MARYLAND DEPARTMENT OF THE ENVIRONMENT

ACCOUNTING FOR GROWTH

OUTREACH MEETING

The Above-Mentioned Public Meeting was held on Wednesday, August 22, 2012 at 1:32 p.m. at Gudelksy Environmental Educational Center, 10520 Old Frederick Road, Woodstock, Maryland before Deborah C. D. Shumaker, Notary Public.

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APPEARANCES:

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Also Present:

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P O W E R P O I N T P R E S E N T A T I O N

MR. EMMART: Good afternoon. I would like to welcome you to this beautiful center for a presentation on the Accounting for Growth. My name is Paul Emmart. I am from the Maryland Department of the Environment. I am going to present a power point that will take about 45 minutes on the new policy the department is initiating called Accounting For Growth, but before I begin with the presentation, I would just like to say very quickly a sincere thank you to the Town Creek Foundation that has generously supported these outreach meetings and also to the Harry Hughes Agro-Ecology Center for all of their help in getting these meetings together and organized, getting the transcripts and providing us with such nice spaces to have the meetings.

This is a new policy that the department is initiating. It is in the formative stages. It is not completed yet, so what you are seeing is a power point about the ideas that we

have developed so far, and the purpose of this meeting is to familiarize you with where we are at this stage and to solicit your input for the development of the policy.

So just to give a brief overview of what we are going to cover in this power point, we are going to talk basically about very briefly historical context. We are going to look at how to calculate the load from growth. We are talking about growth of new development in Maryland, and then we are going to look at some of the economic implications of this policy and look at how this policy might integrate with the existing trading policies, nutrient trading policies and then discuss the protection of local water quality, what the trading geographies might be for this policy, how it will be implemented and then finally what the schedule for the rollout of the policy is, so I want to just basically cover things that most of you are very much aware of I'm sure, but just to set the

context, that basically the impairment of the Bay was recognized in 1983 by the federal agencies and state agencies, that there was a need to act because of the grade of the water quality, and then 1987 there was a proposal of 40 percent for nutrient reduction by 2000. That was followed by the C2K agreement, Chesapeake government agreement which had as a goal 40 percent reduction in nitrogen and phosphorus, not necessarily a sediment, and then in 2006 there was basically a consensus by scientists and policy makers that the 2000 agreement goals would not be met, that it was simply too fast a schedule, and because the nature of the goals were voluntary, it just was not met.

One of the key pieces of thinking that came out of the analysis of why it wasn't going to be met came out of the EPA Inspector General's Report from 2007 which stated that essentially that the runoff from new development that was particularly identified would contribute,

1 continue to increase rather than diminish if it
2 wasn't addressed, so as a result, the restoration
3 costs will increase. I think this is a very
4 important concept for us to be considering now
5 even though this came out in 2007, that without
6 addressing new development loads, not only will
7 the Bay not be restored and its health
8 invigorated, but that the costs would rise.
9 In 2009 there was a lawsuit launched by
10 the Chesapeake Bay Foundation and others to force
11 EPA to take stricter and stronger action to
12 really move it from a voluntary framework to a
13 regulatory framework.
14 In 2010 a lawsuit was settled with
15 provisions that the EPA release a watershed
16 implementation -- I beg your pardon -- release
17 federal strategies, part of this larger watershed
18 implementation plan, and provide draft
19 allocations for the six states and D.C. with the
20 requirements that each one of the states and the
21 District would submit their own plans, individual

state plans called the Watershed Implementation Plan or WIP, and that Phase I would be done by 2010, and then in December of 2010 the TMDL was released.

In 2011 jurisdictions were required to submit their draft Phase II plans.

And then in 2012, just recently in March, March 30th, a final Phase II Watershed Implementation Plan was required, and the state submitted that on behalf of the state agencies and policy comment, of course, but there were additional supplemental plans essentially produced by the county governments and by the county jurisdictions that were added to that state WIP, and so what we have done is essentially those jurisdictions submitted in November, I believe it was, of last year their draft plan. Then they submitted modifications after they saw the final state plan March, and they just submitted those, in fact, as of July 16th.

So Maryland's WIP, Watershed Implementation Plan, has two main problems. One is to restore the Bay, in a sense to reduce the existing loads from, for instance, stormwater and point sources and not point sources, but also a very important part which is to maintain the current health of the Bay, to account for the growth.

So, for instance, in Phase I WIP -- I guess you can put the next slide up, please. In Phase I WIP there's Chapter 3 which addressed -- it was a separate chapter based on accounting for growth, and the most recent final Phase II WIP there's also a chapter developed just for accounting for growth, and those two chapters address the way that Maryland will handle new growth.

The first is in terms of the large wastewater treatment plants. There's essentially a cap strategy which has been in place since the time of the tributary strategies, and that allows

for growth within the treatment plants. There's a particular amount of allocation there that's left over called the nutrient cap essentially.

And then the other one, the other way that we are handling it in the WIP is that the new loads from development which would include septic loads, wastewater loads and stormwater, that those new loads would have to be offset a hundred percent.

The WIP is just one of the efforts to address this issue of growth of new loads. There was a second -- excuse me. In the WIP it was stated that we would develop policy to address the new growth loads by 2013. There was also in the winter session of the General Assembly a bill that was passed, Senate Bill 236, which required an offset provision for Tier III areas. These are large lot development areas that are basically nonpoint source. That bill required there be a proposal done by December of this year, 2012, for those Tier III areas. So the

consideration is how do we meet the requirements of the bill and also what has been said in the WIP? They could either proceed together or separately, so we have decided to try to develop the policy by the end of this year and get it done both at the same time.

So the objectives of the policy are fairly straightforward. What we are looking for is to permanently offset the load which is generated from residential and nonresidential development so that that new load rather than compound the issues related to the existing load, that new load is basically addressed and does not further impair the Bay.

We believe that the policy will actually support Bay restoration and preservation by, first of all, minimizing the load from new development because there's going to be new load no matter what. It will allow public resources, funding, staffing and all of the kinds of resources that are currently going into reducing

the pollution, that those will be focused on the existing loads. They won't be bifurcated and have to address both the new loads and the existing. And we also hope that this policy will encourage counties to optimize the use of their growth capacity and available offsets.

Some of the concepts that were mentioned in the WIP have to do with new development. In terms of new development, all applicable regulations, for instance, the Stormwater Management Act in 2007 which implemented essentially stormwater removals that are more restrictive than the prior rules in the sense that they brought in an idea of the environmental site design to the maximum extent practicable, that those regulations would, first of all, be met and that any load that was generated after those regulations are met, that those loads would be offset essentially for nonpoint source.

For redevelopment, this is something

that as a policy decision we have decided to favor redevelopment. We know that that is the type of development which when it is redeveloped with the new regulations would reduce load automatically, so for that type of development we are not requiring an offset for the nonpoint source load, so no stormwater offset.

For new on-site disposal systems, for septics, again, they have to meet all of the applicable regulations, so, for instance, if it is new, BAT would be required, but even if BAT, a best available technology, for a septic system is installed, we are asking under this policy that the remaining load, the discharge of nitrogen that comes from that septic system, that that also would be offset.

And then for point sources, there may be increased load if, for instance, the nutrient cap is at a limit, and in that case, that would also have to be offset, so for point sources there would be an offset required.

For those of you who did read the WIP, there are some differences in this policy from the way the WIP was written in Phase I or Phase II, and that is essentially that this policy addresses nitrogen at this stage. It does not address phosphorus. In the WIP we had mentioned that nutrients would be addressed, but actually we decided for simplicity's sake and also to get this program up and running that we would prefer to attack the nitrogen first, and then the second significant aspect is that we are asking for a hundred percent of the new load to be offset, so, for instance, when there's a parcel which is developed and it had been ag lined let's say, the ag line might have a nitrogen loading this high numerically. If it is reduced to say residential, that load would drop, of course. There would still be some generated load from that development, but what we are looking for is for all of that load to be offset a hundred percent, so it isn't a matter of

getting it from let's say an ag cornfield down to residential area and then down to forest. Forest is generally considered the lowest level of load generation. It would be actually down to zero, so this is a net zero policy. We want to account for and to compensate for all of the load from that new development.

These next slides get into the aspect of how you calculate what your load might be. The type of loads that we are looking at are broken into two categories. One is direct load which makes up the wastewater and stormwater we were just talking about, and that would also include septic. But the second category is an indirect load, and this is essentially -- the component we are trying to capture is mobile emissions that come from vehicle miles that would be traveled. We are applying this tiny component to the residential sector only, not to commercial, so this is a policy for both residential and nonresidential, but in terms of

the residential, we are looking at the mobile emissions only, and that would cover essentially any of the nitrogen which is put into the air and then deposited on the land or in the water based on vapor miles traveled. That we are calling indirect load.

So these slides are essentially what the numbers are for the various categories that would need to be offset. The first is on-site wastewater systems. A typical septic system, a conventional one, puts out about 9.86 pounds of nitrogen, and that is EOS, edge of stream, in terms of the type of load that it is. That is a per household number in pounds per year. An upgraded system with best field technology puts out about half of that, so it is that 4.93 that would have to be offset.

Next slide. For wastewater treatment plants, the FOF discharged from secondary treatment plants is usually about 18 milligrams per liter. If the plant has been upgraded to

BNR, it is about 8, and if it has been upgraded even further to enhanced nutrient removal which is the highest limit technology, it would be 4. Often the plants operate seasonally under that level, but 4 is the limit.

Stormwater loading factors, what we have done is we have taken advantage of the Bay program loading rates for two types of land use, impervious and pervious, just for nitrogen in pounds per acre per year and then, as I mentioned, the forested land which is normally 3 pounds of nitrogen per year. And just if you go back one second, this footnote is fairly important. These Bay program loading regs are for those of you that are interested in the tech side of it. They are without BMPs, so they are just the raw numbers. If ESD to the MEP were applied, the stormwater regs were applied, there would be a 50 percent reduction in the pervious and impervious numbers.

For air deposition, this is the Parks &

Rec load that we are looking at, and the way that we decided to capture that is to look at density of population. There are rates for Nox emissions that are based on census tract essentially, density of population, so in an effort to make this policy fairly understandable and digestible, we made just a basic cut which is that if the development or let's say your house happens to be in a very dense area, it would have greater than 10,000 people per square mile, then the offset required for that would be just half a pound. If, on the other hand, the development were to occur in a rural area where the population might be less than 10,000, then we are asking that the nitrogen offset would be 1 pound per year. That is, again, per household and per EDU.

So the two slides coming up, this one and the next one, these are basic examples to show if you are trying to calculate what the load offset is required, how do you do that, and this first slide deals with just residential

development. So if you look at the slide on the left column, just scan it, there are three scenarios that are presented, three development types, low density, medium and high density residential. Then if you scan the right column, this right column shows the number of pounds of nitrogen which would need to be offset per household, and for the low density you can see it is 17.17. Medium is 8.8, and the high 1.2. So what this slide is overall trying to demonstrate is that if you develop in a more dense area, then the offset requirement would be minimal. However, if you were to develop in the low density area, then the offset would be the highest you would have to purchase that offset, and the more offsets you buy, the likelihood the more expensive they would be.

