

**MEETING OF THE NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION**

**Raleigh, North Carolina
January 14, 2010
Minutes**

The North Carolina Environmental Management Commission met in the Ground Floor Hearing Room of the Archdale Building, 512 North Salisbury Street, Raleigh, North Carolina. Chairman, Stephen T. Smith presided. The following persons attended for all or part of the meeting:

COMMISSION MEMBERS:

Yvonne C. Bailey	Marion E. Deerhake	Jeffrey V. Morse	Stephen Smith
Donnie Brewer	Tom Ellis	Mayor Darryl D. Moss	Forrest R. Westall, Sr.
Thomas F. Cecich	William L. Hall	Dr. David B. Peden	
Stan L. Crowe	Dr. Ernest W. Larkin	Dr. Charles H. Peterson	
John S. Curry	Dr. David H. Moreau	J. Dickson Phillips III	

DIVISION OF WATER QUALITY:

Bradley Bennett	Mike Templeton	Jeff Poupart	Lois Thomas
Ted Bush	Bethany Georgoulis	Rob Krebs	Julie Ventaloro
Kevin Bowden	Connie Brower	Jerry Rimmer	Adriene Weaver
Frances Candelaria	Gary Kreiser	Jason Robinson	Chuck Wakild
Alan Clark	Jay Sauber	Gary Saunders	Elizabeth Kountis
Nora Deamer	Matt Matthews	Bob Sledge	Jon Risgaard
Matthew Faerber	Sandra Moore	Coleen Sullins	

SECRETARY'S OFFICE:

Steve Wall

DIVISION OF AIR QUALITY:

Keith Overcash
Michael Abraczinskas
Joelle Burleson
Paul Grable

DIVISION OF WATER RESOURCES:

Tom Reeder

UNDERGROUND STORAGE TANK:

Ruth Strauss

ATTORNEY GENERAL'S OFFICE:

Frank Crawley
Jane Oliver
Don Evans

Chairman Smith: Chairman Smith called the January 14, 2010 meeting to order at 9:00 a.m. He then read the Ethics General Statute § 138A-15, which mandates that the Chairman inquire as

to whether any member knows of any known conflict of interest or appearance of conflict with respect to matters before the Commission. Commission members were asked if they knew of any conflict of interest or appearance of a conflict to please so state at this time.

I. Preliminary Matters

John Curry: On the Appalachian Voices v. Duke Energy I have an apparent conflict.

Dr. Peterson: I have a conflict on the Appalachian Voices.

Chairman Smith: I've been contacted about three absences. Mr. Cecich is in Hawaii with his family and does not ask us to feel sorry for him although he tried to arrange this at a different time that wouldn't conflict with the EMC meeting, but this time worked for everyone in his family except him. Mr. Martin is out with a conflict that became unavoidable yesterday. He was here all day on yesterday and Mr. Westall is out recovering from a broken knee cap. He was taking out the trash and fell on the ice in his backyard. Mr. Phillips has emailed me to say that he will be late due to traffic.

Are there any additions or deletions to the agenda?

I have one which is for us to talk about the By-laws changes that we made the last time and we will come to that in just a moment. Let's move to the consideration of the minutes.

Mayor Moss: I thought that we were going to defer item 10-04 the IBT settlement document until March.

Chairman Smith: We are going to do that and I will speak to that when the time comes. The approval of the IBT settlement guidance document will be scheduled for March. Most of you don't have that document yet which I will explain.

Chairman Smith: asked for any amendments or corrections or edits to the minutes.

Dr. Larkin: made a motion to approve the minutes and Mr. Ellis seconded. The chairman asked for a vote and hearing no discussion the motion passed.

Chairman Smith: Each of you has received by email the updated EMC By-laws that incorporate the changes that we considered. The Steering Committee considered the changes to the bylaws in November and brought before the EMC in November. If there are any of you that do not have the document, Mr. Crawley has a few paper copies. What we did was update the by-laws to make reference to the Ethics Act. We also changed how the Department was referenced where there was a typo. Then we dealt with the Motion to Intervene and Motions to file Amicus Briefs giving the chair the authority to rule on those or bring those to the full EMC. That is whether a party is allowed to intervene or whether an individual or entity is allowed to intervene and the same with whether an individual or entity is allowed to file an amicus brief. This is for variance requests, for declaratory rulings and the other two instances that don't come to mind right now.

Dr. Peterson: I make a motion for approval of these changes if a motion is in order. Mr. Brewer seconded the motion. The chairman asked for discussion. The motion passed unanimously.

10-01 Request for Approval of Phase II Stormwater Designations

Mayor Moss: I need to restate that I will be recusing myself from this item.

Dr. Peterson: The Water Quality Committee did indeed hear this item and went through the communities that were being recommended. There may have been one vote against this to move for approval to the Commission today.

Chairman Smith: By way of explanation the vote against was Mr. Martin because of reluctance to approve one community which was Butner.

Summary (Bethany Georgoulis): As Vice Chairman Dr. Peterson stated we are here today for final approval and designation of Phase II communities in four river basins that we screened this past year, the Neuse, Broad, Chowan, and Pasquotank river basins. We are also going to ask for approval of delineating areas around the majority of those recommended designations for areas that will be called regulated coverage areas. We went through a pretty lengthy presentation on yesterday.

The attachments that you have with the agenda item included the public notice that we sent out as well as relevant excerpts from the Session Law 2006-246, Section 4.(a)(b)). The other handouts include attachments b and c, and each of those describes our recommendation for each community or regulated area in detail and the reasons for making that recommendation.

Who was considered for designation is the first step in the screening process under the session law. Those are entities where discharges of stormwater have the potential to adversely impact water quality. We looked for entities that are located near impaired waters. We also identified candidates based on population and density thresholds that are laid out in the session law. We identified 22 candidates in all of those river basins. Just to go over a timeline of what has happened since September when we first came to the Water Quality Committee for approval to publish that list of candidates for public notice: we notified each of those municipalities by a letter on October 21, 2009. We also identified and notified entities in the surrounding areas that might be affected by post construction stormwater controls. A public notice went onto our website on October 27th and then a press release followed a couple of days later. We sent updates directly to committee members along with example correspondence and maps during that same week.

We received comments through the end of November. As I did with the committee I wanted to highlight the responses that we received back. Out of the 22 candidates we only heard from seven. Our response wasn't overwhelming. That was less than a third of those candidates that we received comments back from. We also heard from nine concerned citizens as well as an environmental advocate organization, the Neuse Riverkeeper Foundation. Each of those wrote to us in support of designating all of the candidates in the Neuse River Basin.

Again, quickly for the entire Commission's benefit there are criteria set out in the session law. This is for the second set of criteria under Section 5(2)d. We look at each of those communities once we have identified them and compare population growth rates during the past ten years, compare to the state growth rate and if it's 1.3 times that is a criterion for designation. Projected population growth rate is another criteria. Population increases during the past two years and then the final two are looking for those municipal storm sewers, versus MS4s that discharge stormwater that either adversely impact water quality or are a significant contributor of pollutants. We are directed under the session law to take into account the effectiveness of existing water quality protection programs in our consideration.

I will now summarize recommendations and those entities that we determined that did not meet the criteria or are not recommended for designation. In the Broad River Basin we're recommending Rutherfordton, Shelby and Spindale. They each came in because they were near impaired waters. Shelby met the population and population density criteria. We have determined that they are indeed significant contributors and their stormwater discharges have an impact and we are recommending them for designation. We determined Forest City did not meet the criteria for designation.

In the Pasquotank River Basin we are recommending Elizabeth City. It did come in initially because of meeting the population criteria in the session law for candidacy. At the time we initially screened it we did not determine there was an impairment nearby, however just last month that changed. There is a segment of the Pasquotank River next to the city that is on the impaired list that has come on recently for copper impairment which is a result of some agreements with EPA about listing those waters because of copper and zinc impairments. We have not done that before. We have not been able to determine a different source and the potential contribution from the urban stormwater is certainly there. We are recommending designation. It is important to highlight that we know Elizabeth City is a coastal community and there are coastal stormwater rules in effect which address development and runoff. However, Phase II designation is going to mean that there are other elements of the Stormwater Management Program that will go into place. There are six minimum measures total and the post construction addresses only one of those measures.

We are not recommending Kill Devil Hills and Nags Head. Both of those came into our screening because of the housing units located there and the density of those units. They are near impairments and waters that are closed to shellfish harvesting as well as closed to recreation for bacteriological pollution. We do know stormwater discharges are a primary contributor. We did hear comments from both of those communities and we noted the measures and the programs they have put in place. They go beyond just their obligation under the current stormwater rules for the coastal counties. They have implemented things such as public education and outreach efforts, working with the County Health Department to identify and eliminate illicit discharges, as well as other efforts that would come under the Phase II Program. So we felt like Phase II designation was not going to gain anything there and we are not recommending those communities.

In the comparison of program elements the coastal rules address new development and there is the state-wide program to address erosion and sediment control. The Phase II NPDES Program has a list that is longer than that, again public education outreach, illicit discharge detection, good housekeeping and programs for the municipal operations and things of that nature. It is helpful here as we talk about the NSW communities on the list. There are the

measures that those communities must meet so it is helpful to remember that under the Phase II Program there are still some additional elements when they're compared.

Finally, to the Neuse River Basin where we have the most candidates that we are recommending, we looked at 15 entities in this basin. We are recommending Benson, Butner, Clayton, Creedmoor, Roxboro and Trent Woods, as well as Wendell and Zebulon for designation.

A little word here about the Falls Lake, communities that we are recommending are important. Butner and Creedmoor are a part of that group. We looked at a group of communities specifically in Falls Lake watershed because we know it is such a sensitive watershed and impairment to the Lake is so important. Creedmoor came in because of one of the criteria in the session law, also population growth. That is one of the criteria the community met as well. Clayton was the same and it is very straightforward for Clayton. They are certainly impacting the waters that are impaired in that region as well. As far as the Falls Lake communities we have made the decision to recommend those larger communities that we looked at. Stem was a much smaller one and we are not recommending Stem. We felt it was important to go ahead and get the protection in place.

We know the Falls Lake rules are coming in very short order. We also realized that those draft rules, while they implement some measures that go beyond stormwater control for new development, they will not mirror exactly what Phase II designation would lay out. Some of those things like illicit discharge detection or stormwater mapping are not explicitly called out under the rules. Some of them are options for those communities to use to meet reductions under that rule. So it is important to also note that some of the things they would be doing for a Phase II Program would go toward compliance with those rules. We also know that some of the concerns for the communities in that area would suddenly be to be under two different stormwater programs. Again that's not the case because likewise a lot of the things they would need to do under Falls Lake rules would go toward compliance with the Phase II Program. There's also the element of public education and outreach that is not explicitly outlined in the draft of Falls Lake Rules, and we feel that's an important element under the Phase II NPDES Program.

Trent Woods is also a coastal community but it is situated next to two NSW neighbors. We felt because it's a nutrient contributor, because the NPDES Program takes it beyond the coastal stormwater rules and new development controls, Phase II designation is going to raise that standard more closely to what its neighbors are obligated to do under the Neuse NSW Program.

