



CHESAPEAKE ENVIRONMENTAL PROTECTION ASSOCIATION, INC.
P.O. Box 117, Galesville, Maryland 20765

NEWSLETTER

Winter 2014-2015

PRESIDENT'S MESSAGE

By Al Tucker, President, 2015



Joan Turek and I had the opportunity to attend the Symposium on "Growth and the Future of the Chesapeake Bay". The conference was organized by Tom Horton, who you will recall, spoke at one of our past CEPA forums on the topic he has long championed, "The Fallacy of Growing Our Way to a Healthy Bay." Tom's thesis is very simple: as we add more people to the Bay region,

the impact of every person, including the new additions, must be reduced just to maintain the status quo. The fallacy arises because current trends show the opposite is actually occurring. As more people occupy the watershed, land is cleared, more roads cover productive soils, and runoff increases along with the need to sequester more waste products.

Instead of reducing the impact per person, the opposite is happening. Demographic surveys show the rise of more single person households and the concomitant increase in the size of their dwellings. Inevitably there is less land to provide ecological services or to produce food and, alas, the rate of this loss is increasing faster than population growth. The primary question then is: Has the population of the Chesapeake Bay watershed exceeded its carrying capacity?

The conference focused on two dominant "growth" concepts: *population growth* and *economic growth*.

Population growth is simply the increase in the number of people. Clearly, more people consume more resources like food and energy. Economists measure a person's well-being in terms of material living conditions, which determine a person's likely consumption and their command over resources. Thus *economic well-being* expresses how much money one has to spend. Improvement is measured by the rate of growth of the GDP, simply stated as *economic growth*. Thus economic growth becomes a proxy for well-being.

There are other dimensions to a person's well-being: *quality of life* for one and the future *sustainability* of socio-economic and natural systems for another. These qualities do not lend themselves to direct measurement so economic well-being is a substitute for them, a poor one at that. When the population was small relative to natural resources, economic well-being was perhaps a good indicator of well-being, particularly in western cultures. Now, however, the population size is encroaching on the limits of natural resources, and is beginning to tax the capability of natural systems to sustain themselves. We now recognize the limits of fossil fuels and the sustainability of the oceans to produce fish.

The symposium focused on macroeconomic issues. It caught one's attention by posing intriguing and thought provoking questions:

1. Is [economic]¹ growth ending? (Maybe)
2. Does [economic] growth makes us better off? (Not really)
3. Is green growth the answer? (Perhaps)
4. Can we achieve steady state economics? (Unknown)
5. What are the moral and ethical implications of slowing growth? (The third rail, really hard)

The discussion of these questions by the presenters tended to outline the problems in greater detail rather than to provide solutions, especially actionable solutions. Many attendees, including Joan and myself, were seeking insight and solutions to local growth.

There were three presentations, though, that attempted to address their local population issues directly:

1. Vermont's Optimum Population²
2. Advocates for a Sustainable Albemarle Population, (ASAP)³
3. Calvert County, MD's development plan

The first presentation by George Plumb assessed 15 indicators, reflecting important elements of environment and quality of life. These indicators included biodiversity, forest cover, happiness, renewable energy production, steady state economy, and water quality as well as others. The purpose of the study was not to rank them, but to make a subjective assessment of the population limit that would produce a sustainable outcome. The overall average population for all indicators was about 500,000. The current population of Vermont is 626,000, so it has already passed that benchmark. Since the area and population of Vermont are similar in size to Anne Arundel and Calvert County combined, I think that the indicators studied there might give some insight into equivalent issues in our Southern MD Counties.

The second presentation, by Tom Oliver, described how ASAP sponsored original research to educate, develop policy and advocate for an optimum sustainable population in Albemarle County, VA. That County shares many characteristics of Anne Arundel and the other Southern Maryland counties: it is mostly rural but contains the dense urban area of Charlottesville, VA. ASAP addressed ecological footprints, and groundwater extraction to obtain limits for a sustainable population.