So to go into a little detail on this slide, in the right column under pounds, there are several components which are all totaled up. The first, wastewater, WW, stormwater, SW, and

then the air component all get added up, so whatever development occurred would have to account for all of those components, and then that would lead to the total offset required. I should say right off the bat that the slide is busy and hard to take in, but if you look on the MDE website, there is a link to the Accounting For Growth Policy. There is a calculator, a spreadsheet tool which we posted that has this scenario and one I'm going to do next, and that spreadsheet can be manipulated so that you can change, for instance, what the size of the lot is, whether it has BAT -- I am looking at the low density residential -- whether it is going to be 10 percent impervious or, for instance, a higher percent of impervious cover. So that spreadsheet provides several different scenarios. I urge you to go to that spreadsheet, download it, and then you can manipulate those numbers to produce various different scenarios.

This is a slide which demonstrates the

commercial and mixed type of development that might occur. In this one, again, the same way on the right-hand column are the components that are totaled up to provide the amount of offset that would be required. The first row -- I beg your pardon. The second row, warehouse on 30 undeveloped acres, again shows that the maximum credit that would be required would occur in an area which is, for instance, very high impervious and is commercial, and the one thing I want to point out, just as I described before, as residential and nonresidential break, this air component is zero here in the first calculation, so this is 49.3 plus 216.4 plus zero. The reason it is zero is because of the warehouse. It is nonresidential, so there is no offset required for that.

Another thing to point out in the second scenario is -- this is the one that begins with redevelopment of a suburban strip mall as mixed use, office, retail, residential -- this

one does not have a wastewater component, that that is the first zero because of the last phase. The development would be served by wastewater capacity with capacity below the nutrient cap. Therefore, all the waste would go wastewater treatment plants, so there is no offset required for that because of that technology.

Secondly, there is no stormwater component because as a matter of policy, we have adopted redevelopment to be favored in a sense, so there isn't an offset required for the redevelopment. There is, however, 25 pounds to be offset in this example, and the reason for that is that it is a suburban strip mall. We are assuming in this scenario that it is a very dense area, so the offset is basically only going to be half a pound for that residential component, so it is basically 50 residential units times the half pound is 25.

The next slide is essentially some

economic implications of the policy. We were considering what happens as the policy begins, where are the offsets, how many offsets might there be. If the offsets are relatively scarce, presumably the price will be much higher, and then as the market develops and offsets become more available, the prices may, in fact, drop as the availability increases. Well, we do think redevelopment and concentrating growth in dense areas favoring those areas will by its very nature have a benefit to the market and benefit to the cost of the credits. Primarily if the development is in a denser area, there will be fewer credits actually needed, so if they are expensive, you won't have to buy as many. So I think that will allow more development even if the offset supplies are limited. And then by using that same logic, essentially the fewer the offsets that are used, the more population will be encouraged in denser areas on higher performing wastewater treatment plants, for

instance. Economic growth will be stimulated, and we hope that by the whole purpose of this policy, that the Bay will be restored in a more accelerated fashion.

This is a slide that was developed by the Maryland Department of Planning, and I should emphasize that this is a state agency proposal which is obviously aligned with the administration, but all of the agencies are represented here in order to come up with this policy because it affects so many facets in everybody's daily lives. So this is just a slide which tries to draw a relationship between pounds of nitrogen and per capita residential and job numbers, so, again, just scanning this slide, if you look at the three scenarios, one is high density on ENR. The next is a mixed non-ENR and septics dominant type of development, and the third one or the last row are large lots on septics. If you look at those scenarios and you look at the pounds of nitrogen per capita, it

goes from a range of 2.5 to 3.0 all the way down to 22 to 25, so the take-away message from this is that the pounds of nitrogen per capita are less in more densely developed areas which is a good thing.

The converse of that, of course, is if you had to buy a hundred pounds of nitrogen credits, what would you get for that? And this right-hand column, jobs and residents per hundred pounds of nitrogen, tries to demonstrate that you would get more jobs and residents per capita for the hundred pounds, 38 to 44, in a very densely developed area as opposed to going down the last row, large lots on septics for you to only have large lots on septics of 4 to 5.

This is our basically our fourth meeting out of seven public meetings that we have planned, and we have had a lot of questions about just this new policy of developing how does that integrate with the existing nutrient trading policies that Maryland has developed in 2008 and

2010, and I just want to go over some of the principles of the existing trading policies because it is likely when the offset policy is actually released in a final form, that it will influence the trading policy to some extent.

So under existing trading policies, and this can be found on the web as well, a unit of trade is called a credit equal to one pound of nitrogen or phosphorus per year. Now, obviously right there, there is a big difference. This current policy is addressing nitrogen only, but the trading policies address both phosphorus and nitrogen. All nutrient trades or offsets must comply with any local TMDL-based allocations and must not cause or contribute to any local violations of water quality standards. This will be -- the offset policy will be completely consistent with the trading policy. We want to make sure that there is no greater degradation of water, that the water quality standards are adhered to, and then finally the delivery factors

are applied to account for differences in delivered loads between trading partners due to location. This is something that if you are familiar with nutrient net in the nutrient trading policy, there is a delivery factor when you enter your information for your site location, that if you are, for instance, out in Garrett County or if you are in Anne Arundel County would automatically compute, would allow you to know how many credits are needed from the different geographic locations. And the obvious is the monetary value of credits will be determined by the market. That will also be true for the offset policy.

In terms of local water quality, we have had a number of suggestions throughout the public meetings we have had so far that we should emphasize how this policy will preserve the local water quality. By local, local is a loose term, but in terms of the Bay which is local to Maryland, maybe not to New York State as much,

the effect of the excessive loading of nitrogen and phosphorus and sediment is obviously felt within what is called the main stem of the Bay and has this deleterious effect that it deprives the Bay of the oxygen. Obviously by reducing any nutrients from new development that would come in to the main stem of the Bay, we feel that it will, in fact, preserve the quality of the water in the main stem.

For nontidal water, we also think that it would be very helpful to have this policy because streams, nontidal streams are, normally the way that we term it, phrase it, they are normally limited by phosphorus. You need to have nitrogen and phosphorus in order to produce algal blooms and deprive the water of the oxygen. Normally if you don't reduce the phosphorus, then -- let me begin again. I beg your pardon. By limiting factor, we mean that if you add more nitrogen, the phosphorus is the thing you need to actually reduce, so if you add nitrogen, there is

a minimal impact to the stream, but the thing is that the phosphorus is what actually needs to be limited. We are targeting nitrogen, however, because normally it is more difficult -- nitrogen is a more water soluble component, and it is more difficult to capture nitrogen to some extent other than, for instance, large basins, reservoirs being an ideal example of a giant BMP, so we are targeting nitrogen in the sense that we are hoping that that will address both phosphorus and sediment reductions, but it will be an easy place for the policy to begin and effective for local water quality due to the difficulty in actually reducing nitrogen.

Then another factor to mention in terms of protection of local water quality is that the existing regulations, for instance, environmental site design, ESD, to the maximum extent practicable will help protect the local water quality in terms of improving the habitat and the general integrity of the water and also

1 groundwater to recharge.
2 Finally, the last point of the slide is
3 that we think that in terms of the generators of
4 the credits and the buyers of the credits, in
5 order to generate credits itself, you have to go
6 down to a baseline. That is, in terms of
7 reductions from a load from that area, you have
8 to meet a baseline which in this case would be
9 the Bay TMDL. Before you can actually start to
10 generate credits, if you go to the baseline and
11 you actually do more improvement let's say, there
12 are more BMPs, best management practices, on the
13 ground, that additional reduction will count as a
14 credit, and that is the portion that would be for
15 sale, that you could actually sell, and by that,
16 we feel that that will protect water quality.
17 There are some differences also with
18 the trade policy in this new proposed offset
19 policy. One of them is that the current trade
20 policy has three basins, basically Potomac Basin,
21 Patuxent and then the rest of the State where

trading may occur. The offset policy which follows the WIP, the Watershed Implementation Plan, would be more consistent with EPA's notion of what the geographic basins are within Maryland, and the WIP uses five major basins, so automatically there will be a disjunct there, but we hope to modify the trading policy to make the two consistent.

The final point is that the offset policy conceivably, the EPA has required each one of the states to come up with an offset policy, let's say a policy to address growth, somehow account for growth. That may even encourage interstate trading, so it might be possible to buy credits from Pennsylvania, Virginia, but that isn't the case in the trading policy at the moment, so at some point there might be some reconciliation there.

This is an important slide. What it is trying to emphasize is that there is a very key component of the offset policy that is very

different from the trading policy, and that is that in order to encourage the growth within what are called targeted growth and revitalization areas, this policy would be structured so that a person that wanted to develop let's say a particular area, if that person were inside one of the targeted growth and revitalization areas, and this is a concept that comes out of a plan of Maryland and it is an area generally within the priority funding areas, it's a subset of that, this policy would favor development within those targeted revitalization areas, and in that case, the way it would favor it would be anybody who was going to develop in those areas would be able to purchase their offset from anywhere in the state or if, for instance, they are an interested trader, that would be possible, too. However, if the development, a new development was to be placed in an area which was not in a targeted growth area, then the purchase of the credit would be restricted. It would be contained by

the credit within that county, so that would in some sense automatically have economic implications. It could mean that in a county area, a boundary area, perhaps there are very limited credits, but it also has the benefit -- if you look at the other side of that, it also has the benefit that wherever the development is occurring, the credit which is the implementation of some BMP and essentially a restoration like even a stream restoration, that would be constrained to be within that same county, so there is sort of a nice geographic connection there. This is an important toggle in the policy which emphasizes our wish to have the development occur and be favored within the targeted growth and revitalization areas. It is not to say that it is impossible, but it would just be easier.

We're almost to the end. This is at this point how we are envisioning the policy will be implemented. Essentially we would use the existing statutory authority. There wouldn't be

any question of sitting further. The policy would be promulgated through the regulatory process, and it would likely come from MDE through a general permit for offsets, so it would be a permit the developer would have to seek prior to going ahead and developing. A developer would have to calculate the load that needed to be offset, and then there would have to be perhaps some sort of verification process there. There would have to be some sort of certification that the offset had been available, that it, in fact, does exist, that is going to be permanent. There has to be some sort of certification, and then that certification would have to be provided to the department prior to obtaining the permit. So automatically you see that that has fairly strong repercussions because, first, there have to be offsets out there available. The offsets have to be verified, certified in some sense, purchased let's say by a potential developer, and then the application for the permit will go

forward.