Wendell and Zebulon are also drained to impaired waters and they easily meet the population growth criteria and we have recommended those for designation.

There are two communities in this basin that we are not recommending. Stem is one in the Falls Lake watershed. We're just recommending the two larger communities. Stem is very small, less than 300 in population and it's already under a WSII watershed that's had some of the more stringent post construction controls in place for a while, at least as far as development goes. It's very small and in our experience communities that small are very unlikely to even own or operate a stormwater system. With that in mind and coupled with the fact that the Falls Lake rules will impact that community as well, we have made the decision not to recommend Stem for designation.

Farmville is nearby to Little Contentnea Creek which is impaired because of low dissolved oxygen problems. However, we have made the determination that all the evidence points to concentrated animal feeding operations as the major contributing source. We don't feel that it

meets the criteria of the session law and we are not recommending designation. We looked at the Neuse NSW communities and we've taken a little bit different approach than we did with the Tar-Pamlico Basin. We're recommending that you delay the decision on these communities until staff can do a more thorough evaluation of their current stormwater programs. They all came in because of their population density or housing unit density criteria. Some of these towns drain to impairments that are nutrient related and some of them don't. This was ultimately the way that it was decided the first time around where the communities were either coming into the Phase II program or would not be designated. We're taking a different approach this time. The reason is twofold. One we would like to go in and just see what these communities are doing under the Neuse NSW program or see that they are compliant with those rules because we should already be doing that. What we are really aiming to do is to find out what kinds of other programs or measures they have in place that might reach beyond that, particularly in places where the impairment is not nutrient related. We also know the EPA is turning increased attention to addressing impairments through the Phase II NPDES Program. Our goal is to come back to you in March with more information after going to those towns.

Finally the second part is the delineation of regulated coverage areas. Those are also called municipal spheres of influence or MSIs. There is a 1-mile distance around the corporate boundaries of Roxboro which is a one or two mile radius based on the last official census numbers because that's how we have delineated it. That's how we have drawn all the MSIs for the Phase II entities thus far. This is a little bit different than designation and Phase II NPDES. It doesn't mean any kind of permitting for that area or minimum measures. What it does mean is that the post construction stormwater controls will be mandated for that area and those will be permitted by the Division or a local program. Part of that is water supply watershed. There is also a high quality water area that's covered under the state's stormwater program. It will be that unincorporated area in Person County that will be affected has post construction controls if this area is delineated. The process is very similar to designation. The first three steps were delegated to us by the Water Quality Committee back in September and we have done each of those. Yesterday we received approval to come to you for final delineation of what we're proposing. We will notify each of those entities that could be affected of the final decision. The coverage areas that should become a regulated area are where stormwater discharges adversely impact water quality or are significant contributors of pollutants to sensitive receiving waters, taking into account effectiveness of existing water quality protection programs. We are proposing eleven MSIs being delineated around those entities that we have proposed designation. We are not proposing an MSI be delineated around Elizabeth City because that area would be entirely covered by coastal county and the coastal stormwater rules are Phase II compliant. We don't find that delineation would be necessary. The three action items for today we seek approval of those recommended Phase II designations, approval of recommended regulated coverage areas being delineated and we are also seeking approval to delay designation decisions for Havelock, Kinston, New Bern, Smithfield and Wilson until we can evaluate current stormwater programs in more detail.

Jeff Morse: I was interested in your comment when you were looking at two communities for designation. I think you mentioned Kill Devil Hills and Nags Head. You indicated that those jurisdictions were previously employing best management practices for stormwater. As a result the staff felt that they did not need to come under the stormwater rules. There are other

communities in North Carolina that practice BMPs but still had to go under the stormwater rules. Explain to me in more detail the reasoning behind the exemption?

Bethany Georgoulis: What you may be referring to is the first pass of Phase II designations. The federal regulations automatically designated several communities. We didn't have any choice unless there was an opportunity for a waiver or something based on their size or not operating an MS4. In the case of designation we are relying on this process that has been laid out in the session law. In looking at that criterion of significant contributions taking into account the effectiveness of existing water quality programs that may be in place, we do have to use a little bit of judgment in how to assess but essentially what we have done is look at those programs the community has in place. We do rely on those communities coming to us to spell that out. What are those measures and to what extent do those measures mirror what is required under the Phase II permit; for example, illicit discharge detection and elimination or public education and outreach measures, good housekeeping, those kinds of things for their municipal operations. If we determine that the regulations address or the rules in place address post construction and these other programs are in place are really essentially addressing the other measures under Phase II already, that is how we have formulated our recommendation to not go through the process of Phase II designation. So it's a little bit different than what happened at first with those communities the federal regulations automatically designated.

Jeff Morse: That gives me hope. Can a jurisdiction get out of the Phase II if we're showing we're in compliance?

Bethany Georgoulis: I think it's certainly possible and a lot of that is going to be determined on the direction that we go with these today.

Jeff Morse: Very good. Thank you.

Dr. Peterson: I should add one further part of that discussion on that very point that was on the Water Quality Committee's agenda on yesterday. It does require us to examine the effectiveness of the programs currently in place and I raise the concern about whether what is the closure, which is based on shellfish closures for those two towns, whether what we're doing is truly effective. On the other hand one could also ask is there anything that we can do beyond what we are doing that could be effective if what we're doing isn't. But in any case there's a little more subtly to that because it's not just whether the programs are in place but their effectiveness is what we need to look at. We are going to keep our eyes open in the future on whether those communities and others that are similar have programs that are not only in place but also are effective.

Chairman Smith: I have a question about the exclusion of Farmville. Tell me that again.

Bethany Georgoulis: When we looked at the impairment that was nearby we did not receive comments from Farmville so we didn't have any other additional information directly from that community. When we consulted the basin-wide plan, the information there, the impairment of low dissolved oxygen appears to be exacerbated primarily by concentrated animal feeding operations. There wasn't a discussion about urban stormwater runoff and with that weighted

evidence that it was not the town contributing. We also considered that along with the fact that there was post construction mandated there already even though it doesn't address the other elements. But with those two things together and we were unable to determine that it was the town that was the significant contributor. We recommended against it. We just couldn't determine that it met the criteria.

Chairman Smith: My question really focuses on not so much the exclusion of Farmville because I accept everything you say as that being appropriate. But that it was apparent from whatever your section looked at that the dissolved oxygen problems came from the animal operations. If that's the case, and I don't doubt that it is, is that sufficient that we can do something about that not necessarily coming out of your office but coming out of somebody else's office.

Bethany Georgoulis: I think it should be but I probably have to look to someone in nonpoint source.

Chairman Smith: I'm confident that in theory it should be but I will follow up with this after the meeting and I will start with you and you can direct me to wherever I need to go.

Motion (Dr. Peterson): I would like to make a motion that we approve all three aspects of this recommendation that came through the Water Quality Committee, namely approving designation of the communities listed, approving postponement of the communities listed, Havelock etc. and approving the territorial designations that we made around certain communities. That's on the basis of the Water Quality Committee and seven to one voted for the recommendation. **Dr. Larkin** seconded. The motion passed.

10-02 Request to Proceed to Public Hearing to Amend the Prevention of Significant Deterioration and Sources in Nonattainment Areas Rules

Summary (Mike Abraczinkas): This is a request to go to public hearing on two rules, our 15A NCAC 02D .0530, Prevention of Significant Deterioration and 15A NCAC 02D .0531, Sources in Nonattainment New Source Review. Our aim is to accomplish three things with this proposed set of amendments. First is to clarify the level of control that shall apply to new natural gas fired electric generating units that have claimed cost recovery under the Clean Smokestacks Act. Secondly, we're proposing to amend and replace pollutant specific references in these rules and replace them with references to the Code of Federal Regulations thus eliminating the need to continually update these rules every time that an area comes in or out of attainment for a particular pollutant. Finally, we're removing some obsolete language and that requires some cross reference in paragraph renumbering. That's a summary of the proposed changes.

Motion (Ms. Deerhake): The Air Quality Committee did review and approved to bring this item to the full Commission. So on behalf of the Air Quality Committee I move the proposal move to public hearing. **Mr. Curry** seconded. There was no discussion and the motion passed.

10-03 Request to Proceed to Public Hearing to Amend the Volatile Organic Compound (VOC) Reasonably Available Control Technology (RACT) Rules

Summary (Mike Abraczinskas): This request focuses on a package of twenty one rules. There are amendments, repeals and adoptions included in this package. Most of the rules are from our 15A NCAC 02D .0900 Volatile Organic Compounds section. The reason why we are proposing this set of amendments, repeals and adoptions is because the USEPA in 2006 through 2008 promulgated a new set of guidelines for a number of source categories that cover coating operations and solvent cleaning operations which are volatile organic compound emission sources. They promulgated 11 such guidelines in that time period. When they did so, it triggered a requirement for us to roll these into our Reasonably Available Control Technology rules. This equivalent level of control is called “presumptive” Reasonable Available Control Technology. That’s what we are aiming to accomplish in this rule package. The majority of the rules included do so. There are a few other proposed changes. One is an expansion of the Volatile Organic Compound Work Practice Standards to all sources of volatile organic compound emissions. This amendment is aimed to simplify the inspection process for both Division of Air Quality and the facility and is seen as something already being accomplished through OSHA and North Carolina Fire Prevention Code as well. Finally we are changing a few other rules that simply need cross reference changes due to the more substantive amendments.

Motion (Ms. Deerhake): This proposal did come before the Air Quality Committee and it was approved to bring to the EMC. So on behalf of the Air Quality Committee I move this proposal proceed to public hearing. Mr. Curry seconded. There was no discussion and the motion passed.

10-04 Request for Approval of the Interbasin Transfer Settlement Guidance Document

Chairman Smith: We have taken this item off this month’s agenda and it will return on the March EMC agenda. The reason we did this is that the Water Allocation Committee considered this yesterday. There were two changes that had some substance and a number of drafting changes, reorganization of the sentences and paragraphs, and we thought it would not be fair to all of you to send that out to you last night or early this morning. Even though it is a two or three page document, since it was not under a time restraint we pushed it to March so that you will have time to read it and think about it. That document has been through a number of iterations and is the product of a lot of good work.

10-05 Request to Proceed to Initiate Round 4 of the Jordan Lake Water Supply Allocation

Summary (Tom Fransen): We did have some lively discussion yesterday on this topic. I think **Dr. Moreau** and **Dr. Peterson & Jeff Morse** are the only 3 commission members that have been involved with a Jordan Allocation decision. Jordan Lake is special because Jordan Lake is the only reservoir the State has purchased the W/S storage. The Commission has been given the responsibility of actually allocating that storage. Today we are coming with a request to start Round 4 for Jordan allocation and staffs’ recommendation for process. There was some discussion yesterday on modifying what staff actually proposed for the process.

