

**Stormwater and New Development Task Group Meeting**  
**MDE Headquarters- Baltimore, MD**  
**March 30, 2007**

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**Highlights & Action Items**

- The task group came up with a list of new development issues that should be addressed in the future.
- Because the concept of “no net increase” is very general, Reggie Parrish will write a more detailed explanation of this concept and distribute it to the task group.
- Task group participants thought that it would be useful for a backgrounder to be developed on the existing stormwater regulatory structure.
- There was some consensus from today’s participants that developing a set of new development principles would be an acceptable task for this group. This, as well as other potential task group products and outcomes, will be discussed further at the next task group meeting.
- A workplan will be drafted and distributed to the task group for review.
- The Forestry Workgroup would like to work more closely with a subset of this task group on Executive Council Directive 06-1. They are interested in both short-term and long-term feedback.

**Handouts**

- Agenda 3-30-07
- Task Group Goals and Outcomes
- Chesapeake Executive Council Directive No. 04-2: Meeting the Nutrient and Sediment Reduction Goals, Next Steps
- Chesapeake Executive Council Directive No. 06-1: Protecting the Forests of the Chesapeake Watershed
- NSC Note to Implementation Committee, 9/9/2005
- Urban Summit Recommendations and Nutrient Subcommittee Response for Comment by the Implementation Committee on 9/23/2005
- Implementation Committee Meeting Minutes, 10/19/2005

*Optional Handouts:*

- Changing Cost Perceptions: An Analysis of Conservation Development (Executive Summary prepared by the Conservation Research Institute)
- Bay Journal Article: Analysis of measures to protect the James finds that most aren’t (April 2007 issue)
- Green Building Act of 2006 (District of Columbia)
- MDE Water Management Folder

**I. Welcome, Purpose of Meeting, and Introductions**

**Goulet**

- Norm Goulet, USWG chair, began the meeting at 10:00 am. Introductions were made and the meeting’s agenda was reviewed.
- Barry Toning, Tetra Tech, will serve as the facilitator for this meeting.
- The purpose of this meeting is to engage Bay stakeholders in a process to develop principles for new development per Executive Council Directive 04-2 “Meeting

Nutrient and Sediment Reduction Goals”. This process will explore methodologies for reducing new development loads and approaches to achieving no net increase in overall loads using techniques such as trading and offsetting.

- The objective for today’s meeting is to come to agreement on the task group’s goals and outcomes.

## II. Why Are We Here?

- Rich Batiuk, Jeff Sweeney, and Peter Claggett gave a joint presentation to explain why it is necessary for us to address loads from new development. Their PowerPoint presentation can be accessed at:  
<http://www.chesapeakebay.net/calendar.cfm?EventDetails=8269&DefaultView=2>.

### *The Time is Now to Address Loads and Flows from New Development* Batiuk

- Rich Batiuk, EPA Chesapeake Bay Program Office, presented information on local and Bay tributary water quality conditions.
- Over 90 percent of the Bay and its tidal rivers are impaired due to low dissolved oxygen levels and poor water clarity. These impairments are related to nutrient and sediment pollution that enter the Bay’s waters.
- The Chesapeake 2000 Agreement laid out a specific list of objectives that they wanted all signatories to agree on:
  - Step 1: What is the water quality of a restored Bay?
  - Step 2: How much pollution do we need to reduce?
  - Step 3: What actions do we need to take to reduce pollution?
- Water quality in a restored Bay is described as having: (1) fewer algae blooms and better fish food; (2) clearer water and more underwater Bay grasses; and (3) more oxygen and improved habitat for increased populations of fish, crabs, and oysters.
- Water quality standards, which were essentially consistent across jurisdictions, were adopted by the Bay states.
- Slide 6 lists the nutrient and sediment cap load allocations for the Chesapeake Bay basin. These allocations have been the driving force behind the Tributary Strategies.