This slide and the next one basically are suggested questions to you all to basically prompt your thinking. We were interested very much in getting your insight and your technical expertise, your help on certain questions, and those questions are -- these are just suggested ones, but should the policy use nitrogen loads? For instance, in Virginia they use phosphorus as the basis. We also have phosphorus from the trading, but in terms of implementing this new policy, do you think that it is appropriate just to stick to nitrogen?

Is there a better way to calculate the post-development load? We have seen the slides. Again, I encourage you to look at the spreadsheet that is online.

Should annual practices be approved as offsets for development? What I've talked about throughout the presentation have been structural BMPs like wet ponds converted, dry ponds, things

like that, but it is possible to have cover crops, annual practices used, and what we would like to know from you is to what extent should that be encouraged? Should that be a part of the policy or not? And what protections should be there to ensure a high level of transparency here? We want to know should annual practice be included initially or maybe down the road?

How can these practices be verified if there's maintenance required? Let's say for a structural wet pond, who is going to do that maintenance? In the trading policies there are brokers and aggregators. An aggregator, for instance, might be a third party that would be able to guarantee in some cases that let's say a certain anchorage of cover crops are available, and they would available every year. Maybe not the same cover crops, same parcels, but as pooled, they could be available, and that could possibly be used.

Another question which has occurred to

us and has been brought up in the public meetings has been what if there are not that many offsets out there or perhaps the offsets are too high? Should there be a fee-in-lieu system? We want to know how would that program be structured? Would it be similar to the wetlands program? What would be the price of an offset or even how would we structure the fee part of it in lieu?

The policy as of right now is in the formative stages. I am addressing the second bullet, what is the appropriate effective date and what projects should be grandfathered? This is the formative stage of the policy. We do hope to have a proposal to share with the legislature in December, but as we learned from the Stormwater Management Act of 2007, there were a lot of issues related to grandfathering, and we want to know is that something that is also required? If development has started or is in the pipeline and we suddenly pop out this new policy, should there be a significant

grandfathering provision in this policy?

A very important question is what is the role of local jurisdictions? Can local jurisdictions assume the responsibility for maintaining nonagricultural structural credits, that is like the wet pond, as a conversion of dry stormwater ponds to wet ponds? Those things need maintenance, annual maintenance, and the question is if this credit is to go for as long as the development is existing, as the new load, we want the offset to match the length of the actual new load. Who is going to maintain that? Whose job is that to do it? Is it the State's? Is it the local? Is it perhaps the wet pond in the Homeowner's Association, the HOA?

Then, again, the final bullet addresses the questions that we discussed earlier about the trading geographies. What is the most appropriate geography? In a sense, we want the market to flourish. We want there to be enough credits that it is easy but also protective of

water quality, easy for people to get them. Making a larger geography like the State of Maryland might help this market gain life and take off. If it is restricting the county, there are advantages to that, but it may be constraining. Those are the types of questions that are asked.

Then this is the schedule for the rollout of the policy essentially. We are right now between the dates of July and September. We are doing the outreach meetings. We have done several regional meetings, and we may also do a Webinar. We have got certain documents on the MDE website that you can easily access. All you need to do is go to the main page, the home page of MDE, and then down the left there is a Watershed Implementation Plan link. When you go to that, the first thing you will see is the Accounting For Growth Policy. The second type of link you will see is to a discussion draft which is essentially a short narrative paper on the

policy, and then there is the spreadsheet for calculating, too, that I mentioned.

This month or perhaps early next month we are hoping to post draft regulations for your consideration. Then in October the Attorney General will have to review regulations, approve them and pass them on to the secretary of the department for approval.

In November there will be a briefing of the environmental matters of any other committees that deal with legislation. That is required under the Septics Bill 236.

Then in early December, we hope if everything goes well to submit the policy to AELR and the DLS. Those are legislative committees that review legislation. And then in mid-December we will submit it to the Maryland Register.

So in terms of comments, we hope to get comments up to no later than October 1st, so you have got the rest of August, all of September.

If you have thoughts on the policy, we would really love to hear them earlier than later, but October 1st is the deadline. There is a special email called AFG which stands for Accounting For Growth at MDE at the website, and if you prefer to send a hard copy letter, submit that, you can send it directly to me. That is my contact information.

We had hoped to be able to respond to comments, but in the time frame, it is going to be very unlikely. We are not going to be able to, for instance, put together a comment response document which was done for both the Phase I and Phase II WIPs. We will take your comments under advisement. We will consider them, and they will eventually lead to how the regulations are developed, and then once the regulations become formalized and are actually submitted through the process, there will be another opportunity for comment and review by the public through that process.

Now, that's the power point. The way that we structured this is that we wanted to run briefly through the power point to give you a sense of the policy, and then I was going to turn over the floor to questions and discussion. We have panelists from all the different agencies here or at least three agencies, not all, and there are refreshments in the back, and we encourage questions. I am going to turn it over to the panel as such.

Would you all, please, introduce yourselves.

MR. RHODERICK: I am John Rhoderick with the Maryland Department of Agriculture.

MR. BALDWIN: Dan Baldwin, Maryland Department of Planning.

MR. COSTELLO: David Costello, Department of the Environment.

MR. SAKAI: I am Jason Sakai also with the Department of the Environment.

MR. EMMART: We do have a microphone

for any questions. I have this small portable microphone. For anyone who wants the microphone, I will be happy to walk over and give it to you. Are there any questions, please?

Oh, yes. One small item. If you wouldn't mind, could you please just say your name and any affiliation you might have before asking your question, please.

MR. STAINMAN: Stuart Stainman from the Patapsco River Tributary Team. It's a very ambitious schedule between now and December. What are the consequences if you don't meet the December deadline? Is this Maryland imposed or are there EPA consequences?

MR. EMMART: I think I can answer that. Essentially the bill is what is driving the December date. We need to have a proposal for the offsets for Tier III, but in the WIP we didn't say December -- well, we said 2013 was by the time we would have the policy, but in terms of EPA, we are okay, but in terms of the bill, we

are kind of aiming for December. It made the most sense to actually try to develop those two things in the same track.

Other questions, please.

MS. WILES: I'm Janice Wiles. I represent Friends of Frederick County. There's thousands of acres that are planned for sprawl development in the next 20 years. They are under discussion right now. I just can't imagine that there would be enough offsets for all of this. I am not sure how you will deal with that. I just want to know if you have any thoughts on the whole program to deal with Frederick County.

MR. RHODERICK: I'm going to try real quick to give you a sense. From one sector, the agricultural sector, obviously people are keenly interested in what kind of credits or potential credits there are for agriculture, so what we have done is we have pulled together a bit of information. It is a little small. The next page is bigger. There we go.

Again, we have done an assessment at this time for about 2 percent of the ag agents that are out there. We have been on these farms. We been looking at can they meet the baseline and what potential is there out there for ag credits beyond the baseline.

While this is very busy, it just gives you a broad spectrum of a couple of counties that we feel we have very good data. Bob Ensor is here from Howard County. Truly one of the key elements about having a good data set is to base some thoughts off of Bob who can address it better than I can, but we have looked at all these farms, walked all these fields, inventoried and assessed can they meet the TMDL, and beyond that, what kind of credits do they generate, so what we do is use some very quick charts to give you a sense of what we have seen out there. Next slide.

This basically shows you what it costs the State, and, again, this is all unverified,

uncertified data at this time, but it is at least what we have at this time, so based on that, we are seeing that on the average, and, again, farms vary between thousands of acres to very small 50 acres, but on average, it seems per farm, we can generate maybe the potential for about 200 nitrogen credits a farm and maybe 20-some phosphorus credits. Depending, again, on the region you're in, you can get greater credits per farm. Obviously the Eastern Shore, you'll see that on the Eastern Shore bigger farms, bigger credits. It kind of makes sense. Again, it is very preliminary information, but we are trying to get a sense of what is out there and available. Next slide.

This slide is kind of key. Again, what we have seen so far in average across the State is that currently about 60 percent of the farms meet baseline off the bat, so that means they have already done sufficient conservation management practices to meet the TMDL, and they

have additional things out there that they have done on their own that go above and beyond the TMDL. These things we call existing.

The other thing is that talking with farmers about opportunities going forward, these are things they can do as far as new. Clearly in this stage in the game, most farmers say I have got existing stuff out here; great; I'll look at getting paid for that, but as far as new, we get a much smaller pool.

When you look at the type of credits, this is what it breaks down to. It gets to the issue that we talked about, cover crops. Clearly 8 percent, this is the second slide, are annual practices. There are a lot of things that farms do annually that go above and beyond what they need to do to meet TMDL requirements. Those opportunities are out there, for instance, going out and putting in additional buffers, additional wetlands, et cetera.

And then going to, again, when we talk

about new practices, going above and beyond, the majority of what they would be willing to do with new practices are going to be those type of practices that are more annual practices rather than permanent.

Bob, you can add anything to it because you're the expert in this.

MR. ENSOR: No. You're good.

MR. COSTELLO: One thing to keep in mind as well is that we are hoping that obviously development, huge development, over 75 percent or more, would be in what we call the smart theories of the charging credits. This obviously is meant to help induce that kind of growth. At the same time, we believe that the market in terms of capacities, there's a lot of skepticism in the agricultural community right now. We believe once the market is established, this trading market is truly established, this regulation would in effect induce the market that currently doesn't exist. I mean, trading isn't taking

place now, that capacity as much as the data that John has to date is on the farm surveys, so much of that capacity we believe will be considerably more once farmers realize they have got money to make in providing additional reduction practices on their land.

Nobody has seen any money yet. Obviously this regulation would induce the market by requiring developers to buy credits. If you have got buyers, then you have a market. Right now there are no buyers.

MR. BALDWIN: I just want to add that beyond credits that are able to be generated on farms, there are a whole lot of BMPs that exist within the Bay model that can be used to generate credits, and beyond that, there are a handful, more than a couple handfuls of practices that are lined up with Bay programs for inclusion in the model in the upcoming update in 2017 for things like stormwater management on lands where it doesn't exist already. We are upgrading

wastewater treatment plants, albeit very expensive ways to generate credits, that are also opportunities to offset growth. Pollution and growth. Sorry.

MS. FRIEDETZKY: Hi. I'm Claudia Friedetzky. I represent the Maryland Sierra Club. I wanted to comment and have a question about something that David Costello just said.

Based on some of the research I have done, nutrient trading programs across the country, existing ones tend to be hampered by the fact that there is no market. The market never takes off. I was wondering do you guys have a plan peak for that eventuality if that should happen? Is anything in the works that you are thinking about planning? Thank you.

MR. COSTELLO: Obviously we have already got a number of plans, plan A. We have gone through a number of plans in the past 25 or 30 years. To say that we have got a plan B, I think plan B requires more voluntary practices

or, quite frankly, more regulatory practices or regulation, more mandates in place.