Today’s presentation is broken down into three parts, background, current allocations and ideas for the allocation process. Jordan Lake is located in Chatham County. There was some

discussion yesterday about the Lillington low flow target that impacts the operation of the lake. Construction on the dam started in 1967 and reached full pool for the first time in 1982. The filling was delayed because of water quality concerns but it has now been up and in operation since 1982. Jordan Lake is a multi-purpose project that is flood control and augmentation for water quality releases downstream, water supply, recreation is a big part of it. The State has entered a contract with the federal government for 32.62% of the storage between elevations 202 and 216 feet which have been set aside for water supply. That's actually what the Commission is dealing with in how to allocate those 45,800 acre feet. We're not talking about a permit or rulemaking but this is storage or percentage of that storage that would go into a contract. It is a contract process that we are entering into. The dam is multi-purpose including low-flow augmentation. Historically the low flows down to Lillington which is one of the targets back in 1954 reached the level of 11CFS. Since the dam has been built it has never gotten lower than 155 CFS. That was due to a gate slippage during one of the droughts.

The state entered into a contract with the federal government and then under the General Statute 143-354(a)(11) the responsibility of allocating this storage to units of local government was given to the Commission. We did rulemaking and the citations which is Attachment C in your packet which is how the Commission does water supply allocations. One of the key things in the statute is you're allocating storage to local governments so you cannot allocate to an industry like Progress Energy. We cannot allocate water to anybody other than a unit of local government. Under the rules we looked at two levels of allocation, Level I and Level II. The main difference is Level I is based on a 20 year water need projection with plans to use it immediately or within five years. Level II is a little bit longer range and based on a 30 year projected need.

The Commission requested the Division to do a long range water supply plan with 50-year projections so that they could make sure that the needs for Jordan Lake were put in context of what the overall basin needs would be for a long time frame even though we are still only allocating for 20 and 30 years. The main difference between allocation levels is the planning horizon. Level I allocation users pay back the capital cost, interest and operation & maintenance cost. Level II users are only paying back interest and the O&M cost. The cost I am referring to is not the total cost for the federal government to build the project, but it's just that percentage as it relates to water supply.

The chronology of Jordan Lake is construction started in 1967, the lake was originally filled in 1982 and 1982 we also started rulemaking. 1982 is when the first round of allocations started. The Commission approved the first round of allocations in 1988 and we started a second round in 1996. In round two we split the decision of issuing allocations into two parts, first part being those that didn't require an interbasin transfer certificate and the second part included those that did require certification. The statute does require the Commission to look at interbasin transfer and allocations at the same time if a transfer is needed to utilize that allocation. The third round started about the time we finished the second round in 2000 and we completed that one in 2002. There were non-IBTs in round 3. We now have a request from the Jordan Lake partners asking for initiation for another round that we received at the end of November 2009.

In the committee meeting on yesterday there was some discussion on how much was allocated in each round, which is indicated on the attached chart. One of the more interesting aspects of the rule is that there is the 50% rule which states that no more than 50% of the allocated water can be diverted outside of the lake's watershed. This is important because right now we have unallocated about 40%, but only 10% is available for diverting outside of the

watershed. This is similar to IBT but it's not the same thing. This is for protecting the lake's yield and the whole issue regulating interbasin transfers is a separate issue from this.

The proposed process in the handout is already out of date, based on yesterday's discussions. The discussion about interbasin transfer will need to be modified as we move forward. The WAC was still on board with the Regional approach that we proposed. We basically want to make sure that anybody that has even the slightest interest or needed use in Jordan Lake is notified of and can be party to it, so we included everybody in the Cape Fear River Basin plus we do a 50 mile buffer around the lake. All local governments and county governments in that buffer will be notified that we will be starting the process and will be given the opportunity to participate.

Some of the differences that we are looking at this time from previous rounds are that we're going to be doing the planning up front. Typically in the past they've come in with requests for a specific amount and we used the long range plan to put that request in context. Hopefully with the planning being done before the applications come in, everything will line up, and it will hopefully make your job a little easier.

We had recommended not splitting the non-IBT from the IBT decision and doing them all in one. The Water Allocation Committee decided yesterday that it was premature to make that call and they want to wait. Their recommendation was to wait until we have applications submitted before we decide how to handle IBT and non-IBT. We will be asking existing allocation holders to submit an application even if they don't plan on changing their allocation, to justify the existing allocation. In round three we reduced OWSA's allocation from 10 to 5 because they couldn't justify needing a full 10. As part of the planning process staff will be looking at that 50% diversion issue to see whether we want to make a recommendation to the Commission on whether that needs to be changed or not. We are looking for approval to proceed with the request to start a Jordan Lake allocation at this time.

John Curry: When you were talking about the 50%, what does protecting the yield mean?

Tom Fransen: The allocation rules to make sure that that there were adequate inflows into the lake for long terms of sustainability. So what we mean by diversion out of the lake's watershed are people that would be using the water and not returning the wastewater to the watershed. Diversion is a loss to the inflow to the lake.

John Curry: Sediment storage to me suggests that all lakes accumulate sediment and suggests to me that at some point they will have to dredge the lake if they are going to keep the level of sediment because it's continually accumulating. I don't understand the term storage as used with sediment accumulation.

Tom Fransen: From an engineering viewpoint when you design a dam you would like to have a certain amount of usable storage and they account for over the life of the dam the fact that the storage is going to be reduced because the sediment loads come into the dam. So they include that loss of storage as part of the design. So when you're figuring how much is usable, what the yield of that usable amount is that isn't included in there because that's assumed that at the end of the life of the project that will have become filled with sediment. Even though on the plot it shows that being below elevation 202 we know that sediment occurs at a higher elevation. What

the Corps does is to periodically do sediment surveys and adjusts elevation to s keep the conservation pool constant in terms of the storage amount.

Chairman Smith: Mr. Fransen, would it be fair to say in response to **Mr. Curry's** question that sediment storage area originally is an area for storing water in which it is expected that sediment will accumulate rather than the design being to store sediment. The sediment displaces the water and comes to be stored there but I think the storage refers to a water storage area for sediment.

Tom Fransen: Yes. Thank you.

Chairman Smith: The other thing I learned on yesterday and you may know this. **Dr. Moreau** explained this. There are three water supply reservoirs in North Carolina that were built by the Army Corps of Engineers. This is the only one in which we are responsible for doing the allocation of the water supply. The reason is that for Kerr Lake the federal government contracted with the City of the City of Winston Salem and for Falls Lake the federal government contacted with the City of Raleigh, but for Jordan Lake no local government stepped up to enter into that commitment with the federal government so the state did. When the state did the General Assembly passed the statute that gave us the responsibility of doing the allocation.

Dr. Moreau: One minor comment is that these are federal multipurpose reservoirs. They were not built specifically for water supply but the Corps is authorized to include water supply as a purpose so long as there is a non federal partner who is willing to pick up the cost of adding that water supply part. One other side note is those of you who went through the Randleman Dam, Randleman was originally authorized as a federal multipurpose reservoir but because it was predominantly public water supply it was reauthorized as a federal project and local governments then built it. In the case of Jordan as you say, local government was not willing to put up the money for the water supply part so the State of North Carolina stepped up and took it and then gave us the job of portioning it out in future years to local government as the demand arose.

Dickson Phillips: As I understand it this allocation is not technically an allocation of a certain amount of water a municipality or authority is entitled to withdraw on a given day unless we are dealing with an IBT where you've got a gallon allotment. How would it be determined theoretically if some user was exceeding their allocation?

Tom Fransen: The Corps as part of their contract estimates that there's a 50-year yield of 100 million gallons per day for that storage volume. For a 50-year drought you should be able to withdraw 100 million gallons per day. As we discussed yesterday, we've got a longer record now and we can refine that number as we move forward. When the lake drops below elevation 216, top of the conservation pool or normal pool, the Corps assumes that everybody is at 100%.

Dickson Phillips: That is what I guessed.

Tom Fransen: When you drop below it the Corps takes 32% of the inflow and credits that to water supply. The rest of it gets credited to low flow pool and then they subtract out from the accounts how much was released downstream and how much is withdrawn. They keep a running count. The analogy that we typically use is you can think of stream flow as your paycheck, the

withdrawals are released as your bills and the storage volume is your bank account. You know how much is coming in and you know how much is coming out and you can do the numbers to figure out what you have left for a balance. The reality is if you drive across Hwy 64 and see a nice lake level you don't see different pools but from an accounting viewpoint you may have 90% of the water supply available but only 60% of the water quality available because of the accounting that's done.

Dickson Phillips: If an authority or municipality is not withdrawing the maximum of their theoretical allocation. When the lake drops below the conservation pool does the Corps, nevertheless tell them you got to stop withdrawing less or how does that work?

Tom Fransen: They don't really get cut off from withdrawing until they have depleted their storage.

Mayor Moss: As you've heard we had a rather spirited discussion yesterday at the Water Allocation Committee meeting. As we all know this is very complex and as **Dr. Moreau** pointed out a very controversial issue that dates back to somewhere around 1963 when this discussion really started. As I have thought about this the thing that we are trying to take into account is really two basic issues, how we effectively deal with the upstream people in balancing that with the downstream people. That's what I believe we are trying to accomplish. I do intend to make the motion to approve the initiation of round 4 but before I do that the one thing that I didn't hear Tom mention today. He did allude to it on the IBT v. non IBT component and how the timeframe of this overall process will play out. Tom, could you mention about the IBT component?

Tom Fransen: What originally was proposed was to make decisions on IBT and allocation together for all the applicants. That would roughly be about a seven year process. We're estimating for non IBT issues if we end up having no applicants that require IBT that will be roughly a two year process. If you're going to have any IBT involved those that kicked to that category it's probably going to add another five years to it. So depending upon where you fall out it could be anywhere from two to seven years. We don't know that yet since we don't have any applications in hand on how that will break out.

Chairman Smith: What I heard yesterday at the Water Allocation Committee meeting was that we did not appear prepared yet to make a decision on the second of the staff's recommendations that is, that the non IBT and IBT decisions not be split but be combined in this round unlike the previous for the second round when the IBT related communities and non IBT related communities were dealt with on different time tables. We clearly received staff's recommendation that these be combined but I heard us talk about postponing that portion of the decision until we knew more, but moving forward on the rest of this to initiate the process.

Motion (Mayor Moss): I would like to go ahead and make that my motion. I move that the EMC approve to initiate round 4 of the Jordan Lake water allocation minus the IBT component that will be determined later. **Mr. Hall** seconded. There was no further discussion and the motion passed.

10-06 Request to Approve the Final Draft of the Lumber River Basin Plan

Summary (Michael Tutwiler): The Lumber River basin consists of four subbasins within the larger Pee Dee River basin. They are the Little Pee Dee, Lumber, Waccamaw, and Long Bay subbasin. All rivers in the basin drain to South Carolina, except for the Shallotte River and Lockwoods Folly River which drain directly to the Atlantic Ocean. The headwaters of the Lumber and Little Pee Dee subbasins lie within the sandhills ecoregion where stream flow is consistent. However, most of the basin lies in the coastal plain where stream flow is often slow and ephemeral during the summer months. The blackwater streams of the coastal plain often have braided channels and swamp characteristics such as naturally low pH and low dissolved oxygen levels. The Long Bay subbasin contains marsh and barrier island ecosystems. The basin covers approximately 3,330 square miles, has about 2,200 miles of streams, 10,000 acres of lakes, and 4,700 estuarine waters. It contains all or part of 52 municipalities and ten counties. Lumberton is the most populous city in the basin. Brunswick County is the fastest growing county in the basin and one of the fastest growing counties in the nation. The maps attached do not reflect recent rapid growth or seasonal population fluctuations; however it is the most accurate information available at this time.