### *Stormwater and Nutrient and Sediment Loads to the Chesapeake Bay* Sweeney

- Jeff Sweeney, University of Maryland, presented information on stormwater and nutrient and sediment loads to the Chesapeake Bay.
- According to Phase 4.3 of the Watershed Model, urban/suburban runoff contributes 11% of the nitrogen load entering the Bay.
- The graphs on slide 9 will appear in the Chesapeake Bay 2006 Health and Restoration Assessment. They show the percent of the nitrogen, phosphorus, and sediment goals that have been achieved to date (1985-2005). The urban/suburban land bars include both urban/suburban runoff and septic.
- The urban/suburban lands reduction goals are extremely aggressive and will be difficult to meet.
- The rapid rate of residential and commercial development has made stormwater the fastest growing segment of pollution in the Bay watershed. Unfortunately, the gains from improved landscape and stormwater management practices (that are reported) are not keeping pace with the rate of land being converted from agriculture and forest

to developed land. As a result of this, the urban/suburban indicator for the 2006 Health and Restoration Assessment will reflect both growth in the watershed and the work being done in this sector to reduce nutrient and sediment loads.

- It was pointed out that the model underestimates the amount of stormwater management being implemented because stormwater management is difficult to track. However, it was also pointed out that the model is most likely underestimating growth.
- There are two graphs on slide 12. The graph on the left of this slide shows the percentage of the overall load reduction goal that has been achieved by each sector to date, whereas the graph on the right of this slide shows the percentage of the remaining goal that each sector is expected to contribute. To date, the urban/suburban sector has not contributed to the overall load reduction goal; however, this sector is responsible for a percentage of the remaining goal.
- In order for the urban sector's contribution to the goal to become positive, we would need to retrofit half of the development in the watershed, which is unlikely.
- Reporting unreported BMPs will result in a slight decrease in loads, but it will not get us to our goal.
- Paving over the watershed will result in the loss of forests. This will negatively impact the watershed because forests, on average, retain more than 85% of the nitrogen deposited on them from the air.
- We are currently seeing a decrease in atmospheric deposition loads. More impervious surfaces, however, will cause there to be less of a decrease.
- Q: How many of the 5.5 million acres of forestland in the watershed have protected status?
  - A: Approximately 0.8 million acres.
- Q: How will climate change affect atmospheric deposition and runoff?
  - A: It depends on the tools that we decide to use to address climate change. Some of the tools have other water quality impacts and may not result in decreased NO<sub>x</sub> emissions.

#### *Chesapeake Bay Land Change Model*

*Claggett*

- Peter Claggett, USGS, presented information on the Chesapeake Bay Land Change Model and the 2030 projections.
- The Chesapeake Bay Land Change Model is an analysis intended to capture the effect of regional land use/cover trends and policies on water quality.
- They are projecting growth and land uses in the future out to 2030, then integrating this information into the water quality model.
- There are over one million people added to the watershed every decade. Between 2000 and 2010, the watershed's population will increase by 1.6-1.7 million. This projection is based on census sample data from 2000-2005. According to this projection, this means that more people will be added to the watershed during this decade than in the previous decade.
- It is important to note that growth is not distributed evenly throughout the watershed. Headwater areas are getting particularly hard hit by growth.
- Job growth and migration are contributing significantly to growth in the watershed.

- According to the graph on slide 16, there is a strong relationship between population density and urban density. The relationship changes based on whether the area is rural, suburban, or urban. On a per capita basis, there is a smaller footprint in urban areas compared to suburban or rural areas.
- The map on slide 18 shows the change in impervious surface between 1990 and 2000. During this time period, there was a 41% increase in impervious surface (as measured by satellite data) across the whole watershed. This estimated increase may be slightly high for some areas of the watershed; however, we are likely underestimating impervious surfaces across the overall watershed.
- The map on slide 19, which projects urban growth in Salisbury, MD for 2030, was generated using the SLEUTH model. The impervious data set used was developed from satellite data. All of the rooftops, driveways, etc. are classified as impervious surfaces.
- It was pointed out that impervious surfaces that are directly connected to a stream are not differentiated from impervious surfaces that are not directly connected to a stream. For the most part, Peter said that they do not have that type of information. He did note, however, that the percent of impervious surfaces in an area does impact a stream corridor as an aggregate.