I think one of the things that is -- I think the reason, again, that this would be different, and that's the real test, is that you really need buyers to establish any market and to build any market, and I think what is unique about here, and I'm not certain, but I think really we are talking about the first date that is going to put a regulation in place that really is going to induce the market because buyers are going to realize -- I mean developers are going to realize either they have got to put the practices in place, either pay for practices that they understand that are likely to be much more expensive or they can go on and trade in a market or buy credits in the market where you have got pollution reduction practices that are a lot less expensive than what they would have to account for more directly. That is what we believe will, quite frankly, drive the market. That is what

many theoreticians believe will drive this kind of market.

As far as any plan B, and this is what I would say to the farm community and even local jurisdictions who may be skeptical of supporting this initiative, is that if we don't do this, if we don't attempt to drive down the cost of pollution reduction/Bay restoration in Maryland through a market approach in which they have an opportunity to make money and that local jurisdictions have an opportunity to see more revenue and also to drive down their cost as far as reduction, then the alternative is likely more regulation and more mandates which, of course, I think they are going to be less comfortable with.

So this is somewhat different. I would say it is innovative. It is a real opportunity from my perspective to really drive down the cost and expedite or accelerate Bay restoration in Maryland. Albeit it is certainly more

complicated than anything we have attempted in the past.

I don't know if anyone wants to add anything.

MR. BIELK: Other questions?

MS. HARRISON: I am Verna Harrison with the Keith Campbell Foundation for the Environment, previously with the State of Maryland. I actually have two questions.

The first is obviously it sounds like there is going to be a need to reconcile the provisions of the growth and offset policy with the State's trading policy, so my question basically is when will we see the framework for that, that those trading regulations be provided for us to comment on?

MR. RHODERICK: Verna, I think, as you heard, there are some significant issues as Paul lined up that we are looking at right now whether we stick with the pre-basin theory or the five-basin theory. Again, there are those

components, some of these other things, the trading policy, that this talks about trades would be limited within a county in some instances, so, again, it's how does that work within the existing infrastructure of policy guidelines currently?

MS. HARRISON: What I have been understanding is the Attorney General pretty much said that for things to be viable for trading and incorporation into permits, there needs to be what is currently the Department of Agriculture policy, taking it from the policy stage, putting it into regulation where the public can review and comment on it.

My question is when will this particular part of the growth and offset policy be brought to the public to comment on? I think it is pretty apparent that you can't do the right hand without the left hand. They are too contingent upon the other.

MR. RHODERICK: The plan is October.

MS. HARRISON: So we will see then sections of the ag, and they will include things like which policies and which permit and non-permit practices, for example, nutrient management planning probably wouldn't be allowed to be traded, but cover crops probably would. It's those kinds of things I think we are looking to have a chance to comment on. That is the first question.

Then the second question would be the information there is just really interesting. Would we be able to get an idea of how that was generated?

MR. RHODERICK: This one or the specific one? Go back to the first slide?

MS. HARRISON: Is that available on your website or anyplace where we can see it?

MR. RHODERICK: No. We are just using it for the meetings. This is all ancillary information. It does not come to our department to be verified or certified. This is going out

to the aggregators and people that are out there doing the assessments and pulling that information from it at this time.

MS. HARRISON: So when can we get that?

MR. RHODERICK: You can have it now, but, again, it is not verified or certified. The numbers may be real, may not be.

MR. COSTELLO: And that is based on a survey. Is it a continuing survey or is it just that snapshot that you did?

MR. RHODERICK: It is a snapshot based on Howard County, 55 farms. They are continuing to look at additional farms at this time, but none of them have been sent in for verification.

MR. COSTELLO: And it is a survey of you are saying 2 percent?

MR. RHODERICK: About 2 percent of the farmland acres out there.

MR. COSTELLO: Now, Dan may want to comment on an inventory that Planning is

undertaking as well.

MR. BALDWIN: Sure.

MR. COSTELLO: Let me say one thing. Obviously as it relates to follow-up adjustments, because I'm not sure we are clear here, once we settle, my understanding is once we settle on our reg and then obviously this will impact what adjustments will take place with the existing nutrient trading policy, but in terms of the specifics, we haven't had that kind of discussion yet with Agriculture as to what practices as you have outlined would be allowed, what kind of annual practices.

Obviously we anticipate or at least I anticipate, and I may be speaking, misspeaking here which wouldn't be the first time, is that we would anticipate that obviously any verifiable practice, and that is why verifications can be a big part of this, any verifiable practices, a pollution reduction practice that you could put in place is likely to be allowable, and that is

why annual practices, even though we prefer a permanent practice, we believe if you put in place and you have aggregators that have sufficient reserve pool as well as bonding insurance, then it is likely to allow a range of annual practices as long as there is insurance, and, of course, we have got to talk about the aggregators and how many more inspectors and verifiers, third-party verifiers you have on the ground to make sure the credits are appropriate, credits are properly generated and then obviously the trades.

MS. HARRISON: And I think things like cover crops which you could probably verify as long as there is some kind of insurance policy or whatever would be fine in one case. Nutrient management plans which are not verifiable would fall in another category. It is the opportunity to be able to understand that before this growth and offset policy is adopted is going to be critical. I just don't think at this point we

have had a chance to understand enough of that component.

I was encouraged when I saw in your slide, and with my old eyes I can't read which one, but under Protecting Nontidal Water Quality, it says "requiring sellers to meet Bay WIP baseline reductions before being able to generate credits for sale". That is a lovely construct. We look forward to seeing how that will be done I'm going to let others talk about the water quality. There are a few other issues that will need to be addressed.

I guess since we are supposed to ask questions, I will lead by saying, not a question, a statement, my hats off to the agencies who are here talking to folks all around the community, and I think that is really, really great. Also hats off to the environmental community that is here and others to provide specific concrete suggestions instead of putting their fingers in their ears. We are really look forward to seeing

those transparent sections of the agricultural part of the equation.

MR. RHODERICK: Again, if I could follow up. For the agricultural portion with the State on the front end of the programs, anything that is required by regulation is not tradeable, so nutrient management is off the table. If the pending enhancement nutrient management regs go through, fencing and grass buffers are off the table because they are required by regulation. They are not non-tradeable.

MS. HARRISON: And so that policy which is amendable by changing the website is put in regulations, I think it will be easier to address.

MR. GREENSPAN: Michael Greenspan. I am a developer. I was wondering if you have any idea and if your models project an expected cost that would be one of these reduction, nitrogen reduction credits.

MR. COSTELLO: The numbers I have seen

to date, again, these are numbers that are pre-market we believe obviously are robust numbers and drive prices down, but in ag practice on average, the cost to reduce the pound is less than $200. For a wastewater treatment plant, for instance, reduction of pound is a little under 600. These are ongoing pounds, and then a septic upgrade is roughly $3,000, and then stormwater, 4,000 and above. That is just general numbers that I recall reading. If I am incorrect, Paul will correct me.

MR. EMMART: Just the numbers are tristate. It is hard to know what the credit itself is based on the market. If there are a lot, it may be less, and if there are a few, it may be more expensive. The numbers Dave gave are ranges. Those ranges correspond to the sector. It would depend on what type of sector you were trying to address if you were looking for a cost. Stormwater I think -- and Jay can address this more clearly. Stormwater is considered to

be by far the most expensive, and so the redevelopment portion would not require a credit to be obtained for stormwater. I hope that helps.

MR. GREENSPAN: But in a farm credit which you said might cost $200, is that a permanent credit that would be used to offset?

MR. COSTELLO: As Paul said, those were average numbers to give you an idea. Ag credits are a lot less than urban practices. As far as BMPs, John can give you a better sense of what a specific BMP is.

MR. RHODERICK: If you are going to permanent issues, they are paramount here. If you are going towards permanent, it means that you in essence say for tree buffer, you pay for the land cost as well as buffer installation and the ongoing monitoring of it. You take all those costs wrapped up as the high end. If you are paying for cover crops on an annual basis over 10 years, it might be $200 or 400 or $500 an acre

times 10 years plus the inspections again.

MR. GREENSPAN: These credits sound like they could be 5, $10,000 per credit?

MR. COSTELLO: Not for credit.

MR. EMMART: I think it would be premature to say an exact price. First of all, just to say again, it would depend on the sector, and it would depend on where the development occurred because you would perhaps be able to buy that credit statewide which might make it cheaper or you might get restricted and buy within the county. For instance, you could buy ag credits which by ranges appear to be less expensive than other sector credit costs. If you could buy it in that county, you probably would be getting vested. Of course, if you didn't buy a credit at all, it would be nothing.

MR. GREENSPAN: One last question. Is it -- I see here that the general permit requirements would kick in December 31, 2014, so is it safe to assume that any development that

would in a general permit before then, we would not have to worry about this in the budgeting and planning of a project or is that not going to be the likely grandfathering?

MR. EMMART: We were asking for feedback on that effective date as well.

MR. SAKAI: There hasn't been a determination of the grandfathering. It is not a proposal that has taken off there. The grandfathering provision, when this becomes effective hasn't been determined. It is something we are looking for input on.

MR. MICHELSEN: Erik Michelsen for South River Federation. I have a question on local water quality. In Paul's presentation, one of the bullet points was reducing nutrients and sediment that reach the main stem will ensure that the remainder of the Bay is protected and will also improve the tidal portions of rivers. Based on a lot of the inherent work that I have seen, it is not in fact the case, at least that I

am familiar with, that the Bay is somehow polluting these tidal rivers and reduction of the Bay will receive dramatic improvement, but it is working the other way, that there's certainly pollution in the main stem with its own independent pollution issues.

To the extent that -- again, Paul mentioned that we want to be sensitive around trading geographies, and we are making trades as easy as possible but also protecting the local water quality. I would like to better understand how we will put that protection of local water quality at the top of the list in terms of what our priorities are and how that is going to play out when you have got local segments that have TMDLs in terms of restricting trade requirements.

MR. SAKAI: Erik, as you know, you start on the trading with the basic principle that you have to meet the more stringent of a local water quality TMDL or a broader Bay TMDL.

You can't trade outside of that watershed, outside of that point to meet water quality. Our trading policies, our permitting policies are generally -- well, not generally. They are in fact all built around that basic concept. I think you are getting into a more complicated question here with respect to how TMDLs are established and at what point do we have a very good understanding of the differential particularly for local tidal waters between the exchange of nitrogen, between what is coming in locally and what is inflicted by the Bay. That is a more complicated TMDL question. But our trading approach and our permitting approach are going to be reliant on the TMDL analysis.

MR. MICHALSEN: If you have got a local segment TMDL for the South River and a new development comes online southward, will that trade have to occur southward?

MR. SAKAI: You used the word segment. In the context of the Bay TMDL, the Bay TMDL

doesn't segmentize. This is something either John or Paul had alluded to. One of the outstanding questions about trading geographies, the reason there is an outstanding question about trading geographies is because there is an ongoing discussion, ongoing decision-making that has to occur to answer the question about whether EPA has to -- each segment has to meet. They have not said that trading can only occur within a segment, and we have a proposal up here that talks about two alternatives. One is the five trade basins versus the three. If you distill it down to a more narrow version about segments, then the one interpretation of that could be that the segment, the loading has to be associated, but I haven't heard anybody make a determination to that level. It is something that we are looking to EPA for some guidance on that as well.