In addition to the rapid growth of year round residents, it is estimated that the number of people in Brunswick County increases by 250% in the summer months. Southern Moore and Hoke counties have also experienced rapid growth that is expected to continue, especially around the Pinehurst area. Areas surrounding Fayetteville, such as northern Robeson County and Hoke County, may see population growth associated with the expected increase of personnel at Fort Bragg.

Agriculture, forest, and wetlands each account for about one quarter of the land use in the basin. When including wooded wetlands and pocosin scrub, approximately 55% of the basin is covered in forest. During the last basinwide assessment period, which was from January 2002 through December 2006, the Division of Water Quality monitored 31% of streams, 91% of lakes, and 97% of all estuarine acres. Most of the impairments in the Lumber basin are for restrictions on shellfish harvesting related to high bacteria levels and for fish consumption due to high levels of mercury in fish tissue. When considering only aquatic life standards, there are very few impairments in the basin. There are no recreational impairments in the basin.

Impaired waterbodies are waters that do not meet their water quality standards. Waters can become impaired if a sample exceeds an ambient standard in 10% of the samples taken within the assessment period or if it receives a biological rating below Good-Fair. Waters may also become impaired if they are closed to shellfish harvesting or if there are restrictions on fish consumption. The biological data suggest that there has been a slight decline in water quality but that most waterbodies are still supporting their designated uses.

Five waterbodies are impaired on aquatic life standards totaling 31 freshwater stream miles and 18 acres of estuarine waters. There was a change in benthic macroinvertebrate sample ratings. Of the 43 locations sampled, one site improved while samples at 7 sites indicated a slight decline. Three streams declined enough to warrant an impairment for biological integrity. They are Little Raft Swamp, Mill Branch, and Porter Swamp. These are the first impairments in the basin based on biological samples. All Fish community sampling sites were Not Rated because no criteria exist to evaluate them. However, these fish communities were diverse and included pollution intolerant species. Only one site included a non-native species.

Six waterbodies exceeded ambient aquatic life standards and two were impaired based on those exceedances. Both Calabash River and Montgomery Slough are impaired for turbidity. The Calabash River is impaired for exceeding the Copper standard in 45% of the samples. Montgomery Slough is

impaired for low dissolved oxygen. Little Raft Swamp was impacted by poor performance at the Red Springs WWTP. The Red Springs WWTP is in the process of upgrading and improving operations at the plant in order to restore water quality in Little Raft Swamp. Mill Branch and Porter Swamp have been impacted by agriculture and would benefit from stream restoration and buffer acquisitions. This may be accomplished through mitigation by the Ecosystem Enhancement Program since both of these waters are in Targeted Local Watersheds. Incentive programs administered by the Division of Soil and Water Conservation, such as the Conservation Reserve Enhancement Program, could be utilized to establish buffers in these agricultural areas. Studies are needed to better understand the impairments in the Calabash River and Montgomery Slough. The high turbidity levels are thought to be at least partially due to the shallow tidal nature of these streams. The Calabash River has an artificial channel that may also play a role in high turbidity levels. The high copper levels in the Calabash River are believed to be related to boat maintenance activities such as improperly scraping paint and pressure washing. All SA waters in the basin are considered to be impaired because they are classified by the Division of Environmental Health as either Prohibited, Conditionally Approved Closed, or Conditionally Approved Open. This means that all SA waters in the basin are either permanently closed or are temporarily closed following a rainfall event of half an inch to an inch and a half depending on the particular area.

Recommendations made in two plans, completed in 2007, outline management practices to reduce and limit the stormwater that transports bacteria from the land to the water. The Lockwoods Folly River Local Watershed Plan identifies sources of bacteria loading in the Lockwoods Folly River Watershed and provides management practices to reduce bacteria levels. A 319 grant is currently funding the development of a TMDL for bacteria in the Lockwoods Folly River Watershed. A report titled "Water Quality Impacts of Alternative Build-out Scenarios for Brunswick County" was completed by the NCSU College of Design in 2007, also using a 319 grant. This document provides development strategies that reduce impervious cover while allowing for an equivalent size and number of residences to be constructed.

Researchers from UNCW conducted research in the Calabash River watershed between 2002 and 2006. It was concluded that areas with a high density of faulty septic tanks are a significant source of bacteria in the Calabash River watershed. These septic tanks should be replaced by connecting these residences to a regional sewer system. The Division of Marine Fisheries, in conjunction with the Division of Coastal Management and the Division of Water Quality, is currently updating the Coastal Habitat Protection Plan. This plan provides recommendations for improving water quality in SA waters. The Community Conservation Assistance Program, administered by the Division of Soil and Water Conservation, provides incentives for local governments, non-profit groups, as well as, private citizens to retrofit existing development. There is a statewide fish consumption advisory for mercury, so all waters in the state are considered impaired for mercury. There are 215 freshwater miles and 8,840 freshwater acres listed as impaired based on site-specific data. All but Lake Waccamaw and the Atlantic Ocean have an approved TMDL. Lake Waccamaw and the Atlantic Ocean became impaired after the TMDL was developed for the other streams. Mercury is a persistent pollutant which will take a long time to resolve. The DWQ is currently exploring the development of a statewide TMDL for mercury and working with the DAQ since the main source of mercury is atmospheric deposition. Significant achievements in conserving land that protects water quality recently occurred. The Juniper Creek Game Land is an approximately 18,000 acres area that protects several streams that drain the green swamp. Cove swamp is an approximately 440 acre wetland which was added to the Lake Waccamaw State Park in 2009. There remain aquatic habitats

considered by the Natural Heritage Program to be of national significance and are in need of protection should receive higher conservation priority.

Dr. Peterson: This is relative to the recommendations for the Waccamaw River. The recommendation following was to create a regional sewage system. I would say two things. One, the regional sewage system can often lead to worse water quality problems if we're not controlling stormwater runoff so it could actually be counterproductive. Secondly, our regional sewage system would require a long period of time to secure funding. If these septic tanks are not working why isn't the recommendation that the Health Department get organized, move into every one of them and require them to be updated and functioning properly and have that within a month, rather than ten years or whatever it's going to take to make a regional sewage system that might make things worse?

Michael Tutwiler: It is Calabash River that you're referring to, not the Waccamaw River. Brunswick County has already developed a plan to regionalize their sewer for the area. It's already ongoing in the Oak Island area and they are already in the process of connecting all of those septic systems to regional systems. In the Calabash area there's currently not a regional wastewater treatment plant but there are plans for a regional wastewater treatment plant. There's another small facility in the area, a wastewater treatment plant that's had a lot of problems and also planning on going to a regional system. The soils in this area will not support the septic systems especially in the densities that they're at currently. It was noted that even in long periods of drought the researchers still noticed discharges coming from stormwater pipes that they believe was septic getting into the stormwater system.

Dr. Peterson: Not a compelling answer. What predicted date is the regional sewage going to be available for those areas that are planned for? Furthermore have we pursued whether the state and local health departments are in agreement that septic tanks at the density of the permits they're offering are against the state law and that they're not doing what they were meant to be doing?

Michael Tutwiler: The most recent Division of Environmental Health sanitary survey of this area points to stormwater being the main source of the fecal bacteria loading.

Dr. Peterson: I wouldn't be too surprised and therefore my original comment comes back that I am not sure that the regional movement to get a septic system will indeed address the root cause of the problem if it's stormwater. I think those recommendations ought to be reconsidered and also written with some engagement to require the department to initiate discussions on the basis of the UNCW report with the local and state level public health officials. Isn't there also some mechanism of being able to haul in soils and put in soils that will appropriately perk for a septic drain field if the local soils are inadequately thick or inadequately appropriate to do that? So that would be an alternative mechanism whereby to retrofit those drain fields to bring the septic tanks into compliance and stop that particular violation.

John Curry: Could I just have one follow up question to that. Today if I'm a developer and I own property with soil types that don't perk and there's a clear understanding that won't allow the successful installation of a septic tank system, can I still potentially obtain approval of our development?

Dr. Peterson: With our package plants clearly that is one option. We don't altogether love them but that is one option.

John Curry: There's a problem and at this point I realize these are health department issues but can we make the problem worse starting today because no one is really addressing this issue as you suggested it should be addressed.

Dr. Peterson: Certainly, if the department is comfortable in concluding that failing septic tanks in dense concentration are a major contributor to the impairment it strikes me that the recommendations should be that the department strike tomorrow to make contact with the state or local health department people to pursue that issue. We are always frustrated with post development post construction sort of ways in trying to deal with stormwater. But it strikes me that when it comes to public health being strong on non functioning septic tanks and has mechanisms in place that allow that to be addressed. So that ought to be the fundamental recommendation if we, as a department are convinced that septic tank malfunction is the direct cause. It could be more complex with the septic tanks not fully doing their job and stormwater carrying away some surface expression but that is a drain field that's not functioning too. I'm just questioning the nature of the recommendations.

Michael Tutwiler: The problem with the faulty septic tanks typically when we think of faulty septic tanks we think of standing water on the ground surface. This is actually coming through the soil.

Donnie Brewer: I want to address Mr. Curry's question or statement. If in fact development is being proposed by way of using septic systems and the soil conditions are not right for those nitrifications still used most jurisdictions would not approve a development submitted in that way. They would have to come up with an alternative be it a package system or public wastewater system.

Dr. Moreau: I agree with Pete's conclusion but I don't necessarily agree with his premise. But we ought to focus on septic tanks to the exclusion of collection of wastewaters and proper treatment, it does take a very high density of the population that sits along those coastal waters in July and August in very poor soils and with rain that comes in and raises the water table in short order. It's not hard to imagine that it's flushing out these septic fields wherever they are and however small they may be. But those are very high density areas and I've always thought that the septic tanks there are a serious problem in those high density areas with very close proximity to coastal waters. If that's the problem then somebody ought to be making recommendations about it.

Dr. Peterson: These aren't mutually exclusive. Addressing this septic tank problem in the short term and then moving forward with municipal collection systems and however longer that might be termed seems to be more appropriate strategy. These waters are closed already to shellfishing so presuming that enforcement is good we're not putting those on the market. But they are open presumably to swimming and other bodily contact, and they are pretty important waters that given this is a big retirement, recreation and vacation area. I think we would be derelict if we weren't addressing that shorter term problem, particularly if it relates to some interaction between agencies that need to occur to really sort out what the difficulty is and whether different standards are needed more broadly.

Marion Deerhake: My remarks are about mercury but if this discussion is not finished yet I will wait.

Chairman Smith: We'll come back to mercury.