#### *Our Bay Restoration World has Changed*

*Batiuk*

- For the final section of this presentation, Rich Batiuk discussed how the Chesapeake Bay restoration world has changed.
- Today's Bay restoration world includes things such as:
  - Bay specific designated uses
  - Bay water quality criteria
  - Consistent baywide 303(d) listing procedures
  - Cap load allocations by major tributary basin
  - State tributary strategies
  - Defacto allocations by source sectors
  - A basin-wide permitting approach
  - Sedimentsheds
  - Multiple models (Airshed Model, Watershed Model, and Estuary Model)
  - More advanced models, including Phase 5.0 of the Watershed Model
- The following are a few examples of things that are on the horizon for the Bay restoration world:
  - New suite of Bay models (airsheds to oysters)
  - States' Bay waters 2008 303(d) listings as the decision point for a baywide TMDL
  - 2030 land change projections
  - Factoring in a range of potential/likely effects of climate change on Bay water quality
  - Ever increasing accountability
  - Need for offsets to account for continued growth in population

### **III. Executive Council Directives 04-2 and 06-1**

- Reggie Parrish, EPA, and Nick DiNardo, EPA, gave a joint presentation on two Chesapeake Executive Council directives. Their PowerPoint presentation can be accessed at:  
<http://www.chesapeakebay.net/calendar.cfm?EventDetails=8269&DefaultView=2>.

*Executive Council Directive 04-2*

*Parrish*

- In January 2005, the governors of the Chesapeake Bay states and the mayor of Washington D.C. signed Directive 04-2, which was entitled “Meeting Nutrient and Sediment Reduction Goals- Next Steps”. This directive urges the Chesapeake Bay Program to develop a prevention and preservation-oriented approach to stormwater and new development. This approach is expected to utilize regulatory, enforcement and incentive tools to encourage environmentally sensitive development practices that incorporate natural site features into stormwater management.
- The Urban Summit was held in May 2005. Participants included representatives from federal, state, and local governments, as well as participants from NGOs and the private sector. The participants at this summit identified three priority recommendations:
  1. Establish regional performance standards for stormwater on new development projects.
  2. Identify and facilitate targeted training and educational opportunities for professional stormwater staff, elected officials and the various sections of the public.
  3. Build local government capacity to implement effective stormwater management.
- Other summit recommendations included the following: target opportunities for retrofit and new development; gather data and information to support minimum standard; improve permitting process; and increase federal/state/local interagency coordination.
- Although none of the Summit’s recommendations should be overlooked, the Nutrient Subcommittee suggested that the Chesapeake Bay Program first address the Summit’s priority recommendations.
- The ultimate goal for new development (per NSC recommendations) is to maintain pre-development hydrology and have no net increase in nutrient and sediment losses from new development sites or from downstream impacts, which could be accomplished by a combination of onsite practices and/or offsets.
- Slides 7-12 provide additional information on the Implementation Committee’s charge for new development and previous Urban Stormwater Workgroup discussions that relate to this topic.

*Executive Council Directive 06-1*

*DiNardo*

- Executive Council Directive 06-1, which is entitled “Protecting the Forests of the Chesapeake Watershed”, was signed in September 2006. This directive is the beginning of a comprehensive forest conservation and expansion strategy.
- This directive lists five commitments, one of which is to expand efforts to link stormwater management and land use regulations with conservation of forests and riparian buffers. The other four commitments are listed on slide 14.