Greg Bowen, a retired Calvert County planner, described how the county set limits on the number of households in the

¹ Brackets are used for the implied dominant type of growth.

² see *Vermonters for a Sustainable Population*, <http://www.vspop.org/>

³ see *Advocates for a Sustainable Albemarle Population* (Albemarle, VA), www.asapnow.org

county. This was done more than two decades ago and the mechanisms for limited, planned development were put in place.

Regrettably, for most jurisdictions in Maryland, the decision point to have a result like Calvert County has passed, and thus, they face hard decisions with limited options to control population growth. An increasing population implies that pollution controls and wastewater treatment will require significantly increased investments to maintain even the status quo. The need for increased fees to maintain pollution and stormwater controls most certainly does not enhance economic growth. As Eben Fodor (Does Growth Make Us Better Off?) pointed out, most jurisdictions rely on residential development fees to build infrastructure for which the tax revenue stream is inadequate to maintain. In fact, our local tax structures actually encourage growth to increase current revenues. Without changing this method of funding government, it will be extremely difficult to curb our local population growth.

What conclusions did we draw from the conference? With the exception of the three talks mentioned above, there was little guidance for how to proceed at the local or regional level. The Advocates for a Sustainable Albemarle Population approach has perhaps the best model. They recognized that there was not an established methodology to determine the optimum sustainable population. Through grants they commissioned several independent studies to examine their community's:

- Biological carrying capacity, which included studies of impacts on:
 - Ecosystems services
 - Stream health
 - Air quality
 - groundwater
- and
- Socio-economic issues defining "optimal size", which included studies of:
 - Economic costs of growth
 - Resident's opinions
 - Character of the community
 - Effect of community size on 'Best Place to Live' ranking

One notable conclusion of the final overview report⁴ is that the best way to combat county deficits and to foster prosperity is to **curb growth**.

So it appears that the primary question of the carrying capacity of the Bay has not been answered. Since the pro-growth myth dominates current local and state government policies, citizens will have to take independent action. Each locale has different environmental and economic characteristics and thus requires a separate analysis. This is a tremendous undertaking for small organizations, therefore it will require like-minded organizations to band together to share and combine resources to accomplish this task. We at CEPA feel that we need to join with other groups to bring these issues before our citizens, policy makers and elected officials. Over the next year, we hope to develop a series of position papers, to explore the use of a charrette (basically an intensive planning session) of experts, and to develop a program of public education. The current pro-growth myth can only be dispelled by the action of the public demanding change.

⁴ see Evans, Counting the Costs and Benefits of Growth, 2012, http://asapnow.org/mimik/mimik_uploads/documents/12/2013%20ReportASAP%20version.pdf

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DIMENSIONS OF THE CHESAPEAKE

By Richard L. Dunn



Conowingo: Dream, Nightmare or Something Else?

Imagine a source of electric power providing service to 700,000 homes and numerous businesses which contributes virtually no greenhouse gas to pollute the atmosphere and is itself powered by renewable energy. Surely this is a "dream" component to the energy equation in our growth oriented society. This is one way to describe power production from the hydro-electric power station associated with the Conowingo dam. As an additional unintended benefit the dam sequesters millions of tons of sediment that would otherwise flow into the Chesapeake Bay.

The unintended benefit – the captured sediment – is, however, a potential nightmare. The 12.8 square mile basin behind the dam is filled near its capacity with sediment. Sediment is one of the major pollution problems of the Bay. When it reaches the Bay suspended in the water column it blocks sunlight that aquatic plants such as bay grass need to thrive. When it settles to the bottom it can snuff out developing plant and animal life. Moreover, often bound together with the sediment are the two other major contributors to Bay pollution: nitrogen and phosphorous. In addition it also contains heavy metals and other artifacts from industrial, agricultural and domestic waste products contributed upstream on the Susquehanna River. In major storm events the sediment behind the dam is disturbed from its settled state and added to the sediment flow coming down the river and through the dam. In some cases the scoured sediment can increase the insult to the Bay during a storm event significantly. In a really bad storm (Hurricane Agnes in 1972 is the usual example) scouring could increase by a third the already greatly increased amount of damaging sediment coming downstream due to storm effects.