MS. BEVAN-DANGEL: Jennifer Bevan-Dangel with 1,000 Friends of Maryland. The

Phase I WIP talked about a higher offset ratio for pollutant offset development. That doesn't appear in this draft. Where did that element go?

MR. COSTELLO: A couple of things. One is we believe there is a smart growth corollary. If you look at the way this is conceptually framed, low density, off waste treatment plant or off sewer, it will certainly have a higher loading rate. You would have to pay an awful lot more to offset that load. There is a built-in corollary.

The other thing is going pound for pound, we believe, quite frankly, it relates to a direct water quality impact and making the water quality case of this particular regulation as it relates to the Clean Water Act. Then, of course, there's the politics of jumping beyond that. That is really why we have said literally a pound for a pound. If you create a pound of pollution, you have to offset that pound as opposed to if

you were in a sprawled area and you would have to pay two to one or three to one or whatever that is. We believe we are getting at and helping you to support smarter growth simply by sticking with the pound for pound. That is the only reason. It is still on the table. Obviously people are making the case given the uncertainty today, providing more assurance, and so it is out there. That is why we at least framed it this way.

MR. PLUMMER: David Plumber, Montgomery Soil Conservation District. John, you and I talked about this. I am still trying to get my arms around it. I apologize. The existing practices, we have talked about that in a couple different forms. There is a big line there, existing practices. In my mind, when we look at existing practices, there are a lot of arms. The Bay is in the condition it is in right now on account of those existing practices. My concern is, and I assume you can trade them because they

are listed up there, but if you start trading them, aren't you really going to create a negative? It is hard for me to imagine because what we have in the Bay right now, granted it's all done with modeling so we haven't done it stream by stream and accounted for each practice, but if we start trading those away, aren't we working backwards?

MR. RHODERICK: The concern came up a couple times. When we refer to existing practices, we are getting into the Bay model. The Bay model is calibrated through as of 2007. The magic number is, as they tell us, in the Bay model based on all the existing practices that were out there as of 2007. They took the water quality model and calibrated it to that. What they said is this discovery of practices out there that we never knew existed from that time forward, as long as we show the farm can be baseline, these are potential new practices.

MR. PLUMMER: That represents ones

since 2007?

MR. RHODERICK: Again, we have not looked specifically at the data. In essence, that was somewhat of the guidelines.

MR. PLUMMER: Those will be the only ones that will be traded?

MR. RHODERICK: Right.

MR. PLUMMER: Thank you.

MS. GIRARD: Meredith Girard, Town Creek Foundation. I want to start by thanking you all so much for having the meetings and wrestling with the very things that we face with this policy in trying to clean up the Bay.

I wanted to ask you two questions. The first is around transparency and accountability with respect to the general permitting process and how you are going to anticipate incorporating into the regulations opportunities for public access information if somebody is planning a trade associated with development or any opportunity for either public comment or public

access to that, that information.

My second question has to do with whether you have done any overall assessment as to -- I know you talked about the land base and perhaps practices where credits would be generated, but have you done any analysis as to particular waterways? There was a question about the South River and how it would be handled to make sure there aren't additional impairments. I am wondering if you have done any assessment to identify what the overall opportunity would be for trades to actually occur as a result of new development so that you don't end up with particular waterways that are already impaired to get us further in the wrong direction.

MR. SAKAI: I want to answer the second question first. Maybe I will let Dan or John take a shot at your first question. I'll answer your second question.

But with respect to the implementation mechanism for trading offsets, our proposal here

contemplates a general permit type approach that is predicated on what we think would be the most straightforward way to implement this given the fact that we are going to be touching and looking at literally thousands of potential development projects. The general permit process is really geared up for that as opposed to an individual permit process.

Without getting into too much detail of about how we think the permit process would work, I can point you to two existing permit models that we have in place now. One is our fee application permit, the general permit, and it requires the submission of certain information, and that information is accessible to the public. The entire permit record is accessible. As you know, we don't go through a public notice process for each one of those, but there is the opportunity for review.

The second thing is the general permit for construction process that we have implemented

public participation, public access process to, we don't keep the plans in our offices for those purposes because those are typically for local review. However, we provide for the NOI registration process which is posted on the website and time allowance that permits an interested party to go, in effect go and seek the records that they need to do the review and then provide feedback to the department prior to the NOI raising concerns. I anticipate some form of a similar type of approach here. There is some form of public input during the registration process.

MR. BALDWIN: I'm sorry. What was the first question again? Was it on transparency and accountability?

MS. GIRARD: My question was about whether you have done an overall assessment with respect to the specific waterways where trading credit occurs. Somebody could go out and purchase credits. Are they enough below their

allocation for that to actually occur?

MR. BALDWIN: Any credits generated from practices that were not a part of the local jurisdiction's strategy to meet the load allocation or the load reduction, they would have to be in addition to that. There wouldn't be any double accounting on what the counties were doing and when they purchased credits to offset growth.

MS. GIRARD: But my question is more to if you look at places in the State where the growth pressure is the highest, those are the places where people are going to want to purchase credits. Have you looked at what the feasibility is of those locations as they relate to the places? I am thinking about places like the Choptank River which is already impaired, and so if somebody wants to grow there, how are they going to -- have you done any feasibility study to understand what the gap is?

MR. BALDWIN: We haven't so much done

the analysis of the difference between growth pressure and available credit capacity. MDE has done a very basic analysis. We have shared a bit of it with our sister agencies and hope to have it out to the public soon to look at what is available county by county so we have an understanding of what the potential, what the universe of potential credits may be. Some of that is based on the work that the ag community has done and through what John shared and looking at that in a farm-by-farm basis or average and then applying that to the number of farms by county.

There is an understanding of how much growth a county could essentially accept if all of that growth took place outside of the targeted growth by revitalization areas in that county. It is important to remember that if they happened in the places where the counties are identified or will identify through the plan of Maryland process where they want growth to occur, those

credits can be purchased anywhere in the State given that there isn't limiting water quality, a limiting factor, the local TMDL assertion when that will occur. If it doesn't exist and it is within the target of growth and revitalization area, that person in the Choptank can purchase the credits from Washington County, Allegany County or Carroll County, anywhere else in the State.

MR. COSTELLO: Just to add in what Dan said, obviously if you are looking at growth areas where you have had tremendous sprawl, part of this is to say that if you are going to continue to grow in that pattern, that low density, high per capita loading sprawl pattern, then you could offset your pollution load in that county jurisdiction. That is part of the purpose of establishing those trading geographies from a smarter growth perspective. We hope to deter that kind of development further, but even if we don't, at least we are accounting for that high

pollution load by doing it locally. That is what we are trying to hold fast to in the county to address the pollution load.

And as far as -- this sort of speaks to the other in terms of local water quality. If we can truly get to the point where most people or 75 percent or more of the future growth of Maryland is taking place in these target growth and revitalization areas, then obviously their load will be substantially less. You tie in stormwater, new stormwater development regs or stormwater practice regs where we are getting a higher reduction than currently from redevelopment. Then that also would reduce load going into local waterways as well as the Bay. To the extent that we are promoting redevelopment and we are doing a better job of getting growth in these targeted growth and revitalization areas, we think that will enhance both water quality as well as overall Bay restoration, support Bay restoration.

MR. BALDWIN: Just one last thing to add. By requiring growth that happens, sprawl growth that happens to be offset within the county, it also gives the county the availability or the potential to really hone in growth where they really want it to occur than maybe they haven't been able to in the past for a number of reasons. You have to think of the county geography as having a set amount of offset capacity. As that capacity is used by offsetting growth, that number is going to reduce year by year, development by development. Even if that development is occurring in a different county within a targeted growth and revitalization area, somebody could buy it from the county. The county could say in order to purchase credits in our county, you have to do X, Y or Z. The county could name other things that would put requirements on that in purchasing a credit or the generation of that credit.

MR. ROSSETTI: Rupert Rossetti with the

Upper Western Shore Tributary Team. It's a mouthful, and it is still in existence.

My question is actually I think for Jay more than anybody else. I am familiar with -- John has told me about new practices. I am familiar with new practices in the ag arena and in the stormwater arena. Certainly with the Upper Chesapeake Bay program level we have a lot of expert panels going on. Are there any in the wastewater arena that are currently ongoing? The sorts of things I am thinking about are tertiary treatment wetlands such as the one that is in Washington, D.C. And if not, why not?

MR. SAKAI: I guess the shorter answer is that wastewater treatment technology isn't evaluated in the same way. You don't have registered -- ENR technology is not a BMP that has to go through a process of evaluation by the Gray program, so the department has a process for evaluating new treatment technology on an ongoing basis. We have a close working relationship with

the consultant community in general that the way it works is that it will just -- we just did this with one of the Washington County facilities. They wanted to propose in this case a bio bag approach to nutrient reduction, and we looked at it. They proposed it because it was a very cost-effective way to meet enhanced nutrient reduction.

That process is pretty much an ongoing opportunity. We are always looking at it, and our engineers of the department that run the ENR program are always looking at innovative technologies. We think, for instance, that the limited technology for ENR which we generally throw around is somewhere between 3 and 4 milligrams per liter. We are seeing technologies that are significantly higher than that. There is no process that requires us to get EPA approval to implement it. If our engineers think it is worth the work and something robust, we will fund it with the program and implement it.

This is an area particularly as we start getting into the realm of trying to address reductions from smaller facilities where it has not traditionally been cost effective, looking at new technology is the way we will get there. I don't know if that was responsive, but that is kind of where we are.

MR. TRUMBAUER: Hi. Chris Trumbauer from West/Rhode Riverkeeper and also councilman for Anne Arundel County. I have a comment and question.

The comment is really I wanted to underscore the need to make this entire process very transparent and accessible for the public because I know that state and local governments are very resource limited right now, and the logistics and complexity of this program seem daunting to me, so I would say to you let's make sure we give folks from like the Sierra Club to help watchdog this and help make sure it works because if it doesn't work, I think we are all in

trouble. So that is my comment.

My question is my understanding of the proposal is that new developments, residential, commercial, what have you in urban or suburban areas would be able to do offsets in agricultural practices, and my understanding is that we have a pretty good idea of the loads that are generated by these new developments, but I am less sure about the data and verification of the load reductions from the ag practices. This is, I guess, to John.

Is there data available and can you talk about that? If there isn't, is there a process where you are going to be doing more monitoring and finding out if you can quantify to a pretty safe degree of ag practices in the load reductions?

MR. RHODERICK: The first thing is everything that we are doing here is all predicated on the Bay model. When we talk about BMPs especially for ag that could be traded, we

are talking about those that have been through the peer review process of the Bay program that designates these are the load reductions, these are the efficiencies for those practices. Now, that's given they are universal across the State, but that is what we are using. So again, just like for stormwater, stormwater practices, those have loads and efficiencies established by the Bay program. This whole thing about loading is predicated on that. When we say the offset is going to be a tree buffer, at least the last model was worth 26 pounds per acre. If someone paid for a tree buffer on one acre, they would have nitrogen offsets of 26 pounds for that acre. It doesn't matter whether it is the Lower Eastern Shore, Upper Western, whatever.