- The following are the proposed next steps that could be taken to address this directive:
  - Short Term
    - By May 2007, develop recommendations on implementing the Executive Council's intentions in Directive 06-1, relative to this and all preceding directives that pertain to stormwater management and forest protection.
    - Agree to tentatively set a no increase in loadings goal with enforceable regulations for all new development and re-permitting actions.
  - Long Term
    - Identify and assess technical feasibility of achieving the agreed upon common goal.
    - Develop policies and procedures necessary to implement a water quality approach for permitted development agreed to by the partners within a specified period of time appropriate to comply with expected Bay TMDLs in 2010.
- Sally Claggett explained that this directive gave the partners one year to come up with ways to address some of the directive's commitments. Since there is a stormwater aspect to this initiative, the Forestry Workgroup would like to talk to interested task group participants about some possible solutions. They would like to present something to the Implementation Committee this June.
- There are currently a couple of issues on the table, including crediting urban tree canopies. Would they get support from task group members on this issue?
- As part of the forestry directive, they will say that they will be working with this task group to come up with potential solutions. What are some of the other concrete things that they could possibly say?
- Is there a subset of people who would be interested in working more closely with the Forestry Workgroup on this directive? They are interested in both short-term and long-term feedback.

#### **IV. Meeting Bay Allocations: State and Local Progress and Challenges**

- Barry Toning, Tetra Tech, facilitated this discussion. In order to start the discussion, Barry asked participants to comment on a number of questions, including:
  - Has your program halted the addition of new nutrient and sediment loads?
  - Is your program capable of a no net increase in loads?
  - To what extent does your program address Bay allocations?
  - What attempts have been made to offset increases in loads?
  - What are the obstacles to implementing nutrient and sediment goals?
  - How can load reduction actions benefit your local waters?
  - How can this task group assist in meeting your stormwater goals?
- The term "no net increase" needs to be better defined. We need to specify what it means to development, what the technical ramifications are, etc.
- We need to determine what scale will be used for no net increase (site scale or a broader scale).
- How fast will we be able to translate these abstract concepts into something which is concrete?

- Q: Is this a discussion solely on stormwater-related issues, or is it a broader discussion on how we manage our land use?
  - A: Land use changes, new development, and existing development are all included in the charge of this task group.
- Q: Are septic systems included in this task group's charge?
  - A: Usually septic systems are dealt with in the Point Source Workgroup. However, they are on the peripheral of this task group. We should not discuss stormwater and new development issues without thinking about the effects that any actions we take may have. We need to watch out for potential impacts and unintended consequences as this discussion moves forward.
- Washington D.C. Update:
  - There are some minimum standards that developers will have to meet in terms of water quality, volume, and extreme storms.
  - MS-4 permits are used in DC.
  - They are looking at TMDLs.
  - Currently, they have a very aggressive attitude toward their building codes. The DC Green Building Act is expected to be approved shortly.
  - They have voluntary programs for 319, which focus a lot on stream restoration and environmental education.
  - They consider pre-condition to be meadow condition.
- Pennsylvania Update:
  - In 2002, PA developed a comprehensive stormwater management policy.
  - They have a comprehensive stormwater management program as a result of Act 167. This program works with counties and other stakeholders to develop a stormwater plan that is then approved by the department. After it is approved, municipalities must adopt stormwater ordinances consistent with that plan. This program has been in place since 1978, but it has only become more active recently. In 2002, they began taking a more aggressive role in looking at this program and getting counties more involved.
  - A state-wide guidance was finalized in December 2006. Since then, they have been going around the state providing training and outreach on this guidance.
  - They consider pre-condition to be the meadow condition and they assume that there is no pre-existing discharge from a site. For re-development, they say that 20% of the impervious area needs to be treated as meadow.
- Update from Fairfax County, Virginia
  - In Fairfax County, Virginia, there is an underlying regulatory framework that comes from the state's Chesapeake Bay pact. This framework requires that post development loads for new development be reduced down to the site's existing loads before development. In the early 1990s, the technology was not available to achieve these kinds of levels. So, at that time, they looked at a build out of the entire county that was based on a comprehensive plan and they computed a load for that. They then computed a load for existing conditions and calculated a jurisdiction-wide phosphorus removal requirement. This has essentially been in place since 1993.
- It was suggested that this task group look at how the landscape is being developed (how and where growth occurs).