Currently the relicensing of the power station (requested for 46 years) is pending. Conowingo has become something else. It might be characterized as a ping pong ball bouncing back and forth between bickering environmental groups. Different government agencies involved in the relicensing process also seem to see the dam and the process through different lenses. The emphasis placed on using relicensing to force changes on the operation of the power station and dam by some environmental groups apparently causes other groups to fear that too much focus on "fixing" the dam's problem will detract from a more comprehensive view of the Bay's needs. Among the government agencies there seems not to be a consensus

on how big the sediment problem is and who, if anyone, is responsible for it.

It is worth noting that virtually no one thinks the outcome of the relicensing process will be an outright denial of the license and direction to shut down the power station. This is interesting, if not strange, since there hardly seems to be any other threat that would motivate the owner to find innovative and economical ways to actually remove the sediment. Additionally, those 700,000 homes would not go without power since electric power is now freely transferred around the power grid and not limited to local production – something hardly contemplated a few decades ago.

As a final note in this introductory section, the reader should be aware that this article, like most in the Dimensions series, is not intended to be a complete discussion of all issues related to the subject. Some issues related to Conowingo, fish migration is an example, are hardly mentioned. The focus is on what might be the central issues and the article hopes to be thought provoking rather than a definitive discussion.

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The Conowingo dam spans the Susquehanna River in Maryland about five miles from the Pennsylvania border and ten miles upstream from the head of the Chesapeake Bay. It was built in 1928-29 and is one of five dams between Harrisburg and the Bay. The Susquehanna River rises in upstate New York, runs through Pennsylvania, and only a minor portion of it passes through Maryland. The Susquehanna is the single largest contributor both of fresh water and of pollution to the Bay.

The current power station relicensing process is primarily driven by provisions of the Federal Power Act, as amended, which gives exclusive licensing authority to the Federal Energy Regulatory Commission (FERC). Under the law FERC is to give equal consideration to energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality.

Saying that FERC is the exclusive licensing authority is not to say FERC is the only interested party. The dam's owner, Exelon which acquired Constellation Energy, the former owner and in turn owner of Baltimore Gas and Electric, has been deeply involved in the multiple phases of the relicensing process. Exelon kicked things off by consulting with various government agencies and in public meetings prior to filing a notice of intent to relicense in 2009. It has completed 32 FERC approved studies and engaged in scoping to comply with the National Environmental Policy Act (NEPA). Exelon filed a formal application with FERC in August 2012.

FERC and Exelon, licensor and licensee, are hardly the only interested parties. Under the Federal Clean Water Act Maryland (Maryland Department of Environment) is certifying authority to ensure that Conowingo meets state water quality standards. On January 30, 2015, MDE notified Exelon of its intent to decline certification that the Conowingo project meets water quality standards pending receipt of additional information. Exelon thereupon withdrew its application, reserving the right to resubmit after additional studies were completed. In consequence, FERC cannot grant a long term license renewal but only reauthorize on an annual basis pending MDE certification. Other players include the U.S. Army Corps of Engineers, U.S Geological Survey, Susquehanna

River Basin Commission, U.S. Environmental Protection Agency (EPA), Maryland Department of Natural Resources, and Maryland Geological Survey which along with MDE jointly released a massive Lower Susquehanna River Watershed Assessment in late 2014. EPA also has overarching responsibility with respect to the environmental health of the Bay region and watershed. As suggested in the introductory section of this article numerous environmental groups, local government agencies and the public are also involved.

