

# Severn River Association Minutes

Board of Directors Meeting Tuesday, November 15, 2011

The meeting was called to order at 7:05 p.m. by President Duane Wilding

## Presentation by Ron Bowen, Chief – AACo Dept of Pub Works. Topic – AACo Draft Phase II Watershed Implementation Plan.

The Maryland Department of Environment (MDE) has broken down Existing Loads in Anne Arundel County by 6 Source Categories:

- Point Source
- Urban Stormwater
- Forest
- Septic
- Air Deposition
- Agriculture

Chesapeake Bay TMDL Pollutants of Concern are primarily Nitrogen, Phosphorus, and Sediment.

Total Nitrogen Load (lbs/yr) by Source:

Source Sector	Edge of Stream Target Load	Existing Load	Margin (Reduction Required)
Point (Treatment Plants)	570,372 (1)	448,123 (2)	122,249
Septic Systems	558,043 (4)	881,266 (3)	(323,223)
Urban Stormwater	444,582 (6)	737,516 (5)	(292,934)
Total	1,572,997	2,066,905	(493,908)

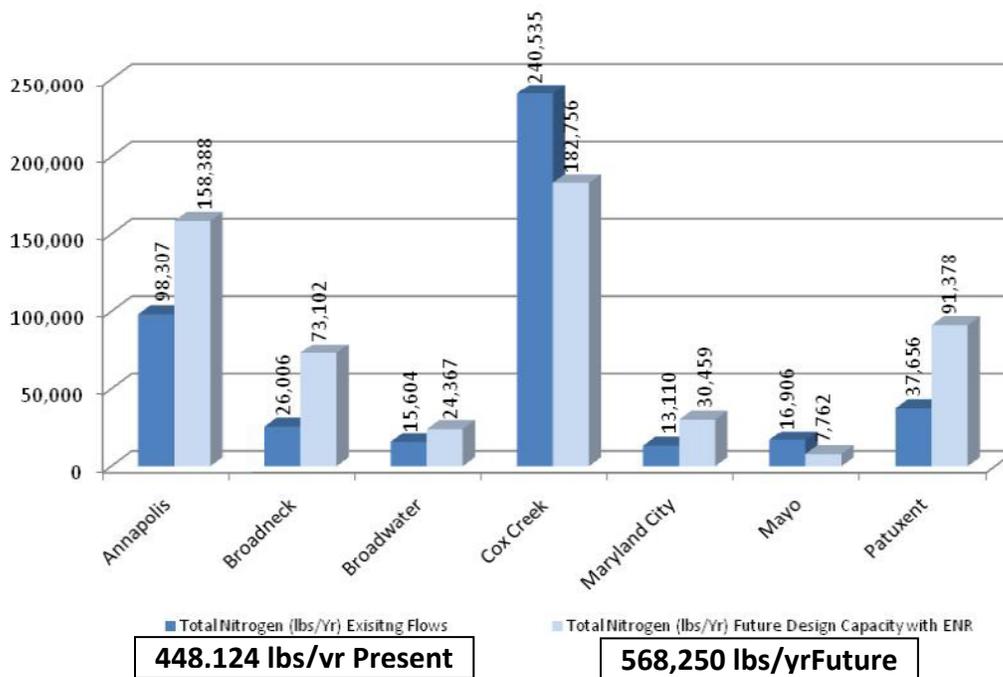
(1) Point Source Load Cap      (2) 2009 Discharge Monitoring Report