Dickson Phillips: Are these older systems or newer development systems?

Michael Tutwiler: Very old. These are mainly trailer parks.

Dr. Peterson: I would be happier with approval of this if from the basis of this discussion and there were an opportunity to look at additional recommendations to be added on this particular point. I don't know whether that messes up the whole basinwide planning cycle permit renewal. I would be happier to see this return not with a broad presentation again at the next meeting but just a brief discussion of where this issue might have led or not led in the form of recommendations.

Diane Reid: We would be glad to work with Dr. Peterson to clarify the issues around septic tanks and to craft an additional recommendation.

Donnie Brewer: I am certain that Commissioner Martin would also want to participate in those discussions on the septic tanks.

Les Hall: There's a lot of information about how you approve septic tanks and what technology do you use to provide wastewater systems on site for a single family home.

Jeff Morse: We will add to the agenda, "Please include in your analysis". We hear this all the time about the needs for a collection system and municipalities are usually the ones who are hit with that challenge. But I encourage us to look at the cost and if we are going to talk about changing the system we have to find out where the funds are coming from. It just can't come on the backs of local government. I just want to make sure that the cost factor is also part of the evaluation of the environmental factor.

Michael Tutwiler: In Lockwood's Folly watershed this is already being done. They've received multiple grants and loans from Construction Grants and Loans to connect all the septic systems on Oak Island to a regional wastewater treatment plant nondischarge facility that is currently only using about one-sixth of its capacity.

Chairman Smith: asked for other comments on this part of the discussion before moving on Ms. Deerhake's question.

Yvonne Bailey: I just want to point out that we need to look into the individual septic tank systems as you pointed out. That's a concern what's the cost for improving individual systems and is it really an issue with the local health department and their trying to impose the law against an individual.

Ms. Deerhake: I feel obligated to talk about mercury because air deposition is one portion of it or the portion of it that is contributing. This is the third time that basinwide management plan has come before us since I have been sitting on the Commission. Mercury has always been a concern. In the early days one of the other sources of mercury was the Chlor-Alkali Plant but that plant has been shut down for a while now. I'm surprise by the word "exploring" development of a TMDL because I

thought at least five years ago the state was making an effort at that point to develop a TMDL listing for mercury. Can you tell me what is behind “exploring”?

Kathy Stecker: There are three areas of the country currently that have approved TMDLs on a statewide or regional basis. Minnesota was the first and then the New England states have a regional mercury TMDL, and New Jersey recently had one approved. The idea of the TMDL is the Clean Water Act Program and with just about every other TMDL that we would work on would be water body by water body. But because, as you have said, the atmospheric deposition is such a large component everyone has found and we are in the process of working with the Division of Air Quality to ascertain whether that is the case here. It makes more sense to look at mercury on a statewide or regional basis. Therefore, it is a lot more complicated and more work. But it has been done in other states and we’ve compiled a lot of data and are meeting with DAQ staff getting started on that.

Ms. Deerhake: It seems to me that it could focus on this particular basin because this basin is much more problematic or the fish tissue concentrations are much higher in this basin than a lot of the rest of the state. So why couldn’t there be a TMDL just for the waters of this basin?

Kathy Stecker: We’re thinking that we would focus on this basin but if it’s true that the atmospheric deposition is the major component, the deposition is occurring everywhere and it would be the water characteristics in this area that lead to greater bioaccumulation in the fish tissue. If we were going to set reductions that are needed to be protective of this area and particularly base those reductions on this particular area, then that would protect everywhere.

Ms. Deerhake: Regarding the Chlor-Alkali Plant I think there has been fish tissue monitoring going on for years and years. Have you noticed recognizable decrease in fish tissue concentration based on the shutdown of that plant?

Michael Tutwiler: No the fish tissue samples do not seem to be decreasing in mercury concentration. There’s also a National Atmospheric Deposition Program monitoring site at Lake Waccamaw State Park and it shows that since the Chlor-Alkali Plant Facility shutdown, which was the largest local source of atmospheric deposition, it seems as though the atmospheric deposition rates are still about the same as they were before that facility shut down. There has been a TMDL developed for some for some of the water bodies in the basin, therefore most of the dischargers have mercury limits and the mercury limits are about as low as we could possibly expect them to achieve. They range from 4 nanograms per liter to 12 nanograms per liter.

Marion Deerhake: So what we have just heard supports how large a role atmospheric deposition is playing in the mercury in combination with the water chemistry of this river basin and how significant the deposition issues can be. We have recently adopted a mercury rule for the coal-fired combustion units and I encourage you to please monitor carefully and look for any correlations you can between the emission reductions achieved through those mercury rules and fish tissue concentration to see if you can track if there is any change. While we continue to deal with all of this the best way to remedy some of it is education and outreach to the residents. I know that the state has continued to try that for years and years. I was fortunate enough to be part of the small study about three years ago funded by the CDC where they looked at communication methods to minorities. We looked at three communities which were Fairmont, Red Springs and Pembroke and focused on how communication

was handled for mercury with the Native Americans, Latinos and African Americans in the area. It was obvious that the techniques are still not working and people are not recognizing it. To try and offset the exposure we just have to use better communication methods.

Dr. Peterson: Wouldn't a successful TMDL need to include South Carolina and therefore go outside the state borders and maybe even Georgia or Tennessee for the mercury problem in this area? That might pose another jurisdictional issue of how to do a regional one.

Dr. Moreau: The general argument is that it's really a global issue. The Steubenville Study punched some holes in that general argument and in fact the deposition is more local than what had been argued before. But there is clearly a global or pool of mercury there.

Chairman Smith: Are there other comments on the mercury issue? If not, **Mr. Ellis** wanted to talk about Lake Waccamaw.

Tom Ellis: Is Lake Waccamaw impaired for chlorophyll-a? Also, what's the impairment there?

Michael Tutwiler: No it is not. As far I know it has never exceeded any chlorophyll-a standard. Mercury is the only impairment in Lake Waccamaw.

Tom Ellis: I was just curious because I knew they had algae problems for years and wondered if they had ever developed a plan to address it.

Michael Tutwiler: The Division of Water Resources does treat algae in the canals.

Chairman Smith: I have a couple of questions about the copper levels in Calabash River. I heard your explanation that it's likely to come from boat scraping and power washing, although I don't understand that. I would imagine that there are communities all up and down the coast of North Carolina that have comparable boat populations in comparable waters and I haven't heard anything about copper increases up and down the coast. What makes this different?

Michael Tutwiler: It's not actually different. The suspicion that it is from those boat maintenance activities is based on other areas of the state. The Division of Coastal Management recently completed and released a study of marinas and they determined that boat maintenance activities were contributing to copper. Now the copper may be partially from stormwater such as things like brake dust and that kind of thing. There are laws already in place to protect waters from these boat maintenance activities. It's more of just making sure that people are educated and that the rules are enforced.

Chairman Smith: ok. Are there other questions and comments?

Ms. Deerhake: We talk about recommendations for the basin wide plan and the report and tracking for the next few years. Could I specifically request that the tracking and the reporting occur on the correlation analysis between emission reductions from coal fired utilities and fish tissue concentrations?

Ms. Deerhake was asked to repeat the request again. If you would please track the mercury emission from North Carolina sources and the fish tissue concentrations so that when the next report comes out you can see if there is any correlation between any reductions?

Coleen Sullins: I just want briefly say that we have an ongoing process between the Division of Air Quality and the Division of Water Quality where we are tracking emissions, fish tissue and we are doing instream sampling to look at the mercury issues specifically. That's been an ongoing process and we will continue it and report back on that.

Chairman Smith: I am going to suggest that with the extent of the questions that have been raised and then the recommendations as to changes in the recommendations of the basinwide management plan that we put this back on our March agenda. I will ask that you and your section take into consideration all of the discussions that occurred here and modify your recommendation accordingly. In particular what I've heard was to strengthen considerably the recommendations relating to involvement of state and county health departments in the septic tank issue. The counties would be in a better position than we to assess the cost and what can be done about that. We recognize that we can't put this on the backs of local governments solely or on the backs of individual property owners solely but if we've got malfunctioning septic tanks in a densely populated area with waters of this type we've got questions about what the public health departments, state and local are doing. We are entitled to ask those questions.

Also take into consideration the questions relating to mercury and Ms. Deerhake's specific question and my continued concerns about the copper levels, what recommendations can be strengthened on what we can do about trying to reduce those copper levels.

Dr. Larkin: The kind of discussion that we've been talking about would have been aided by a more detailed look at previous recommendations with some longitudinal look over time at the parameters that we're measuring, how they relate to the recommendations made in previous plans and how effective those recommendations were. Were they actually carried out or were they recommendations only?

That would give us a little bit more context to put some recommendations in that might lead to more effective action.

Chairman Smith: I am surmising what you're seeing is that over the various meetings that we've had over the years we have had various basinwide plans come to us and a certain amount of frustration has been expressed about continuing degradation of the waters of the state despite our best efforts and the best efforts of all of you and a lot of other people. One avenue we have to look at that is the basinwide plans to look at that and the extent to which they are followed. Does anyone want to add anything else to what we want to see in March? No other comments were made.

10-07 Request to Approve Delegation to Mecklenburg County to Implement Portions of the Site Specific Water Quality Management Plan for the Goose Creek Watershed within The Town of Mint Hill

Summary and Motion (Dr. Peterson): The EMC has the authority to delegate the buffer and stormwater portions of our site specific water quality management plan for the Goose Creek watershed to local authorities. In specific the County of Mecklenburg is interested in taking that delegation and taking that authority for the Goose Creek watershed within the Town of Mint Hill. The Mecklenburg County has the capacity to do this, has the ability to track it and has deterrence in the form of their review system, all of which could lead to confidence that they could do a good job and, in fact, a more efficient and effective job with responding to local clients who are interested in development and interested in something in that basin. On that basis the Water Quality Committee approved this notion unanimously and I make the motion that we approve delegation of the authority to Mecklenburg County for this. **Dr. Moreau** seconded.

Rob Krebs: The Water Quality Committee recommended a re-inspection within a minimum of five years time frame.

Dr. Peterson: Yes that was an issue that we discussed and we felt more confident if every five years there are monthly reports that are done but we thought it would be appropriate on a five year basis to look at that package and then assess how effectively the delegation has proceeded in the sense of achieving the goals in our regulations.

The motion passed.

10-08 Request for Consideration of Hearing Officer Recommendations on the Animal Operations Monitoring Rules, 15A NCAC 2T .1310 & .1311

Chairman Smith: This item has been removed which is the proposed monitoring rules for animal operations. That comes out of the rulemaking petition filed by the Waterkeepers Association or group. By way of explanation just before Christmas we learned that there was an effort by the Department to try to obtain some substantial funds to finance a specific study as to potential monitoring rules and their effectiveness. That effort is being undertaken by Secretary Freeman, Chief Deputy Secretary Manly Wilder and Assistant Secretary Robin Smith and with that we decided to postpone the consideration of these proposed rules even though the hearing officers had concluded that they were prepared to make their recommendations. The hearing officers are holding their draft report to see what the results with this effort to obtain funding for a study. They may modify the report accordingly and the discussions I've heard involve whether this study would be parallel to the moving forward by the Commission in deciding whether or not to implement these rules or in lieu of. All of that's up in the air. I expect that we will have this back on the agenda before long. I haven't had a report from the Department since just before Christmas on the efforts to obtain this funding but I will shortly.