MR. TRUMBAUER: Just as a quick follow-up, is there intended to be any sort of verification of those numbers? Are they just going to be accepted as the model numbers and move on from there? The 26 that you cited, will

the Department of Ag staff or MDE or anybody be doing at least some targeted monitoring to verify that?

MR. RHODERICK: No. As I said, these have already been through this whole iteration across the Bay for peer review. We do have a protocol in place because there is a lot of new technology that came up that has not gone through what in essence is a five-year process to get research done, get it through the Bay program and get it approved as a BMP. We do have a process that if we would utilize BMP that is not part of the current Bay program approved efficiencies established, we have a whole technology work group of the Bay program people who are willing to look at it, what is called granted interim efficiency. Because it would be granted interim efficiency, we would require that monitoring as you just suggested because we don't have enough information, and so we would require monitoring directly go with that, so we would quantify the

absolute efficiency going forward.

MR. BALDWIN: The BMP efficiencies are reviewed on a pretty regular basis, and almost at least as long as I have been around, they have been updated. The efficiencies have gone on. It depends on the practice, but it seems like each iteration of review you get closer and closer to what is a pretty fair estimation of what that BMP reduced statewide wherever that is applied.

MR. COSTELLO: One thing I would add about verification and transparency is stepping away from the model is that I think these guys obviously know what the model -- one thing I wanted to say, one of the things about verification, obviously we have talked about third-party verification. To the extent that this effort is driven by the market and is driven by money, remember, we are using permits, so people are required by law to reduce pollution and to maintain that reduction in perpetuity. We are wrestling with defining permits and how we

deal with that. They are obviously offsetting that load as long as that load exists. Given that it is a regulation and given that there is money on the table, then there is going to be greater verification. People who have money on the table and who are liable for not only generating that credit but obviously liable for the pollution load are going to want to make sure and have greater assurance that these practices, these credits are definitely in place, and so we believe that depending on how the market goes, that third-party verification is going to grow, and obviously it is truly going to be third party. We are not going to have agricultural interests inspecting agricultural practices. We will have greater assurance across the board. We believe that there will be more inspectors out there.

So overall, not only do I think verification will be greater and that inspection will be greater, but, quite frankly, compliance

is likely to be higher than it is today as it relates to the practices being put in place because in the end, people will have money on the table and people will be liable to a greater degree as to relates to pollution load. My expectation at least is to -- and all of this will drive transparency as well because obviously more inspections, more reports will be available for review whether it is by Riverkeeper or whoever who are interested to see what is going on with this particular program.

MR. SALTZMAN: Howard Saltzman with Howard County Public Works. Two questions, the 50 percent reduction from the residential development and ESD to the MEP.

MR. EMMART: From the Bay program loading rate.

MR. SALTZMAN: Does that match expectations for load reductions?

MR. EMMART: Research shows it might be greater.

MR. SAKAI: Howard, the way that -- the 50 percent came from an assessment that was done by the Bay program, Maryland stormwater program, and we went through the manual in great detail, talked about what practices and what the manual required with respect to stormwater management in Maryland today under the environmental site design to the maximum extent practicable. As a result of those general discussions, without making judgments about specific practices put on the development site, we came to agreement that in general, Maryland will get credit for 4 percent nitrogen reduction assuming the implementation of Maryland's regs for the development site. It is going to be higher in some cases. It is going to be lower in some cases. That was really the compromise just to make it simple. We are trying to avoid having something that is really complicated based on practice by practice.

If you want further information on how

they got to that point, that's fine, but that is the place we are.

MR. SALTZMAN: The other question, almost as much of a comment as a question, is Talbot County in Maryland is a MS4 county. You are talking about market-driven offsets here, but are counties now in competition looking for locations to do these kinds of retrofits? Are they creating a great demand for the MS4 permits and you are hoping the market will drive down cost?

MR. SAKAI: As you know, it is a 20 percent requirement.

MR. SALTZMAN: 10 percent of the existing.

MR. SAKAI: Currently Howard County says 20 percent within the permit term. Irregardless, as you know, since Howard County has participated in the work group, the Maryland work group, the ag practice is not part of the way you get the 20 percent.

MR. SALTZMAN: I understand, but part of what I am hearing is there were things to be worked out before today. The ag BMPs are one way to do the offset. It sounds like there is interest to be resolved. I am assuming you are looking at other ways where other BMPs could be used to offset.

MR. SAKAI: If you assume there's going to be potential private property areas and urban areas within Howard County that are going to implement for stormwater management on their sites voluntarily with the folks that are going to sell them to a new developer who needs an offset, then I suppose you could call that competition. I don't know off the top of my head what the Howard County strategy for meeting 20 percent is. I am assuming it does not include much in the way of practices that are going to compete with those people that are going to the ag trading marketplace to get reductions.

MR. BALDWIN: The policy that exists

allows for this type of trading already. There really isn't going to be a lag to iron out details in between when the policy is fully implemented and when a trading needs to start occurring. Any changes that exist, any changes that are needed to the policy as it exists are not ones that are wholly so substantial that they won't happen before the trading needs to start occurring.

On top of that, going back to the potential cost, it is pretty much assumed while we don't know firm numbers, the assumption is that agricultural practices on a pound, on a dollar per pound basis are much lower than they would be for stormwater. You are likely not to be in competition with developers who are looking to go into existing communities to upgrade stormwater.

MS. SALTZMAN: Unless we look for ag offsets also.

MR. SAKAI: The guidance does not allow

for trading based on the requirement.

MS. JONES: My name is Ann Jones, and it doesn't matter where I come from.

I don't like using the word permanent, and I have to say that really bothers me. I deal with conservation easements a lot, and I talk with properties about doing stuff in perpetuity, and people want me to define in perpetuity. I am going with 250 years because that is how long we have owned the same farm here. A manure pit is not permanent. It is not in perpetuity.

Do you really want to make it be permanent? If a better technology comes along, if we are running a dairy farm and we want to turn over to methane generation and we don't need that manure pit anymore, does that have to stay there? That is my first thing. Just the terminology permanent, these things are not permanent. They are practices. They are not permanent at all.

MR. COSTELLO: Can I answer that

first?

MS. JONES: Sure.

MR. COSTELLO: We are wrestling with it. We have got in the framework. We are saying permanent. We are looking to really determine it, and we are glad that people are giving us some feedback and hopefully some ideas. Again, if you look at it this way, obviously it is policy that is adjustable. If you have got a load that has been eliminating on property, then it is has been eliminating. If it is because you have gone to whatever you have done, then that is different.

The point of the framing language is really as long as there is a load coming off that property, that parcel, then it needs to be offset. There's flexibility. If the load is eliminated at some point, then obviously it ends. It doesn't go on for 250 years. It ended when the load ended.

MS. JONES: I have got a credit I

sold.

MR. COSTELLO: I'm sorry. You are generating credits?

MS. JONES: I am selling.

MR. COSTELLO: All right. I'm sorry. You are going the other way.

MS. JONES: I know you can't make people keep dairy farming forever. I've got that part down. Now I have to sell it. What happens? I sold the credit.

MR. COSTELLO: I will let John answer that, talk about aggregators.

MR. RHODERICK: Part of the concept of the trading market is you decide, so you as the farmer what you sell, you know I'm not going to stay in dairy farming forever, so you say these credits I am only selling in 10 years. It is up to the buyer to find that whole litany of practices that will take him out through that permanency. So you set your terms as a seller.

MS. JONES: But you could have

something with a useful life of 20 years and sell it for two.

MR. RHODERICK: Absolutely. You determine it, generate the terms.

MS. JONES: Now, my next question is an easier one. Or it may be a hard one. I want to know what constitutes development.

MR. BALDWIN: Land determines if it is over 5,000 square feet. Redevelopment by the MDE standards is 40 percent growth.

MS. JONES: So every time you do any land disturbance of 5,000 square feet?

MR. BALDWIN: We haven't defined it yet. The draft regs haven't been written yet. We have been asking the public for input on that, too. It is 5,000 square feet. I'm sorry. One acre. 5,000 --

MS. JONES: An acre, 5,000 is a difference.

MR. BALDWIN: There are standards that define development now under stormwater

management. We have been using those roughly, but we have also been discussing it. The draft regs haven't been written yet, so we would like to hear from the public what that threshold for defining it should be. I don't think it is our interest to do this for every outhouse, doghouse and cook house statewide. Again, a new house for a certain size, what is the standard? What do you think the threshold should be? And the developing community could be instrumental in helping us define that.

MS. JONES: To me, development means residential, and that isn't related necessarily to square feet. It may or may not be. You are talking just square feet irrespective of whether it is residential, commercial?

MR. BALDWIN: Yes. All development, residential, commercial, industrial will all have offsets.

MS. CURTIS: I'm Meo Curtis with Montgomery County Department of Environmental

Protection. We are the only MS4 jurisdiction in Maryland that has a third round MS4 permit so far.

First of all, to this slide here, Montgomery County, as I understand it, is the only jurisdiction that goes above and beyond the State requirement for stormwater management for redevelopment, so I was wondering if we would be getting a credit for that because, again, we require stormwater management on a hundred percent of the redeveloped impervious.

MR. SAKAI: Just for the record, the Montgomery County permit is not the only jurisdiction with a third-generation permit. They are the only jurisdiction that has a permit that has been issued with the new restoration requirements in the TMDL. Baltimore City is, in fact, on its fourth permit iteration here because they started first.

The second issue, though, more to the point is, Meo, we think that redevelopment is

going to be an important part of the way jurisdictions like yours meet the restoration requirement for the BAT in general, and part of that means that the accounting in general has been pretty poor in the past. It will have to get a lot better in terms of every time the jurisdiction touches an area of developed land and heretofore has had little or no stormwater management and brings up the standards even to the new developed standard or the higher Montgomery standard, that they should take credit.

Now, from my perspective, I think there is no reason why you should not take credit for the higher efficiencies. Essentially it's no different than putting a BMP or retrofit in place on just through your normal retrofit program. If you have a higher standard and you keep track of what areas of land with higher management, I see no reason why it should not be correctly accounted for.

I think that is practically difficult to do, but if you have a good process in place with respect to plan review and making sure that folks that are doing the plan review are naturally cataloging and accounting for what practice is going on in a particular redevelopment envelope, there is no reason why you can't get credit for it.

MS. CURTIS: I was actually proposing that MDE would consider that as part of that offset policy and come up with guidance that could be easily used because perhaps other jurisdictions might want to consider that as well.

MR. SAKAI: To me, that would be more appropriately something that we would put in the accounting guidance for MS4 jurisdictions. Were you planning on selling the differential?