(4) Based on Septic System Strategic Plan      (3) Based on MDE Delivery Ratios

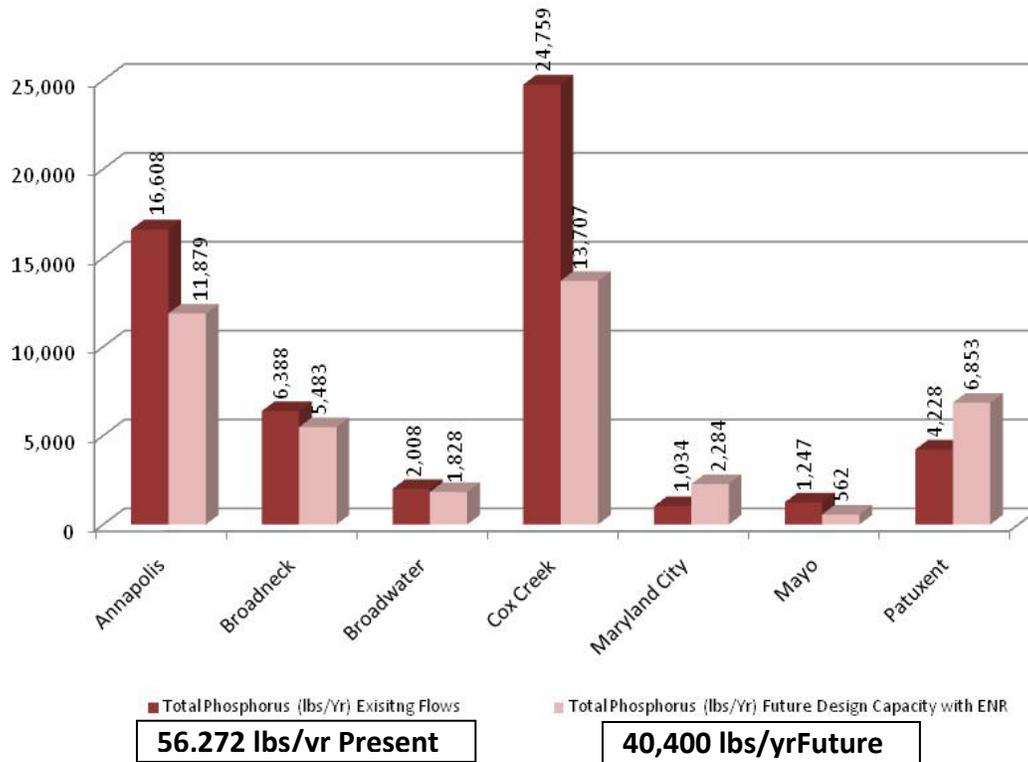
(6) Determined based on required gap closure      (5) Based on 2007 aerial photography, delineation of land covers and respective land cover TN delivery (lbs/acre)

Point Sources have a small margin, but Septic Systems and Urban Storm water need major reductions.

While this would seem to suggest that no improvements are needed to sewage treatment facilities (Point Sources), it is actually less expensive per pound of reduction to enlarge and improve central treatment plants than to upgrade septic systems, provided this can be done without adding more load by permitting development of properties which cannot pass a perc test, so DPW propose spending \$270,000,000 on Enhanced Nutrient Removal Upgrades and capacity increases to sewage treatment plants as shown below:



The upgrades would also reduce phosphorus discharge as shown below, despite the increased capacity.



Due to the increased capacity, most of the plants would see a net increase in Nitrogen discharge despite the enhanced nitrogen removal upgrades. Cox Creek and Mayo would see a net reduction because there is little potential to hook up existing septic systems due to geography and development density. 80% of the funding would come from the Bay Restoration Fund (Flush Tax). While this money does not directly upgrade septic systems, it will eliminate so many that the net reduction in Nitrogen will be far more than could be achieved by spending that money upgrading individual septic systems.

80% of the nitrogen treated by septic systems now goes into tidal water if the system is within the 100' Critical Area, and 50% if it is within 1000' of a waterway. The most cost-effective method of reducing this is a mix— Extend public sewers to eliminate 16,025 of the septic systems, install cluster treatment systems to replace 8,878, and upgrade 14,148 with advanced nitrogen reduction technology. The average septic system generates 24.7 Lbs/year of Nitrogen. Advanced technology removes 50% of the nitrogen, public sewers and clusters remove 93%.

Cluster treatment systems have one advantage over public sewers – they put water back into the ground to replenish the water table. However, they are generally more expensive and require land which is often not available. Cluster systems are now voluntary, but most petitions for clusters die due to the high cost. They will become mandatory under proposed legislation to implement the TMDLs. Fred Kelly suggested creating tax districts to install and operate cluster systems. While public sewers are the most cost-effective method, they should not be extended through undeveloped areas which would foster development.

This approach should reduce the nitrogen load from 881,266 lbs/yr to 281,932 lbs/yr. [Note – These numbers from slide 8 do not agree with the numbers in the table at the beginning which come from slide 4. The table below from slide 10 also doesn't agree with slide 8.]

Most of the septic systems to be replaced are in the Magothy and Severn River watersheds as shown in the table below.

Area #	# of units	Treatmt Type	N2 now Lbs/yr	N2 @ 4mg/L	N2 Remvd	\$\$ per unit	\$\$ / 1000	SSA	Watershed
1	4,644	Cluster	85,733	13,129	72,604	\$36,203	\$168,127	Rural	Bodkin/Magothy Patapsco Tidal
2	6,925	SewrExt	119,349	20,135	99,214	\$38,000	\$263,150	Broadneck	Magothy/Severn
3	3,849	SewrExt	75,030	12,129	62,901	\$38,000	\$146,262	Broadneck	Magothy/Severn
4	2,545	SewrExt	62,135	10,303	51,832	\$38,000	\$96,710	Annapolis	Severn/South
5	617	Cluster	12,967	1,639	11,328	\$36,203	\$22,337	Rural	Severn
6	626	SewrExt	5,710	1,595	4,115	\$38,000	\$23,788	Broadneck	Severn Patapsco Tidal
7	147	SewrExt	6,829	1,151	5,678	\$38,000	\$5,586	Cox Creek	Patapsco Tidal
8	305	SewrExt	5,972	1,193	4,779	\$38,000	\$11,590	Baltimore City	Little Patuxent Patap NonTidal
9	61	SewrExt	4,830	967	3,863	\$38,000	\$2,318	Patuxent	Upper Patuxent
10	281	Cluster	3,716	772	2,944	\$36,203	\$10,173	Rural	Upper Patuxent
11	233	SewrExt	4,958	628	4,330	\$38,000	\$8,854	Cox Creek	Patapsco Tidal
Total	20,233		387,229	63,640	323,589	<b>\$37,508</b>	\$758,895	<b>\$758,895,026</b>	