Although Hurricane Agnes is usually the bench mark example of how bad things can get, very serious damage has been done much more recently. In 2011 flood waters from Tropical Storm Lee actually crested higher at Wilkes-Barre, Pennsylvania than during Agnes. Satellite imagery showed the chocolate brown effect of Lee extending from the head waters of the Bay nearly a hundred miles down the Bay to the vicinity of the Potomac River. The potential damage from such a major event is clearly not localized to the waters of the counties adjacent to the head of the Bay. On the other hand effects are more severe in closer proximity to the source. Maryland's oyster fishery has made a substantial recovery in some places. One example is the Choptank River. A quick glance at satellite imagery or a map will show that the Choptank is geographically shielded from the main vector of a sediment flow proceeding down the Bay from the Susquehanna. In contrast, the oyster and clam fishery which supported viable businesses in the northern counties as late as the 1990's is essentially non-existent.

As of this writing the relicensing process is continuing. Among the steps remaining are MDE's certification under the Clean Water Act and FERC's issuance of a final environmental impact statement (E.I.S.) in compliance with NEPA. Indications are that the findings of the Lower Susquehanna River Basin Watershed Assessment may be incorporated into the final E.I.S.

In broad outline, the issue relating to Conowingo that divides the environmental community is whether the Conowingo relicensing presents a once in a generation opportunity to greatly mitigate ongoing damage to the Bay; or, whether undue emphasis on relicensing diverts attention from a more comprehensive approach to Bay recovery. Within that broad outline are many sub-issues. Among them is whether removing accumulated sediment behind the dam should be an important goal in the relicensing process. Removal of sediment also removes that portion of the phosphorous and nitrogen bound up in the sediment. The argument in favor of removal seems self-evident. However, there are also serious objections. For one thing dredging is very expensive and the effect of a onetime removal, while improving the dam's sequestration ability for years, is only temporary; this causes concern that resources will be diverted from other worthy objectives. Additionally there is fear that the very process of dredging will stir up the sediment and result in added insult to the Bay. Even with the dam's basin clear of sediment the Susquehanna will remain a major contributor of sediment, phosphorous and nitrogen unless additional actions are taken upstream. This contributes to the fear that dredging will be seen as a panacea and ease the pressure on upstream communities to modify their agricultural, industrial and water treatment practices. Indeed, if Conowingo dredging is seen as a panacea it might divert attention from a variety of actions needed throughout the watershed.

A similar dichotomy seems to exist between the government agencies involved. In the FERC process, sediment accumulation is not necessarily seen as the responsibility of

Exelon, the dam's owner. The trapped sediment comes from upstream and if the dam were not there would be deposited directly into the Bay. As noted above the dam has a certain positive effect in trapping some of the sediment coming from upstream. In contrast the state of Maryland's Clean Water Act process seems to see sediment as a serious problem whose full dimensions have not been adequately studied or understood.

A detailed account of some of the issues was reported in the lead article of the December 2014 issue of the Bay Journal titled "Study: Dredging Conowingo would have less impact than thought." The article discussed the Lower Susquehanna River Watershed Assessment and had sub headlines titled "Nutrients are a bigger problem"; "Limited benefit of dredging"; and, "Good and bad sediments." According to the article the study's conclusions are similar to those in FERC's draft environmental impact statement.

Few people (including this author) are likely to read the entire Assessment. However, it has been studied by some experts. Some of the science, data and conclusions of the study are being questioned. Among those questioning the approach taken in the study and its resulting data and conclusions are Michael Helfrich, Lower Susquehanna Riverkeeper. One area inadequately studied, according to Helfrich, is the effect of sediment on submerged aquatic vegetation. The study looked at effects of a scouring event in January, June and October. In two of those three months little growth would be taking place with or without added sediment. Helfrich notes that another expert, the U.S. Geological Survey's Michael Langland, who has published well respected research on the subject, has stated that some of the numbers relied upon in the study were unrealistic and might be as much as 50% off.