10-09 Request to Proceed to Public Hearing with Proposed Nutrient Offset Payment Actual Cost Rate Rule for the North Carolina EcoSystem Enhancement Program and Amendment of the Nutrient Offset Payment Rule

Chairman Smith: I'm doing this a little bit out of order but by way of explanation. I've asked for an information item to be inserted here. We usually wait until after we've done all of our

action items to do our information items, but since there was a fair amount of publicity relating to a buffer mitigation issue, the EBX case that you may have seen in an article that I sent out to you. I asked the Division of Water Quality to present us with an overview of stream, buffer mitigation and offset programs and how they overlap, how they work together and how they are implemented. Several of you had raised similar questions in response to this EBX article. It seemed like a good place to insert this before we considered the EEP rule because they are related to one another. We will hear from Mr. Dorney on the first information item. I want to thank the Division of Water Quality for putting this together on such a short notice.

John Dorney: Overview of Compensatory Mitigation Requirements for the 404/401 Certification Permitting Program, Riparian Buffer Protection Program and Nutrient Offset Program

Summary (John Dorney): All of these programs are administered by the Division of Water Quality based on rules that the Commission has handed to us over the years. I will discuss how these programs interact with various mitigation providers both public and private and address the additionality or credit stacking issue. Matt Matthews will discuss the EBX bank situation and its background. In terms of the overview of the mitigation requirements, the permitting programs (and some of you know this) - Section 404 of the Federal Clean Water Act sets up a permitting program using the Army Corps of Engineers with the 404 permits. The state has to issue a 401 Water Quality Certification for 404 Permits based on Section 401 of the Clean Water Act. They are both wetland permitting programs. The way those programs work is if you impact streams or wetlands, you need a permit from the Army Corps of Engineers and you need a Certification from the state. The EPA has an oversight rule in this whole process too but the Corps basically issues the permit with EPA. Often but not always, that permitting requires compensatory mitigation. After you go through a review process to get down to what is the unavoidable impact (first you are asked to avoid the impact, then minimize the impact and then get down to an unavoidable impact), the permit then often requires you to replace the wetlands and streams that are impacted with other wetlands and streams. That's compensatory mitigation. The most common type of compensatory mitigation is restoration of wetlands and streams. For instance, if you take an area that once was a wetland, perhaps is a corn field now and you fill the ditches in, plant some trees and get the water back, and it then turns back into a wetland over a number of years. Those sorts of activities would be restoration. There are various multiplier ratios applied to these laws. Generally, the overall kind of general multiplier ratio is about two to one as an average. Therefore, if you unavoidably impact 10 acres of wetlands, you are supposed to replace that impact with 20 acres of wetlands. There are a lot of differences from project to project but overall that's basically what the process requires. The Division of Water Quality as directed by the EMC rules requires us to coordinate closely with the Army Corps of Engineers in all of these kinds of requirements,. In summary, that is the existing Federal Permitting Program in general.

There are also separate state programs that have really nothing to do with the Army Corps of Engineers at all and these are authorized by various state laws based on the rules that the Commission has passed and that we have implemented. The first program is the Riparian Buffer Protection program and the second is the Nutrient Offset program.

Riparian Buffer Protection

With this program, unavoidable impacts to riparian buffers (which are the areas next to streams) require permitting under state law and EMC rules. This permitting often requires compensatory mitigation. The buffer rules are actually stronger than the wetland protection rules since buffer rules allow fewer impacts than the wetland rules do. The most common type of mitigation for buffer permitting is restoration. Sometimes buffer mitigation also requires work in the stream to stabilize the stream bank but it is really often just planting trees along the stream where trees do not exist. This buffer then filters nutrients from runoff, stabilizes the stream bank to prevent erosion, and provides habitat for aquatic life. We are in the process of developing rules based on state law that expand the alternatives to beyond just planting trees along streams that is allowed today. I will talk about those rules later but that rulemaking process has just begun.

Nutrient Offset Program

The other state permitting program is the Nutrient Offset Program. The way that program works is to consider a new development that is most often in an upland. That development will require on-site stormwater management. This often requires building a stormwater pond, building a constructed wetland, to construct grass swales, or bioretention areas to meet some numerical levels. Additional treatment is required to meet the final nutrient levels that are in the rules and if you are a developer and you can't meet those levels, then you pay a fee which is the nutrient reduction offset payment. That fee goes for various activities to reduce nutrients to offset your increase in nutrients from the development. The most common type of mitigation for nutrient offset payments are planting of wooded buffers along ditches which filters the agricultural runoff or urban runoff coming across the ditch. There have also been some stormwater Best Management Practices constructed to treat untreated stormwater.

In the past, all the mitigation was done by the state's Ecosystem Enhancement Program. Now private banks are getting into the nutrient offset payment world based on a new state law that allows them to do that. In terms of the Ecosystem Enhancement Program (or EEP), this is a state run program. There are two main components of EEP. EEP does a lot of advanced mitigation for the Department of Transportation where they go out and get projections for the impacts in certain areas. EEP then goes out ahead of time and builds wetlands and streams in advance of those impacts that DOT is projecting. In addition, EEP has an In-Lieu Fee Program that developers pay a fee based on the amount of impact to streams, wetlands and buffers. These are generally for smaller impacts. The EEP then takes those funds and goes out fixes streams and wetlands with those funds to replace those unavoidably lost uses that the fees paid for.

The EEP also conducts local watershed planning on selected local small watersheds and goes through an intensive planning process using monitoring and modeling to identify the water quality and habitat problems in that watershed. There is stakeholder involvement and it is a long, detailed planning process. That process then helps locate mitigation sites to solve the problems that have been identified in that watershed. The EEP locates mitigation sites and constructs mitigation sites and they also do monitoring of the mitigation sites to make sure that they are successful.

There are two general procedures used by EEP to do this mitigation work. The first one is called Design Bid Build process where EEP contracts for the mitigation with various subcontractors for designing for construction for monitoring but EEP retains management of the site. The second general procedure is the Full Delivery process where EEP contracts with mitigation providers for the mitigation. In this case, a mitigation banker finds a mitigation site or someone has a mitigation bank and available credit, and EEP buys the credit. Management of

the site is still done by the mitigation provider and at the end of the five years monitoring schedule (or sometimes seven years), the site is then turned over to EEP for final management.

In terms of private mitigation providers, the basic way that this process works is that a mitigation bank develops a proposal where they have a piece of property that they think might make a good mitigation bank, and then they write up a proposal. It goes to the Interagency Review Team which consists of various state and federal agencies, the Army Corps of Engineers, EPA, the Division of Water Quality and the Division of Coastal Management. We then review that mitigation plan, go look at the site, argue back and forth about various alternative designs, and at the end of the day the Director signs the mitigation banking instrument for the Division which is a contract between the Division and the mitigation provider. The other agencies sign the Mitigation Banking Instrument as well as the banker. The banker then proceeds to do the mitigation site construction, gets the credits and conducts the monitoring. Mitigation providers have to provide monitoring reports annually and we review them annually. The mitigation banks have a credit release schedule and they do not get all their credits up front. For instance, if it is a 200 acre site they don't get the 200 acres worth of credits right from the beginning but they get a portion of them up front and get additional credits every year as the monitoring goes on for five or seven years.

The new state law that passed last session gives preference to private banks for non-government impacts when credits are available in that bank when it has gone through this process. The role of the Division of Water Quality with all these mitigation efforts is basically we do all this jointly with the Army Corps of Engineers and EPA. Our watershed data and monitoring data are used in EEP's local watershed plans. We also review mitigation sites and look at mitigation areas, review mitigation plans that come in and monitoring reports and we also inspect the mitigation sites after they have been built. There is also a final credit release for the private banks that close out and for EEP sites that close out where we look at the site after five or seven years. The Division of Water Quality does various audits from time to time for various purposes to ensure all these processes are working smoothly.

For this example of a project, let's say that there is 160 linear feet of stream impact and 0.27 acres of wetlands are being proposed to be filled. We will assume that this project has gone through the permitting process and that the impact is unavoidable and you can't move the road somewhere else and it is still going to impact the stream and wetlands. Basically, the permitting process has decided that this is the best place to build the road. Also, we will say that this is in the Neuse or Tar-Pamlico Basins and we have buffer rules. So again the wetlands and stream impacts are regulated under the Clean Water Act and the buffer impact is regulated under state law.

In this case, we have the same road that is 160 feet wide and we still have the wetlands and streams still there but there are no wetlands south of the road, and apply the buffer rules onto the site. The buffer rules apply and there's a 30 ft zone 1 (the first 30 feet from the top of the bank) and the zone 2 is a 20 ft zone for a total of 50 feet on both sides of the stream.

In this case, the stream impacts are still 160 linear feet and the wetland impacts are still 0.27 acres and the buffer impacts are on both sides of the stream which comes out to be 0.37 acres in this example. So those are our proposed impacts.

The next examples will focus on the mitigation. The way it works is that you find a place for the stream mitigation where there is a straight stream that has been straightened over the years and the mitigation provider develops a plan to unstraighten the stream by putting curves and

habitat back into the stream. Again this example is in the Neuse or Tar-Pamlico Basins where the state has buffer rules. The whole area of the mitigation site will be planted .

In this example, the south side of the mitigation site has some wetlands and the north side does not have wetlands. We still have a 30 ft zone next to the stream in zone 1 and 20 ft in zone 2. This entire area is planted in trees so that is our entire mitigation site. So the question is what kind of credits can that site generate? We've planted a 50 ft zone next to the stream and within 50 ft of the stream, you can get buffer mitigation and stream mitigation or you can do nutrient offset credits and stream mitigation credits. You can't do nutrient offset and buffer mitigation in the same square footage but you can do two. That's how we interpret the rules today that we have. Beyond 50 ft ,you can get nutrient offset credits but at a reduced rate because it is further from the stream of the area.

Dickson Phillips: Does the stream mitigation consist of unstraightening the course of the stream?

John Dorney: Yes. It's basically unstraightening the stream but then you usually have to put stone structures in the channel to stop it from eroding on the side of the channel.

Dickson Phillips: Is there any buffer component to the stream mitigation?

John Dorney: There is a buffer component to the stream mitigation. You have to plant a buffer next to the stream to have stream mitigation. You have to do both.

Dickson Phillips: But you get both the stream mitigation and the buffer mitigation.

John Dorney: That's correct. Today we give both buffer credit and stream mitigation for that same zone which is what has generated all this controversy.