The total nitrogen removed erases all of the deficit from septic systems. The surplus due to sewage treatment can be used to reduce the stormwater deficit.

**Stormwater** – Stream erosion is the major source of sediment transported to our tidal waterways. 410 miles of perennial streams have been assessed – about half of the total. Of these, 134 miles were found to contribute High amounts of sediment, 210 mi a moderate amount, and 66 miles a low amount. Sediment increases the phosphorus load transported into the bay, and Erosion deepens channels, eliminating flood plains and reducing infiltration. More than half had severely degraded Habitat Quality - 218 Miles were Severely Degraded, 16 miles were Degraded, 102 miles were Partially Degraded, and 74 miles were only Minimally Degraded. South county streams are just as degraded as north county streams, but the surface water quality is much worse in North County.

The Biological Condition of Perennial Streams was assessed using the Benthic Index for Biotic Integrity (BIBI) Score. 376 Samples were taken – 5% were rated Good, 23% Fair, 49% Poor and 23% Very Poor.

The best available technology for reducing erosion and restoring streams is the Step Pool Stormwater Conveyance (SPSC) Restoration Strategy. This is a major improvement, but still doesn't infiltrate as well as the original stream with intact floodplains. SPSC Systems have withstood major storms with minimal damage, and are also restoring fish migration patterns. The forest Understory is growing and further slowing water in the SPSC systems installed six years ago. Pictures were shown of restored streams behind the Millersville Sanitation Department building and Homeport Farms.

The Core Implementation Strategy for restoring Edge of Stream Stormwater damage is divided into four areas: Stream Channel Restoration, Ephemeral Channel Restoration, Stormwater Outfall Restoration, and Stormwater Pond Restoration. The Ultimate Goals are Restored Stream Stability, Restored Hydrology within Floodplains & Streams, Restored Biological Health of Streams, and Compliance with Water Quality Standards.

The bottom line estimated cost to meet the TMDL requiremt is about \$760 million for sewage improvements and about \$1 billion for stormwater control improvements and repairs.

Kurt Riegel pointed out that stream degradation is a symptom, not the problem – the problem is upstream at the source. Mr. Bowen agreed that the ultimate intent is to get to the source, but the streams are already so far gone that just fixing the source isn't enough.

Fred Kelly asked if Green infrastructure would help. Mr. Bowen felt that this technology is too new to tell, but the impact will probably be small. We must deal with what we have now. Since it is very difficult to reduce impervious areas by much, we must deal with increased volume. Still, every bit of Best Management Practice helps.

Sally Hornor asked what the priority will be for State Bay Restoration Funds – more to urban or more to sensitive areas? Mr. Bowen responded that current thinking is that 50% of urban costs will be funded by the BRF. The state may give half to local governments instead of directly to septic owners. For urban stormwater, each jurisdiction must demonstrate the same percentage reduction. Annapolis has their own allocations, and Military installations are also separate from the AACounty allocation.

Ken Hatch asked if there is any difference between drywells and drainfields for septic systems? Mr. Bowen responded that yes there is some difference but there are no statistics as to relative effectiveness.

BobWhitcomb asked where is AACo relative to other counties on developing a WIP? Mr. Bowen responded that others are catching up. We will present to EPA this Friday 11/18, and it will be 3-4 months before we hear back. MDE will use what the counties give them, not going back for much more.

Kurt Riegel asked if Councilman Trumbauer's Stormwater Restoration Fund bill passes, will that supply enough funding to implement the WIP? Mr. Bowen responded that it is expected to generate only \$14-16 million per year which is only about 1/7 the estimated cost for AACo through 2025 when the WIP is supposed to be fully implemented. Each jurisdiction must report its progress each year. The Fund must spread out among each council district, so AACo will get only a small portion of the funds, Clearly much more funding is needed to fully implement the WIP.

Bob Whitcomb asked if DPW has shared this information with other utilities? Mr. Bowen responded that about 5 have expressed interest.

Duane Wilding expressed the SRA's appreciation for an excellent and informative presentation. The full presentation, including pictures of eroded and remediated stream beds, is posted on the SRA web site.