MS. CURTIS: In our case, we would just use it towards our local TMDLs.

MR. SAKAI: That is probably a good

discussion to have with respect to modification of the county guidance which allow for higher levels. I think Prince George's County, by the way, has finally adopted, I don't know if there is somebody here from that jurisdiction, a similar type of requirement. They transitioned into a requirement, a higher level of 50 percent as well.

MS. CURTIS: And then I have a follow-up question about locally impaired waters. I wonder how it would work. Would the no allowance for trades cover all impairments, only nitrogen impairments? If you allow a trade out of that basin, it might work for the nitrogen, but perhaps there are other parameters that would also be increased because of the development that would not be addressed, and basically that pollutant, pollution would be transferred to someplace else or it would not be taken care of by the trade going outside the county or outside of the impaired segment. I am

thinking specifically about bacteria in this case.

MR. SAKAI: I think the difficult part of this is that if presuming that there is a local TMDL that has been established, and Montgomery County has many, many of them, and you are in the process of developing a TMDL implementation plan for each of the specific parameters that is in that TMDL implementation plan, inputs from new sources including new development would have to be accounted for. Potentially this issue if they are offsetting, if you are allowing new development to occur and new offset to occur somewhere else outside of it, you have to account for that new input in that TMDL implementation plan. It is not particularly a permit issue because we are not characterizing this as a phosphorus discharge permit, but for bacteria, it is more complicated because you have to account for that offset.

I think that is something that maybe

the locals would want to comment on with respect to how they think this might work for the specific examples where you have local impairments.

MS. CURTIS: Okay.

MR. NOVY: My name is Mike Novy. I'm a civil engineer in Prince George's County. I wanted to make a comment about the Montgomery County comment on the credits.

It seems to me it would be more fair that the developer would get the credit since he is the one that is spending money in the first place instead of the county. It is the developer who is actually paying for it. That is just a comment.

The second, I had a question. I want to understand when you can actually buy the credits. You did a slide. On one of your slides you mentioned that the seller is required to meet the Bay WIP baseline reduction before being able to generate credits. Does that apply to the

whole agricultural segment for a certain watershed or can you go to one farmer that as long as he has the baseline himself, you can buy from him even though the rest of Howard County hasn't met the baseline?

MR. RHODERICK: Yes. So what we have done is you have done a baseline assessment of his farm. He has met his obligation under that local TMDL or the Bay TMDL which is whatever is more restrictive. He has demonstrated that he has done his work. Then if he is willing to do above and beyond, then we allow him the opportunity to trade that.

MR. NOVY: That would also apply for wastewater treatment plants? It would be the same scenario if you buy credits from them?

MR. RHODERICK: There are a couple options where plants, as Jay outlined, that if they met -- in an ENR plant, if they can do better than ENR, they can potentially generate credits.

MR. NOVY: The only other one would be stormwater. The county would be the only person to really buy credits from. They have the whole area, so they would meet their WIP baseline before they start selling credits.

MR. RHODERICK: Help me out, Jay.

MR. SAKAI: We are contemplating the development of a nonpoint source trading policy that includes the urban sector strategies to really fall into place. As you know -- or maybe you don't know, but we have a point-to-point trading policy in place now that talks about how wastewater treatment plants can trade nitrogen loads. There has been the development of a Phase II part of this ag trading that is under development. The third part is stormwater. We are, in fact, anticipating the possibility of implementation in the urban sector that would be tradeable.

The difficulty for developed areas with MS4 areas is that from a regulatory perspective,

the 20 percent applies to all of the developed land within the borders of the county. The counties in the book for restoration of public and private land, it's not just the public land. So the question about who should get the credit for additional development, I suppose in Montgomery, if you were working in Montgomery County and you met Montgomery County stormwater management requirements at a minimum, they would want you to go beyond that before you traded anything.

This is a question I don't know the answer to. I don't know that we have thought this through about who owns the aggregate nitrogen for the implementation they pay for. The notion of trading is you go beyond regulatory requirements. I have not admittedly wrestled with the question if you go beyond State requirements.

MR. COSTELLO: I would add I think to the extent that we would allow that, I think that

is good. If we can get developers who actually go beyond what is required, then we are obviously going to meet our goals a lot faster. Quite frankly, as part of the market develops, here is an opportunity for developers to do more to conceivably if they believe they can sell credits, in general sell credits beyond what they are required to do, then we are obviously likely to see a more robust market and, quite frankly, a lot more pollution reduction in play. I think the fair point is the baseline requirement beyond what the county is requiring, and developers, if they think they can make money, then by doing more pollution reduction, hallelujah. If they start taking redeveloping or taking stormwater from the parcels or whatever they decide to do and they believe they can sell the credits particularly in a jurisdiction where counties where you get a lot of growth and there is a requirement for in-county offsets, if we are able to hold a line on the geographies, then you might

actually have a market for more of these types of practices and offsets.

MR. SAKAI: The other thing I would add to your point and I agree with is that there is probably a cost effectiveness. There are going to be development areas where it makes all the sense in the world for somebody to do the additional implementation on this site rather than shoehorn it into the other site. At the end of the day, it is all for the better. We don't want to discourage that. If there is an opportunity for implementation to occur and have it be tradeable, we want to try to foster that. It is important to understand.

My only issue with the MS4 jurisdiction is through all of this, we have to make sure that we are not double counting. That is pretty much it. We need to make sure that practices are only counted once towards the same single goal.

MS. BACHE: Hello. Dyan Bache with the City of Gaithersburg Environmental Services. I

have two quick questions. The first one is regarding the fee-in-lieu potential program. For fee-in-lieu, how would those dollars be spent? Would that be done by the county, the city, the aggregators?

The second question is basically what was the reasoning behind having only residential be required to offset the atmosphere deposition?

MR. SAKAI: I will answer the first question. You asked about the MS4 deposition. Your first question was about the fee-in-lieu. We have put in fee-in-lieu to really foster a discussion through these forums. This is something we are looking to provide input. One model for implementation that may be effective or more effective is to have local governments actually do implementation and implement the offset requirement on the development as just a fee-in-lieu-of. For the same reason, it may be more cost effective for the locals to do that.

I think the important part of this,

1 though, is that we would certainly want to make
2 sure that we have, again, very clear accounting
3 of where the money -- that the money -- if money
4 is being collected as fee-in-lieu-of to relieve a
5 developer of his offset requirement but the local
6 government takes that money in lieu of
7 implementation to the offset, we have a very
8 clear understanding and a clear accountability
9 for the implementation. Everybody in this room
10 understands that traditional fee-in-lieu-of
11 programs have been problematic because of the
12 lack of accountability. If we are going to do
13 fee-in-lieu-of here, we need some more
14 accountability that has not existed before. It
15 doesn't mean that it can't happen that way.
16 In my perspective, the locals are the
17 ones that are interacting and talking to the
18 developing community on a day-to-day basis. It
19 may make sense for the program to be implemented
20 that way. It is an idea we are interested in
21 implementing.

MR. COSTELLO: One thing I would add in fee-of-lieu, though, I will talk about your deposition issue as well, is that fee-in-lieu as Jay said, it is really just part of the discussion. It is not within the conceptual framework for the regulation at this stage.

One of the things, too, is we are not sure how long it will take for the market to be in place. If we do look at fee-in-lieu, maybe it is temporary or maybe it is alternative. Eventually if the market is as robust as we thought it would be, then we wouldn't look to fee-in-lieu because they would have plenty of credits to buy elsewhere.

As it relates to your deposition, the reason we didn't put it on commercial is because we decided that most of the people who were driving to that commercial site are already covered under their residence, so we are getting the deposition based on their residence, and we felt we would be double counting if we also added

load, deposition load to the commercial institution.

MS. BACHE: What about trucks driving to a warehouse that is out in the rural area rather than in an urban area?

MR. COSTELLO: That is a good point. If you look at the air deposition component, it is the smallest element of our framework. We wanted to put it in there. It is hard for us to quantify because, again, it is an average based on census tracts, and so we are not accounting for everything. We believe we have got an average that accounts for most of it. It is based on population, density and residence, but we are not accounting for everything.

MR. HERTSCH: Frank Hertsch. Will the conversion of an active agriculture operation of the forest conservation reduce saleable offsets?

MR. RHODERICK: No. It has to stay in ag operation. Credits are ag credits. By taking a farmland and taking it out of ag reduction,

there is no credit because it is no longer agriculture.

MR. HERTSCH: I understand the public policy involved in preserving agriculture in general, and I also understand there's public policy considerations related to smart growth, redevelopment and ag preservation which seem to be a subtext under the public policy relating to nitrogen removal in the Bay.

I am a little concerned that some of the subtext may run contrary to the objectives of meeting the nitrogen requirements. It seems to me that conversion of ag relating to permanent forest conservation would, in fact, work towards that objective of reducing nitrogen discharges while admittedly running contrary to the ag policy.

In addition, the program if really successful in terms of promoting smart growth may starve itself of the necessity or the generation of credits because of the favorable treatment

given to reconstruction and smart growth areas. I hate to make the analogy, but it is almost like the cigarette tax. The more successful you are, the less money you are going to collect, and the more successful this program is in terms of discouraging or meeting the smart growth objectives, the less successful it is going to be in meeting its Bay nutrient level discharges. Thanks.

MR. BALDWIN: I would also like to point out really quickly that converting existing sprawl to forest would also reduce considerably existing loads. That is something we haven't talked about because it is not potential. We are never going to go into sprawl areas, tear down houses and rip out septic tanks and plant them back into trees. The policy recognition is that smart growth isn't just building. It is building sustainable communities that have agriculture and recreation and resources close at hand. That is how the policy exists. Considering generating

credits by turning farms into forests, you should think the same way as turning houses into forests as well.

MR. RHODERICK: I should follow-up. You can still be in agriculture and grow trees. That is a viable agricultural operation. You can take it from cornfields to pasture. You can take it from cornfields to Christmas trees, to vinyards, all offsets.

MR. HERTSCH: If you want somebody to aggregate offsets, it is going to be very difficult to try to assure a continued use of cover crops, but I can assure you that a farm converted to forest conservation by land restriction is going to remain in perpetuity a forest conservation area, and whatever credits would be generated by that conversion would be permanent without the necessity of perpetual bonding, perpetual payments and some kind of monitoring besides a drive-by.

If you are looking for people to

aggregate these offsets, it's going to have to be a little bit simpler, I believe, than a complicated program that is going to require a perpetual financial commitment, and in the developer community, the developer develops the land, sells the land and moves on. The banks and the lenders aren't going to accept continued responsibility to come back and pay for offsets. If there is such a continuing financial obligation, you are going to see the exact same thing that is happening with stormwater management ponds and other community facilities, and you are going to have a commitment to an agricultural operation for a yearly payment, and that is going to come out of homeowner association fees. That will be the perpetual part. The developer is not going to pay that. It will be a perpetual obligation on the homeowner.