Virtually left out of the discussion of Conowingo are things like developing new techniques for sediment removal other than standard dredging or utilizing the dredge material to create a salable product and thus lower the economic impact of dredging and disposal. A candidate product would be light weight aggregate which could be fashioned into brick or used for other construction purposes. Here the use of spoil from the dredging of Baltimore harbor to rebuild Poplar Island comes to mind. Of course the exact product and market for Conowingo dredge material does not currently exist. The problem is that in the debate hardly anyone seems to be thinking in such terms.

Government agencies are experts at their regulatory processes, including who bears what burden in what is typically perceived as a zero sum game. They are probably not well suited to envision new products and services that could be created from material which is essentially a waste product. Exelon as a regulated utility may not be in a good position to do that either. However, if the regulatory process gave Exelon an incentive to create markets for river sediment they could certainly engage in a search for inventors and entrepreneurs to aid in the quest.

To provide an incentive for Exelon to seek innovative solutions to the sediment problem, the option of complete denial of the relicensing application and shut down of the power station needs to be given serious consideration. Provisions of the Federal Power Act that some think authorize a Federal takeover if necessary for the public good also could be included in FERC's decision making process. In addition to the additional study of the effects of sediment that MDE deems to be necessary, entirely new approaches to addressing problems related to Conowingo could be injected into the process.

PST LANDFILL UPDATE

By Mike Lofton



The PST Landfill on Sands Road is one of the largest unlined rubble landfills in Maryland. Since its closure about a decade ago, monitoring wells have revealed a chronic pattern of contamination by arsenic, beryllium, cadmium, chromium and vinyl chloride in excess of federal maximum levels. This pattern has led to fines and a Consent Agreement between the operator, Waste Management (WM) and the Maryland Dept. of the Environment (MDE). The Agreement requires WM to

determine the cause of the contamination and propose remedies.

In addition, the Stormwater/Groundwater Discharge Permit for PST is currently under review by MDE. The permit will be renewed during the first half of 2015, which makes this a critical time to act. CEPA has a grant from the county to oversee the monitoring of the landfill, and as part of that task CEPA has engaged an environmental pollution expert to advise us what comments are appropriate to submit to MDE to promote stronger Stormwater/Groundwater Discharge Permit conditions. He will also comment on what quantities are being monitored, and advise us as to what the requirements should be for site remediation.

The Anne Arundel County Health Dept. has tested nearby residential wells several times in recent years. To date there is no evidence that the groundwater contamination has reached residential wells. Testing is expected to continue every other year.

While CEPA's grant is only for the PST Landfill, we are concerned that there are 10 similar facilities in the state, one being in Anne Arundel County (AI-Ray Landfill on Sands Road) and we plan to request MDE documentation on the AI-Ray Landfill to see if it has the same issues as the PST Landfill. We also want to learn more about the other rubble landfills in the state and how they are monitored and regulated.

LEGISLATIVE COMMITTEE UPDATE

By Rich Romer



The CEPA Legislative Committee is comprised of Vice President Rich Romer and Board of Trustees member Irene Hantman.

Last year, as part of its Annual Plan, the CEPA Board of Trustees decided to extend its influence on environmental matters by reaching out to Maryland's Legislative Community. CEPA has long had a relationship with District 33 Senator Ed Reilly (R). Last year, Reilly was the ranking member of the Senate Environmental Matters Committee although he has since received a new committee assignment in the recently reorganized Senate. Last Fall, four CEPA Trustees met with Reilly and his staff in his offices.

Reilly arranged an introduction to Committee Vice Chairman Paul Plinski (D) for CEPA President Al Tucker who met with Plinski in his Capital office in January.