- One participant suggested that rather than looking at where growth/development takes place, maybe we should just concentrate on how growth/development takes place. This may be a better use of our resources because where development takes place encompasses a lot of other issues besides just stormwater.
  - Another participant voiced the opposite opinion. In order to reduce pollution, they thought that we may need to tell people where development can and cannot occur.
- In Virginia Beach, infiltration practices do not work. You cannot have a no net increase as a result of development when you cannot infiltrate your runoff. You will get an increase with development, although measures can be taken to lower that increase.
- One issue with the idea of a no net increase is that some areas will not be able to depend on infiltration alone to get them there due to soil, groundwater tables, etc. If we are going to pursue this, we may need to find a way to allow an incremental increase to occur. Help from both the federal and state levels will be needed, as well as increased technical and legal assistance.
- One participant suggested that it would be useful to minimize the number of regulatory reviews that a development or redevelopment project has to go through. We should think of ways that we could use incentives rather than regulation to get people to try things.
- In the future, it may be possible for the urban sector to sell credits to point sources through trading and offset programs. Before this happens, we need to look at the big picture of Bay restoration and make sure that we are not going to be creating a problem down the road.
- Q: Is the construction permitting process a tool that we could use?
  - A: Zoning and re-zoning are first, then construction permitting, then stormwater permitting.
- Before we move forward with this, we should address the issue of accountability. How do we measure whether or not we are achieving a no net increase? We need a better accountability tool that can be implemented at the local level. We also need to figure out a better way to account for the work that has already been done.
- In Anne Arundel County, MD, they are looking at all of the subwatersheds in the county, modeling them, figuring out what the problems are, and then tackling them in a systematic way. This shows that there are ways to do this using existing tools; however, this process is expensive. It is costing hundreds of thousands of dollars per year.
- We need to keep in mind that some rural counties don't have all of the resources that the larger, more developed counties have.
- Pennsylvania plans on taking an adaptive management approach for nutrient reductions in their jurisdiction. Because stormwater measures are more expensive to address, PA is going to be looking to other sectors, such as agriculture and wastewater, for more nutrient reductions in their next Tributary Strategy.
- Q: Are we going to continue to look at retrofits as a potential part of the solution?

- A: Retrofits are not off the table. Retrofits are in all of the Tributary Strategies and we need to keep them in mind as a component of the overall solution. Unfortunately, retrofits are almost cost prohibitive.
- A local government representative said that they would like to have a single book-keeping process to deal with water quality. They thought that the various programs should be meshed together so that local governments could have just one program to deal with on this issue. Could this be a focus of this task group?
- The population in Baltimore City is going down every year. How do you encourage people to move to areas such as this where there are already impervious surfaces?

*Summary list of new development issues:*

- |                                       |  |
|---------------------------------------|--|
| -How/where growth occurs              | -Infiltration limitations                      |
| -Legal/technical assistance           | -Streamlined process for development           |
| -Incentives                           | -Trading/offset programs                       |
| -Comprehensive plans/zoning           | -How do we measure no net increase?            |
| -Tracking BMP implementation          | -How are existing BMPs working?                |
| -Variability with local jurisdictions | -What is attainable?                           |
| -Retrofits                            | -Involve other agencies (transportation, etc.) |
| -Stream restoration                   | -Address development in rural areas            |
| -Role of water quality standards      | -Green roofs                                   |
| -Protecting forests                   | -Road, street, sidewalk design standards       |
| -Remove or lessen impediments         |  |

**V. Task Group Outcomes, Goals, and Logistics**

- Meeting participants discussed the task group’s potential goal and outcomes, which were developed prior to this meeting based on previous discussions.