The south side of this example is more complicated because we have wetlands present which is fairly common in the coastal plain. There are wetlands present every time you find a stream in the coastal plains but not so often in the Piedmont and the mountains. Within the 50 ft zone of the stream, we have a disagreement between our friends in the Army Corps of Engineers and our friends in the EPA but the Army Corps of Engineers would say that you could do wetland mitigation and stream mitigation in that area. You get credits for both because it is a wetland and because it is a stream and next to the 50 ft zone. On the other hand, the EPA would say you can either do wetland mitigation in here or you can do stream mitigation in here but not both. We've been encouraging them to sort that out for quite some time now and they are in the process of doing that but the issue is still not resolved. Basically these two agencies have a new federal mitigation rule which is a joint rule between the Army Corps of Engineers and the EPA and they interpret it differently. The Division is not picking a side in this dispute. What the Division would say is that you could do buffer mitigation and stream mitigation or you could do wetland mitigation and stream mitigation but you can't do buffers and nutrient offset, or you could do nutrient offset and stream mitigation. You can't stack them all on top of each other and count them four different times. But we do let people count in these combinations which is consistent with the EPA approach. However if the EPA changes its approach, then we will be back to either talk about whether the EMC wants rules that are different from the EPA's. In the

area beyond 50 ft, that area can be wetland mitigation because it's a wetland or you can do the nutrient offset credits. We don't do wetlands and nutrient in the same square foot of ground.

The question came up which is what **Dickson Phillips** asked me was basically how do all these numbers work out or is there really a net increase in buffers and nutrient reduction? I will give you an example that I gave to the Stakeholder Group. If you count one side of the stream for both stream credit and buffer credit does that result in a net increase of restored buffers? Is there a net gain in buffers? The short answer is yes. Here is an example if you like the numbers. Let's assume that there is a 200 ft length of stream that is being impacted with a 50 ft buffer which makes 10,000 square ft of impacted buffer and again I'm assuming it's been avoided and minimized through the permitting process as much as it can. We will assume that this is the only place to build this road and it has to be 200 ft wide. From these assumptions, there is a total of 20,000 sq. ft. of buffer impact. Under the Section 404 of the federal Clean Water Act, a permit is issued by the Army Corps of Engineers and 401 Certification issued by the state. Basically, the process takes the 200 ft of stream impact, and multiplies it times two which then gives you 400 ft. of requirement for stream restoration. That 400 ft. of stream restoration basically has buffers, 50 ft. on each side for a grand total of 100 ft in width. Let's say that the site is being fixed either by the Ecosystem Enhancement Program or by a private banker or the applicant themselves. We will have 400 ft. of stream, multiply it times one hundred feet and you get 40,000 sq. ft. of buffer for that stream restoration. As discussed earlier, buffer mitigation is under a separate state law from stream mitigation. Under the EMC's Riparian Buffer Protection Rules, it's more complicated. The first 30 ft. in Zone 1, has a three to one mitigation ratio by the rules. Dr. Peterson can talk about where that three to one number came from. Again, this would be multiplied by the 200 ft. length of stream times two since every stream has two sides. These numbers get multiplied $30 \times 3 \times 2 = 36,000$ sq. ft. of buffer total required for the impact of Zone 1. Zone 2 is a 20 ft. wide zone with a ratio of 1.5 to 1 $\times 200$ ft. = 12,000 sq. ft. grand total for the impacts to Zone 2 on both sides of the stream. You add the two together 36,000 sq. ft. and 12,000 sq. ft which results in a requirement for 48,000 sq. ft. of buffer required for that impact. Under the present Division of Water Quality interpretation of these existing rules (the buffer rules and Certification rules) a buffer and stream mitigation site that has 48,000 sq. ft. of buffer would satisfy both the Clean Water Act Section 401 and the riparian rule requirements when you allow for both the stream credits and the buffer credits from the same site. So if you go back to the impact site that I mentioned previously, there's a net gain of 28,000 sq. ft. of buffer and a net gain of 200 ft. of stream length since for the 200 ft. of impact, you've got to do 400 ft. of stream mitigation which results in a net gain of 200 ft. compared to the resources that are being impacting. Twenty-thousand sq. ft. is the impact from the buffer. The 40,000 sq. ft. would be what the stream buffer mitigation requirements would be for buffers because it is a two to one ratio for stream mitigation. When you apply the ratios in the buffer rules that's where the 48,000 sq. ft. comes from. This is basically when we allow the credit stacking. If we did not allow the credit stacking, there would be 80,000 sq. ft. of buffer mitigation. Our policy based on your rules is in the middle today. In summary, in terms of buffer mitigation there is a net gain in buffers from this project even when you allow the additionality or credit stacking process mainly because of the multiplier ratios. When you do all those mathematics there's a net gain of buffers from this project. Nutrient offset is a different process. There really aren't multiplier ratios built into the Nutrient Offset Rules. They are essentially one to one. The purpose of the Nutrient Offset Rules is to replace those offset nutrients that are being sent into the watershed. There is a

one to one offset of nutrient loading but there is no real net gain beyond that because of the lack of multiplier ratios.

Two other facts to keep in mind are mitigation costs. If we don't do additionality or credit stacking, then buffer and offset mitigation costs will be higher. We don't really know how much higher or whether that's significant. The other fact is in terms of availability of sites is that most of the streams in these basins have trees along them because people left the trees there because of floods. So if you don't do the additionality or credit stacking process, there will be a lot of areas that don't have buffer mitigation sites after a period of time. The rules we are doing with the flexible and alternative mitigation alternatives addresses some of that shortfall of the supply, but it's still a fact.

Some of the recent activities that the Division of Water Quality has been involved in on this issue are that we are working with federal and state agencies on a coordinated policy in all this stuff. We have a version 4 of a draft report dated last October in which we started on this process with the Interagency Review Team of the Army Corps of Engineers, the EPA, Fish and Wildlife Service and Wildlife Resources Commission. The Interagency Review Team along with each of us are trying to reflect this new Corps EPA mitigation rule which is a joint rule that they have adopted and applies to 404 permitting. We are also going to try and fold our buffer and offset mitigation into that same guidance because it is all the same process. A key decision is that the disagreement between the EPA and Corps of Engineers needs to be figured out. That resolution will then be reflected in this final guidance but until these agencies agree we really can't come to a final version. Whatever road we go down on this policy, it is subject to what the Commission tells us. All of this will continue to be subject to many discussions with the Commission over the next few months.

In addition, we have proposed consolidated buffer mitigation rules. Our buffer rules are scattered in various places throughout the water quality standards and we want to pull them all into one place so they will be as consistent as possible and so people can find them. This consolidation will also make the process of doing new buffer rules simpler. Finally, we've gone to the Water Quality Committee twice and we will be going back again in May with those consolidated buffer mitigation rules. Additionality or credit stacking will be addressed in these rules because we need an answer on this issue. We had a Stakeholder meeting back in February for the rules themselves to consolidate buffer rules and an additional stakeholder meeting on the credit stacking and additionality issues which was held last month. There was also a Legislative Report done last month which looked at the whole issue. We are proposing amendments to the nutrient offset and the buffer mitigation rules to clarify this credit stacking provision. The underline problem is that the rules aren't very clear. It is not very clearly written in the rules what we should do but we need it written very clearly in the amended rules so everyone understands them. We will be doing a stakeholder meeting in March on the consolidated buffer mitigation rules. However, it has not been planned yet. We will have another draft version of the rules before that meeting so people can review it and then have the Stakeholder Group discuss them again at a one day meeting in Raleigh. Then we will take the results of that Stakeholder Group and revise the consolidated mitigation rules accordingly and then report back to the Water Quality Committee in May. We will incorporate any changes into the draft that we have now.

Matt Matthews: I will lay out a chronology of events to put in context what John just presented to you, particularly mitigation banks that have been the subject of newspaper articles and a lot of these actions that John just spoke about. I will lay out the establishment of the banks and how that blends with changes in statutes and also some of the events that he just described.

I want to speak briefly about our decision that we made to approve the EBX mitigation bank and review policy and protections that may result from this. This all started with a company called Environmental Banking Exchange who established a mitigation bank called Neu-Con in 2001. This is a federal bank and includes eight sites in Johnson, Lenoir, Greene, Wayne and Jones Counties. This was initially designed to provide stream and wetland mitigation credits to the Department of Transportation. This is a legal document that sets up the bank and this one is a federal bank.

Our friends in the EPA and the Army Corps of Engineers do not want to have to deal with the riparian buffer credit issue and the nutrient offset issue because they are programs established in state law and administrative code. It's strictly stream and wetland credits and the federal law does not deal with anything other than that in terms of setting these up.

In January 2007 our division issued a clarification notice that essentially allowed what John described: the credit for stream and riparian buffer credits associated with stream restorations. Also, in 2007, after that the legislature passed Session Law 2007-438 that allowed nutrient offset credits to be purchased from commercial mitigation banks. Let me go back because I've left out an important piece, a memo just for clarification. One of the things we set out when we set that up is that if we were going to allow buffer credits to be counted when a stream is restored we wanted to make sure that it met our buffer requirements. Namely, that has to be a 50 ft. buffer and that there's a minimum of 320 trees per acre that are established in those riparian areas in order for them to qualify as buffers. So that's an important piece here. If someone was strictly restoring a stream with an idea of needing only stream mitigation they would only have to plant 260 trees per acre per the federal requirements.

In November 2008 Environmental Bank Exchange, EBX, brought forth a banking instrument that was established on the site of the Neu-Con Bank that we just talked about and we're talking about three sites, three of the eight, one each in Johnston, Wayne and Jones Counties and these were designed to provide buffer and nutrient offset mitigation. This is separate from the streams and wetlands mitigation. There were some questions that arose from within the Environmental Banking Industry and among environmental community about that mitigation instrument in November and December 2008. Subsequent to that our division met with members of the banking community and mitigation banking stakeholders in February 2009. Resulting from that meeting our division decided at that point to stop issuing these mitigation banking instruments with wetlands and nutrient offset stacking or allowing folks to get credit for wetlands and nutrient offsets on the same piece of ground. I will talk about the process to start this document that John just described with the interagency review shortly. That process started and we also committed to the Stakeholders Group to look at the issue. Also in February 2009 the initial stakeholders group met to discuss those consolidated mitigation rules.

In spring 2009 EBX submitted the Neuse I credits in response to a request for proposal for mitigation from the Ecosystems Enhancement Program and in June 2009 the EEP awarded the contract to EBX for the Neuse I sites. Again this is buffer and nutrient mitigation offset credit.

In September 2009 this interagency review team that John discussed earlier, participated in development of the draft procedure and this is the formal name that's given to the report that John referred to: Determining Impacts and Calculating Mitigation on Multiple Source Sites. Just

so that you know this Interagency Review Team consists of representatives of the Division of Water Quality, Army Corps of Engineers, Environmental Protection Agency, Division of Coastal Management, Wildlife Resources Commission and the Division of Marine Fisheries.

