover.va.us/works/forms/septicprog-faq.pdf>

*GAO Slams Federal Agency Charged with Chesapeake Bay Clean-up*. (2005, November 16). Retrieved March 17, 2008, from Chesapeake Bay Foundation: [http://www.cbf.org/site/News2?page=NewsArticle&id=12987&security=1&news\\_iv\\_ctrl=1082](http://www.cbf.org/site/News2?page=NewsArticle&id=12987&security=1&news_iv_ctrl=1082)

*Our History*. (2006). Retrieved April 4, 2008, from Chesapeake Bay Foundation: [http://www.cbf.org/site/PageServer?pagename=about\\_sub\\_mission\\_history](http://www.cbf.org/site/PageServer?pagename=about_sub_mission_history)

Patterson, K. C. (2005). *Session Highlights 2005*. Retrieved April 6, 2008, from Division of Legislative Services: <http://dls.state.va.us/pubs/hilights/2005/Hilite05version1.pdf>

*Virginia Receives National Award for Water Quality Improvement Fund*. (2007, December). Retrieved April 7, 2008, from Chesapeake Bay Program: [http://www.chesapeakebay.net/news\\_vawaterqualityaward.aspx?menuitem=20260](http://www.chesapeakebay.net/news_vawaterqualityaward.aspx?menuitem=20260)

*Water Chemistry at the RIM Stations.* (2004, December 6). Retrieved March 17, 2008, from U.S. Department of Interior Geological Survey: [URL://va.water.usgs.gov/chesbay/RIMP/waterchem.html](http://va.water.usgs.gov/chesbay/RIMP/waterchem.html)

*What Can You Do To Reduce Polluted Runoff (Nonpoint source pollution).* (n.d.). Retrieved March 18, 2008, from Earth: <http://www.watersheds.org/earth/nps2.htm>

*WV Potomac Tributary Strategy: Chapter 7 Challenges to Implementation.* (2005, August). Retrieved March 14, 2008, from Potomac Highlands Watershed School: [http://www.cacaponinstitute.org/wvpts\\_challenges.htm](http://www.cacaponinstitute.org/wvpts_challenges.htm)