MR. COSTELLO: Frank, let me step back. One of the things -- obviously this is

meant to be a balanced policy. We don't want to step on a policy that is valuable. Agriculture is valuable going forward. It is likely to be more valuable given commodity prices and demand throughout the globe. If you looked at the currency, remember, this policy is really meant to simply do one thing. Fundamentally it is to offset pollution load for new development. That is the currency of success. If we can do that, then we are succeeding.

Now, we believe that by developing this innovative instrument, there are corollary benefits. We believe there are smart growth benefits. We believe there are land preservation benefits that are beyond our water quality goal with this particular program.

MR. JUNKIN: Tim Junkin with Midshore Riverkeepers Convervancy. My question is from the perspective of a farmer who wants to sell credits. At least my understanding is that if they meet, if they have in practice say BMP A, B,

C and D and they meet the baseline, they would be eligible to sell credits if they added an additional practice. I think this gives us the opportunity perhaps to develop some numeric criteria so we can actually go in and know in truth whether those BMPs are, in fact, taking us, taking that farm to where we want it to be before we would sell credits. It is pretty inexpensive these days, and we have the technology to test shallow groundwater, test runoff coming off of farms. There would be a huge step of reassurance if -- you have farms that already have soils that are saturated in phosphorus, for example, and they can put in a lot of BMPs and still have significant pollution problems on that farm. If all you are doing is basing this on the model and credits based on BMPs, we don't have any real assurance that those practices are leading us to start with the farm that is already actually meeting the kind of pollution criteria we want before they should be able to add pollution

credits in other places in the State.

I guess my question is have you all been thinking about that? And it just seems to me it wouldn't be that difficult to implement. Where are you with that kind of a thought process?

MR. RHODERICK: Tim, you and I have worked for Tom Fisher both in monitoring, and we have been looking at this issue. Groundwater monitoring is the key obviously in surface water. Yeah, we could add that and say every trade has to pay for monitoring. I think we are looking at stuff that, as you said, is pretty inexpensive. It could be simple. I don't know. A couple thousand dollars a year up to $40,000 a year on just what kind of monitoring you want to do to get those kind of results. Groundwater doesn't move for decades. Even though we may have all the associated practices in place, we are still working on the first decade of that groundwater to move.

MR. COSTELLO: Just a couple comments as well. As it relates to developing the market, as you know, there are going to be administrative costs. We believe that administrative costs related to the program have been covered by the developer with the permit fee. To whatever extent there's administrative costs that are borne by the State or the local jurisdictions, to the extent local jurisdictions participate, then, of course, there are costs related to third-party verifiers, and there are costs related to a broker where the broker makes his or her money.

I guess the point is the way we see it now, it is not to say that we wouldn't want to add to the cost of the program, but looking at that kind of verification would require more cost, and, again, it is not saying that we are not considering it. It is not to say that as the program evolves over time. Obviously it is a policy that is likely to be redacted over time that couldn't come into place at some time.

Initially the framework is relying on the model. I would just add those comments as well about how it all plays out.

One thing I would say because this gets back to compliance, I do believe, again, if there is money on the table, you are apt to see a lot more inspectors out there. Even if you haven't done the direct monitoring, I guarantee you if an organization goes out and does monitoring that raises issues about practices that generates credits, that is going to have a play in the market. That is going to have a play among verifiers and these kinds of things. Even if we don't have this kind of monitoring required, to the extent that anybody provides information, then it is likely to influence the market and the development, how the program is playing out.

MR. JUNKIN: Can I follow-up? Even if it was just a random or intermittent testing like drug testing for athletes so that every 10 or 12 days there was a test so we could actually

establish that the BMP models are working. We wouldn't want to be selling credits from people who are already overpolluting even though we have practices in place. I think it would be an important reassurance to all of us that the model, the hypotheticals are working. I think to some degree we can do shallow groundwater testing very inexpensively these days. We can do a groundwater test. When you are talking about significant value for the policy, I think it would be -- it wouldn't be cost prohibitive to have some kind of process.

MR. EMMART: Folks, if I could just break in for a moment. This is a little bit of a time check. We are almost up to 4:00 o'clock when this meeting is scheduled to finish. We do have two more questions that are lined up, so we will take those two questions, but after that, I'm afraid we have to stop for today.

I would encourage you to send in your comments or questions or concerns to the email

address we provided, and additionally, if you would like to attend more meetings, there are three more public ones coming up, regional meetings.

Thank you very much for your participation. We will take the last two questions.

MR. BOUXSEIN: Peter Bouxsein with the Chesapeake Bay Foundation. There's a lot of good stuff here and a lot of serious thought. I am puzzled with the implementation of the requirement that an offset to meet the requirements here has to be over and above the baseline to publish the TMDL. The reason that I am puzzled is that I don't know what that baseline is and what measures are required in that baseline.

I have been looking at the county Phase II in the non ag area is really where my question is. I have been looking at the county Phase II WIPs. In some cases I have trouble

figuring out what they are going to do and how they are going to meet TMDL. I am also aware that the State augmented those Phase II county WIPs and submitted the March WIP to EPA.

My question is when somebody comes forward and says I have an offset that I am willing to sell, how is it going to be determined that that is an offset that goes above and beyond what was required to get to the TMDL?

MR. RHODERICK: Are you talking ag or urban? You understand the ag, how we do the farms?

MR. BOUXSEIN: Yes.

MR. RHODERICK: Let's talk about the urban then.

MR. SAKAI: Well, if the question is can a private developer sell implementation let's say for urban development, I would answer by saying our policy supposes that they will be able to. The 20 percent requirement is an MS4 requirement only. It does not apply to private

1 property. It is not intended to be a baseline
2 private practice. Howard County goes about
3 ensuring which 20 percent which is effectively
4 the permit.
5 The way I think, and, again, this is
6 all policy under development, is the way urban
7 will work is if an aggregator wants to cobble
8 together practices and sell them as offsets, then
9 there are a couple of checks that have to take
10 place. One of those checks is to make sure that
11 implementation has not already been counted by
12 some counties, that it is going to be only 20
13 percent. Another check would be to make sure
14 that the practice is actually in place. The
15 third check would be that the developer has
16 actually implemented the standard controls of the
17 stormwater management with Maryland.
18 I don't know if your question is --
19 MR. BOUXSEIN: The question is in terms
20 of implementing MS4s, --
21 MR. COSTELLO: It could be upgrades of

septic.

MR. BOUXSEIN: When you look at, for example, what is on the MDE web page which purports to be what was submitted --

MR. SAKAI: The Phase II WIPs?

MR. BOUXSEIN: You have street cleaning, and you have all kinds of things in there that you folks have assigned numbers to and said this is what the State committed, but I don't know that the county committed to anything like that. Suppose somebody comes forward and says I'm going to do this that creates an offset. Who says I know that that is a good offset because it is above and beyond what was already committed? By whom?

MR. SAKAI: The offset policy does not at all suggest, at least from my reading of it, Peter, that the county has an obligation to meet all of its WIP obligations before any trading takes place. That is not what the policy says. We are not intending to say that every county

must meet its Phase II obligations and demonstrate that it is doing so before any trade is happening in the county. This is really implementation that is supposed to recognize that we are going to have growth and development in the State of Maryland that is going to generate new loads, and we need implementation to account for that so that we are not increasing loads on the one hand while spending a lot of money on the other hand to try to reduce loads.

I don't interpret this policy, and maybe I am alone in this, to mean to suggest that -- if you say there will be no trading until everybody has met their WIP implementation minimum baseline, there will never be trading.

MR. BOUXSEIN: I am not saying that everything has to be done that has met the TMDL before there can be an offset. Even projecting out that this is where we would go to get to the baseline and now somebody comes forward and says this is above and beyond, how do we know? I

don't know what was -- at this point, I don't know what actions were needed in order to get to the TMDL. Is it what is on your web page?

MR. BALDWIN: There has to be a baseline in any of the TMDL in order to trade. It is just agriculture.

MR. COSTELLO: Let me try to address this. Let me address it this way. Obviously there are some WIP positions that are more detailed than others. For instance, what Jay has said, we have said we are not going to double count. We put in place that you have to upgrade a certain number of septic systems, for instance. That is a target they have to meet unless they adjust their WIP plan to show us they are going to meet their overall load allocation some other way. As long as we are not double counting, I think we are fine. What Jay has said, and he can correct me, obviously if someone is out there, a developer is doing things that we believe are credit generating and they get credit

for that, well, the county can't double count if it is a practice that they have. Whether we put it in their plan or they put it in their plan, you have to account for it. As long as we don't double count, we are going to be fine. The county goes beyond the hookup for whatever is in their plan, whether they put it in their plan because they have got a target number of whether it is septic system hookups to sewer or septic system upgrades or stormwater practices to meet their MS4. I think we are fine as long as we are not double counting.

MR. BOUXSEIN: Who is wearing the hat to make sure that we are not double counting?

MR. SAKAI: That is a systems question. There is a lot of work going into the full discussion about developing the appropriate mechanisms to account to make sure the item is counted.

MR. BIELK: Last question.

MS. HARRISON: Thanks. It's Verna

again. I just wanted to quickly pick up on the point that Tim was making with respect to verification. Science is pretty well accepted at this point that says that phosphorus in certain areas that are saturated doesn't stick to the soils anymore and goes into the groundwater. Somebody mentioned earlier what you would do with the practice that maybe would contribute to a problem. I flagged that as one of the reasons that phosphorus probably has to be part of this process.

But really where I wanted to go is I encourage you to reach out to a number of folks to think about different ways to verify. Tim came back to the suggestion that you do spot checks on various fields, but there are different ways that you can do this without just having astronomical costs. We would be happy to help with some of that research.

Thank you.

MR. EMMART: All right. Well, with

that very good suggestion, we will conclude this meeting, and I encourage you to follow the MDE website which will provide more information. This power point is available on website, and soon the draft regulations will be issued, at least put up on the website, so you will be able to see those and consider them, and we welcome your comments on regulations and all of their aspects of the policy.

Thank you very much.

MS. GIRARD: Paul, does that include John's spreadsheet?

MR. EMMART: No. What John provided, the spreadsheets on the agricultural capacity are not on the website. If you would like them, you would have to speak to John directly.

(Whereupon, the Public Hearing was concluded at 4:03 p.m.)

STATE OF MARYLAND SS:

I, DEBORAH C. D. SHUMAKER, a Notary Public of the State of Maryland, do hereby certify that the within named, personally appeared before me at the time and place herein set out, and after having been duly sworn by me, was interrogated by counsel.

I further certify that the examination was recorded stenographically by me and this transcript is a true record of the proceedings.

I further certify that the stipulations contained herein were entered into by counsel in my presence.

I further certify that I am not of counsel to any of the parties, nor an employee of counsel, nor related to any of the parties, nor in any way interested in the outcome of this action.

As witness my hand and notarial seal this 22nd day of August, 2012.

My commission expires July 11, 2014

Notary Public

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