*Potential Goal*

- Potential Goal: To develop a set of stormwater and new development principles which protect local resources and the Chesapeake Bay. These principles may include preservation and prevention-oriented land development practices like low impact development, impervious cover limits, forest and buffer preservation, and stormwater techniques like infiltration and use of natural site features. These principles will be part of a regional framework to integrate local stormwater management objectives and requirements with regional objectives for tributaries of the Chesapeake Bay including no net increase of nutrients and sediment to the Bay.
- Feedback:
  - The goal’s language needs to be “soft” and allow for a lot of flexibility if we want the partners to participate. Words such as “may” and “could be” should be used rather than words such as “must” and “will”.
  - There seems to be some consensus that developing a set of new development principles would be an acceptable task for this group. This will be discussed more at the next meeting.
  - The concept of “no net increase” is very general. Reggie will write up a more detailed explanation of this concept. This will help the task group better understand what they will be grappling with at the next meeting.

### *Potential Outcomes/Products*

- Potential task group outcomes and products:
  - A framework linking local and regional stormwater and new development decisions to regional goals like nutrient and sediment reductions for the Chesapeake Bay.
  - An exploration of Bay-wide integrating approaches such as limiting impervious cover and setting limits on flow and volume.
  - An analysis and inventory of existing policies, regulations, and requirements.
  - An analysis and inventory of stormwater and new development practices both inside and outside the Bay watershed.
  - A timeline and schedule for adopting and implementing the framework and principles.
- Feedback:
  - This task group should be moving the bar as high as they can in terms of Bay restoration. Therefore, one of the first topics that this group addresses should be Bay protection land use criteria.
  - We could look at what EPA Region 3 could do at a regional level to encourage aggressive consistency regarding how people deal with stormwater management, land use decision making, and MS-4 permits.
  - Up to this point, the MS-4 program has been weak in directly linking to stormwater. This group has the opportunity to tell EPA how it could be improved. If not a permit limit, like for wastewater treatment plants, then what could work better in the face of a 2010 TMDL?
  - Developing an integrated management approach is a good idea. Maybe this approach could include a process and a set of principles that could be generally followed.
  - We need to look outside of the box at creative, innovative approaches. What are the barriers that we can, as a region, remove or address to give us what we need at a local scale?
    - It was suggested that EPA Region 3 outline what they think would be their legal authority to force things if they saw fit to do so.
  - Identify current and possibly future regulatory issues.
  - This is not a win-win situation. There will be a price that everyone has to pay.
  - PA does not want to allocate loads beyond state allocations. Would allocations be changed to a different allocation scale?
  - A backgrounder on the existing stormwater regulatory structure would be useful.
  - There is some consensus that developing a set of principles is an acceptable product for this task group.
- The listed potential outcomes are only suggestions. A discussion on potential task group outcomes will be held at the beginning of the next meeting.
- A workplan will be drafted and distributed to the task group for review.

### *Task Group Representation*

- The task group will be made up of a core group of only 15-20 people, although others who are interested will be able to attend the meetings. Members will include representatives from the Bay states, local governments, and NGOs.
- Feedback:
  - Involve more builders, even if they are not regular members and do not participate in all of the meetings.
  - Maybe we should include additional agencies and departments, such as the state departments for development and highways. New development is not just an environmental problem.
  - Information could be distributed to a broader group of people using the Urban Stormwater Workgroup website (<http://www.chesapeakebay.net/uwg.htm>).
  - 15-20 members sounds like an appropriate number because we need to keep the group manageable.

#### *Meeting Location*

- Meeting coordinators thanked Maryland for hosting the task group's first meeting.
- There will be 4-5 more task group meetings in the future. The meetings could either be rotated between the different jurisdictions or they could all be held in Annapolis, which is usually considered to be a somewhat central location.
- Feedback:
  - A majority of the participants at today's meetings seemed to prefer holding all of the task group's meetings in Annapolis.

#### **VI. Meeting Adjourned**

- The meeting was adjourned at 3:00 pm. A date for the second Stormwater and New Development Task Group meeting has not yet been decided upon.

#### **Participants**

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