## **Business Meeting:**

**Minutes of Last Meeting** were Approved

**Treasurer's Report** – Treasurer Lynne Rockenbauch reported Checking Acct Balance as of Oct 31 is \$ 31,719.78, Investment account balance \$35,863.26, total \$67,583.04. The Investment Account has been closed. Bob Whitcomb, as chair of the audit committee, moved that the Treasurer, Severn River Association, Inc. (SRA) open a new account at Arundel Federal Savings Bank for the purpose of investing the SRA operating reserve funds at a federally insured bank. In addition to the current Treasurer, Lynne Rockenbauch, the current secretary, Robert vom Saal, should be added as a signatory. Both signatories should be able to withdraw funds payable to SRA, deposit funds, purchase new CDs (maximum of 3-year term), and determine the disposition of maturing CDs.. John Wright seconded the motion, and the motion passed.

## **Old Business:**

- Land Use – Zoning Update – Dinny White was absent but provided the following report via Duane Wilding: A lawsuit has been filed challenging the legality of the rezoning process because it ignored the Small Area Plans in violation of State law. The SRA has been asked to support the suit.

- The Severn School Run raised \$1500; half was given to the SRA and the other half went to The Severn School. Ann Jackson won a medal.

### **New Business:**

Community News – (opportunity for Community Reps to share happenings in their community) –

- Bob Whitcomb – Saefern moved a ton of rock near their pool to raise weirs to stop erosion.
- Duane Wilding – Richard Klein of Community & Environmental Defense Services has done a preliminary Watershed audit. The SRA will not have to pay for full audit – we are an example. Mr. Klein will speak at our January meeting. He is trying to organize a tour of problem areas. Duane has more detailed notes from the Executive Committee meeting. We need volunteers to inspect stormwater controls and report their condition to AACounty. Our website has a Link to the report.
- Duane Wilding – A letter has been written to Ed Reilly about the Veteran’s Cemetery flooding problem. Ken Hatch spoke to Senator John Astle – he will work with Mr. Reilly to solve the problem. The cemetery is on State-owned land but receives Federal funding. Bob vom Saal moved to send the letter, Mike Robinson second, motion passed. Kurt Riegel mentioned that the Veteran’s Cemetery plans to remove more trees – they are still treating the result and not the source. Duane Wilding pointed out that the Evergeen restoration will be a resource for the cemetery – it will be a nice walk when completed.
- Duane Wilding mentioned that the SRA Executive Committee plans to increase funding for our Stormwater Action Fund in the 2012 budget. Ann Jackson noted the Committee plans to add a second phase of support to help with implementation as well as design.
- AACo Councilman Chris Trumbauer has introduced a Storm water Utility fund bill. The South River Federation drafted a letter of support, and the SRA has been asked to sign on. Sally Hornor moved to sign on to this letter and that motion passed.
- Membership Renewal Lettter – Duane will try to this get out in the next week or so. Bob Whitcomb suggested two letters – one to individuals and another to communities. Oyster growers should also get the individuals letter. We should focus more on encouraging non-member communities to join. John Wright is following up on this.
- Charlotte Lubbert – AACo has cut funding to the Watershed Academy, so a 501(c)(3) corporation has been created to accept donations to support future classes. She asked that we match the South River Federation’s (SRF) \$1,000 donation. Ann Jackson moved to do so, Lisa Bender seconded. Kurt Riegel suggested that our Stormwater Action Fund (SAF) could donate this money. Sally Hornor pointed out that the SAF is to fund communities. Kurt felt this was still consistent since the Watershed Stewards do a project in their community as a graduation requirement. Bob Whitcomb helped to form the 501(c)(3) corporation, but has resigned from its Board because it competes with the SRA for donations – he feels it should go for public grants instead, and also because our donation gives us no tax advantage since we are also a 501(c)(3) corporation. Our membership is declining and is much smaller than the SRF – their budget is much bigger. Lisa Bender felt that the Watershed Academy has access to bigger donors (grants) than the communities our SAF is supporting. Steve Barry mentioned that Washington is supporting the WA, but their Board wants local support also. The South and Severn Rivers have the most benefit since they have the most students in the Academy. Bob Whitcomb has talked to Kincey Potter of the SRF – there is competition with the SRA and she is targeting our constituency. Lynne Rockenbauch pointed out that our SAF budget is going up. Kurt Riegel proposed an amendment to send the motion to the SAF Committee to consider and decide the amount. Lisa Bender seconded that motion. The vote was 7 for and 9 against so the amendment failed. The original motion (to donate \$1,000) passed 9 for and 4 against.

Other Business –There was no other new business.

### **Meeting Adjourned at 8:55 PM.**

**Next Meeting:** will be December 18 – No Speaker – this will be a business meeting.

Respectfully submitted,                      Bob vom Saal