The long term objective of CEPA's legislative agenda is to persuade the Maryland General Assembly to pass legislation and approve funding to implement the recommendations of the highly regarded 2006 Wolman Report on Source Water in Maryland. The results of Maryland's 2014 General Election not only made it clear that the public would tolerate no additions to the State's current year (2015) budget, but that the Hogan administration would have to find 3/4 of a billion dollars in cuts in their Fiscal Year 2017 submission. The earliest practical date for implementation and funding of the Wolman Report recommendations would be the Fiscal Year 2018 Budget Submission. That is acceptable. Legislation moves slowly. By setting a target date two years in the future, CEPA allows adequate time for the development of appropriate legislative language, the arrangement of funding, lining up sponsors in both the Senate and House of Delegates, arranging support from the State's Environmental Departments, and lobbying of the appropriate committees.

The CEPA Legislative Committee has already begun the legislative outreach. The support of District 29 Senator Steve Waugh (R) and District 29C Delegate Tony O'Donnell have already been arranged.

The CEPA Legislative Committee has reached out to and arranged support from major Maryland influential environmental organizations. In December, they met with 1000 Friends of Maryland Executive Director Dru Schmidt-Perkins in her organizational offices in Baltimore. In early January, they met at the Chesapeake Bay Foundation with Maryland Director Doug Myers. Anne Arundel County environmentalist and former South County Federation Director, Erik Michaelsen has been consulted for his guidance and support.

CEPA has opened relations with the Maryland League of Conservation Voters. Their Executive Director Jen Brock-Cancellieri was the guest speaker at the CEPA Board of Trustee's December meeting. CEPA is now on distribution list for MD LCV's weekly e-mails about the MD General Assembly's list of proposed legislation. This is further distributed to all CEPA Trustees. If any recipients of this newsletter wish to be included in this distribution, they need to send an e-mail addressed to: racebeat@aol.com.

ABOUT CEPA'S TRUSTEES

NEW APPOINTMENT – Rich Romer

At their January 13, 2015 regularly scheduled meeting, the Calvert County (Maryland) Board of County Commissioners unanimously appointed CEPA Vice President Richard A. "Rich" Romer to a three year term of office as a Member of the Calvert County Environmental Commission.

TRUSTEE PROFILE - Ted Weber



CEPA is pleased to welcome Ted Weber as a new Trustee.

Ted grew up in south Florida and developed an early appreciation for nature through fishing in the Everglades and SCUBA diving in the Florida Keys and off Ft. Lauderdale. He earned a B.S. in Physics from the University of Florida, followed by a M.S. in Environmental Science (Systems Ecology and Wetlands Ecology programs), and a Graduate Certificate in Wetlands. He moved to Maryland in 1998 to work for the Maryland Department of Natural Resources (DNR), where, among other tasks (such as collecting ticks and mosquito bites in the Nanticoke watershed), he developed the state's Green Infrastructure Assessment, which is used for land conservation targeting. He left DNR in 2004 and spent a year traveling the world with his wife Karen, mostly in South America, Africa, and southeast Asia.

When he returned, Ted accepted a job with the Conservation Fund, a national non-profit based in Arlington, but with offices throughout the U.S., including Annapolis. He works as the Strategic Conservation Science Manager, collaborating with others to ensure the best available science is used in mitigation, land planning, and other conservation-related projects. Ted has worked as an ecologist for over 20 years, primarily in landscape ecology, conservation biology, ecosystem service analyses, water quality assessment, and forest and wetland surveying. He is a certified forest professional by the state of Maryland, and a member of the Society for Conservation Biology, the International Association for Landscape Ecology, the Freshwater Mollusk Conservation Society, and the Association of State Floodplain Managers. Among his many volunteer positions, Ted is a member of the Annapolis Environmental Commission, and served as Chair for a year and a half. He has also served as a riverwatcher and an easement monitor.

Ted lives in the self-proclaimed Maritime Republic of Eastport, half a mile from work, and walks there with the family dog, a miniature Schnauzer named Digit (who serves as the Conservation Fund's Morale Officer and Deliveryman Greeter). He and his wife still enjoy traveling when their schedule permits, and try to get out in the woods or on the water when they can.

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