In December 2009 the stakeholder group met. We had representatives of the Riverkeepers, representatives from three commercial banking companies, someone from the Southern Environmental Law Center, Department of Transportation, Ecosystems Enhancement Program, Division of Water Quality, Environmental Protection Agency, Army Corps of Engineers, the Farm Bureau and a couple of homebuilders representatives. As John has stated a couple of different times our rules are silent on this particular credit stacking issue. The mitigation is required by separate statutory authorities and the wetlands and stream mitigation is established under the Clean Water Act, and the buffer and nutrient offset mitigation is established in our General Statutes and Administrative Code. We had set that precedent with the streams and buffers. The amount of mitigation that is performed is going to impact or influence water quality. The banking market is going to be influenced. If we require more mitigation, it makes those sites that are mitigatable or restorable, it increases their value because of the rising demand. Final implication here is that it will more likely impact the cost to the development community and the Department of Transportation as they develop projects. John and I will now try to answer your questions.

Chairman Smith: Let me say again thank you both for that presentation and I'd also ask that you either post those slides to the web page or send them to us. If Mr. Tutwiler is still here I meant to make that request to him as well. This is not an action item. This is for information purposes only and we will have an opportunity as the consolidated buffer rules work their way to us. To decide how we want those rules to read and whether we choose to endorse the division's policy interpretation of existing rules on what you have heard described as the various levels of credit stacking and questions that are raised about that. Are there any questions of John and Matt?

Dr. Peterson: John, I have a question about the stream computations for mitigation. You've got a road crossing and it affects a hundred feet of stream or 200 ft was your example. What exactly can you do for mitigation and how much for that 200 ft. of stream?

John Dorney: Do the stream first and it's a two to one ratio? You're impacting 200 ft. so you will need to fix 400 ft. somewhere. When you fix that 400 ft. you have to plan buffers along the stream, otherwise it's not a full functioning stream. So you have fix 400 ft. of stream with 50 ft. buffers on each side for the stream mitigation for a grand total of 4,000 sq. ft. of buffers for that stream.

Dr. Peterson: So it's not just making a curved stream and not just the buffers but it is curving the stream as well. Are those buffers then counted again for credit for the other part?

John Dorney: They are counted again for the buffer rules. That's where the double stacking comes in.

Dickson Phillips: Seems to me the issue from a public perspective is whether one restoration project can be used multiple times to offset multiple impacts. If a developer comes in and does

something where you are going to require stream restoration and you have a buffer impact and a nutrient offset it doesn't seem to me that you could basically say if you can find a project that restores and mitigates that we will give you credit for all those elements. But if a developer does a project where he needs only stream and buffer, he goes out and buys stream and buffer credits, but then another developer comes along who only needs nutrient offset he should not be able to go and buy nutrient offset for a mitigation project that's already been done and paid for. We're not getting additional offset.

John Dorney: Again, the rules really don't say clearly what to do. That's one option we will probably present in the next version of the draft rules is to split that out which is one possible way to do it. Right now the rules just don't that.

Dr. Peterson: One of the differences between using EEP and the now preferred option of going private for which that applies is that your sequence of things had more direct interaction with the department basinwide plans and other sorts of things through the EEP. It didn't write down that the bankers either act with the department to learn what our plans are and what watershed information there is in monitoring, is it fair to say that the interaction is not as strongly founded when it is a private organization, especially one that's made the banks four years earlier before the impact comes along?

John Dorney: Suzanne may want to comment when she gets up to speak, but that's a good summary. There is a law however that says all mitigation has to be consistent with the basinwide restoration plans and has been in place for some time. Those private banks have to be consistent with those plans which are in the statute.

Dr. Peterson: Presumably one of the issues here relates as well to how close we have to put the mitigation to the impact and we struggle with that, what unit we have to put it within, four digit, eight digit or sixteen digit. That obviously affects the implacability of some of these private banks that have pre-existed and may be a good deal further away from the impacts that may be in Wake County or Durham County.

John Dorney: The location mitigation will be addressed in those rules with various options to bring back to you as well.

Chairman Smith: Other questions? Thank you very much. That's a helpful presentation.

Proposed EEP Rule

Suzanne Klimek: The purpose of this agenda item is to request your permission to go to notice of text and hearing with proposed rules that establish a mechanism for the Ecosystem Enhancement Program to charge actual cost when users of our program pay into it and we take on the responsibility of achieving the nutrient reductions for those requirements. We were

legislated by the General Assembly to pursue this mechanism and we have been working with the Division of Water Quality toward getting it accomplished. We did go to the Water Quality Committee two months ago and they gave us approval to go before the EMC today. I'm going to go over a brief history of the Nutrient Offset Program, highlight the proposed rule revisions and review our next steps and schedule for this initiative.

I do want to highlight that our program does more than just provide nutrient offset reductions. The Wetlands Restoration Program which preceded EEP was allowed to provide nutrient offset reductions through Legislation that was set up in the late 1990s. The first payment that we received for the Nutrient Offset Program was in 2001 and in 2005 the Division of Water Quality initiated an adjustment to the original fees, which were \$11.00 per pound, recognizing that they were insufficient to allow us to do Best Management Practices. So in 2006 this Commission set new fees at \$57.00 per pound for nitrogen, \$45.00 per 0.10 per pound of phosphorus and also expanded the program to the Tar Pamlico River Basin. That year we also received our first payment in the Tar Pamlico River Basin. Not long after that rule became effective there were concerns about the rate increase and the Legislature reset the fees back to \$11.00 per pound, required that we refund any folks that had paid the higher fees and they commissioned the study through the Environmental Review Commission to evaluate where to set the fees. Research Triangle Institute did the cost study and presented it to the Legislature which led to Session Law 2007-438 which set the new fees. It required that the Ecosystem Enhancement Program use the least cost alternative to achieve nutrient reduction; it required a transition to the Actual Cost Method; and it provided for certain geographic constraints for where the mitigation was located. And, as presented by John Dorney's earlier, it opened the door for other third party providers of nutrient reduction mitigation. So in response to the Legislature in preparation of the development of proposed rules we worked on enhancing existing databases to support the calculation of rates based on actual cost incurred by the program. We also involved a number of stakeholders that represented key interest groups around this issue. They met four times from February to June in 2009. And also with input from staff of the Rules Review Commission, we are proposing to amend the original rule 2B .0240 which housed the fee historically to be procedural in nature and talk about how folks access third party mitigation and EEP. We are also proposing the establishment of a new rule 2B .0274 which contains the Actual Cost Method.

Proposed Amendments for 2B .0240

First of all, the rate formula that had been there previously has been deleted. It's incorporating Legislated requirements some of which were reviewed by John earlier and requires DWQ preapproval of any proposed nutrient offset projects. It makes specifications for Jordan reservoir mitigation and where that needs to occur and it allows for access for future rules that you could enact for nutrient management. We had a number of objectives that we sought to satisfy when we pursued this method and we went through all of these objectives with the stakeholders that we engaged in this process. Some of the objectives are making the rate predictable, equitable, understandable, responsive to changes in actual costs, applicability to various geographic scales and applicability to multiple nutrient types.

The simple premise for this method is if you look at what it costs to provide reduction, divided by the number of pounds reduced by the project, you come up with an actual cost per pound for achieving that reduction. That basic division, actual cost over the pounds offset needs

to be achieved in association with an adjustment factor which I will describe in detail in a moment. That adjustment is just to make sure that we are always in balance with our receipts and expenditures. We are also working to achieve in this calculation that all numbers are reflective of present day costs and present day offsets. The cost component of the formula accounts for all projects that the program has conducted as well as administrative costs.

We are talking about projects that we've actually completed, built them and closed them out with the regulatory agencies, projects that we started and terminated for whatever reason because we determined that they weren't going to be viable, and projects that are currently in process which we adjust those to present day prices. We also account in administrative cost for staff supplies and rent. The denominator, which are total pounds offset, is basically all of the projects that we are delivering and how much reduction they are achieving at present day values. When we talk about present day values we are talking about the regulatory landscape in which those projects are being delivered because as those things change so can the yield of various projects.

The adjustment factor ensures that additional collections are made if our historical receipts were below costs. So we may set an actual cost rate, find that our revenues and expenditures are not in balance and this allows for the makeup of any deficiencies over time. An additional provision in the rule is that we're proposing general and special rates.

We have a general rate for the Neuse River Basin or the Tar Pamlico River Basin but we would also, in areas where our costs are predicted to be higher than usual or in areas where the service area is smaller than an eight digit hydrological unit which is large geographic area specified by the USGS Geological Survey, if it's a much smaller area we would be applying special rates. So Falls Lake and Jordan Lake would be included in those. The adjustments would be made at least annually but if our data shows that costs are 10% higher than what the existing rate is we would make an adjustment the next quarter. Then where we have new rate areas where we don't have projects to feed an actual cost rate the highest program rate that is in effect would apply in that area until we get some projects underway that would allow us to set a unique rate for that area. If we ran the Actual Cost Method today these are the per pound rates that it would result in for different nutrients in different parts of the Neuse and Tar Pamlico River Basins in addition to the Jordan watershed. We have achieved some economies in the implementation of this program since we have been under constraints of the \$11.00 per pound rule and also some of the projects that we've been delivering lately have been at lower prices.

Therefore the rate is being predicted to go down for the most part for areas except for that one. With your permission the next steps are we would be going to public notice with a register publication of February 15, 2010, hold hearings in late March and we would allow some time for deliberation of hearing officers and we would like to come back to the EMC for final consideration in July with a Rules Review Commission meeting of August and an effective date of September 1, 2010. That's actually in the session law that mandated us to go in this direction. Any challenges to that date would have to be addressed through the Legislature. Again at this stage of the process we are asking for your approval to go to notice of text and hearing.

Dr. Peterson: I think we still have some debate over whether the area in which the restoration or mitigation is done should be the 6 unit, 8 unit or even 14 unit and I'm wondering if the text that you've sent out will give us the latitude to choose one of those after we have all the public comment back in hand and can make our most appropriate judgment as to how close to the impact the mitigation has to be located.

Suzanne Klimek: Currently the Legislature requires the 8 digit catalog unit and 2B .0240 reflects that language but we can try to craft the publication of the rule to have alternates that could be discussed during rulemaking.

Dr. Peterson: Do you think that we may be constrained by the Legislature on that particular point?

You seem to have superseded that for Jordan Lake and Falls Lake.

Suzanne Klimek: They have their own rules that have smaller service areas specified.

Dr. Peterson: So that trumps the eight unit claim that you made about the general legislation.

Suzanne Klimek: That's correct.

Dr. Peterson: Lakes in general are problems with nutrients so this is again back to that issue of how narrowly to put this because if there's a project that affects nutrient loading to a particular water body and then the mitigation doesn't have to be in it, it puts dramatic additional burdens on the folks to try and mitigate for that. I'm just waffling on a point that I'm uncomfortable with and wondering furthermore what our latitude to deal with that issue is once we go through the rulemaking and have people reiterate that with specific examples outside the general Triangle area for which that principle also holds true.

Dickson Phillips: Is the legal issue whether the eight digit is a mandate or whether it's not beyond the eight digit? Under Jordan we have more restrictive rules so presumably we can be more restrictive.

Suzanne Klimek: That has to do with the management areas that are surrounding those water supplies, not only for Jordan Lake but also for Falls Lake.

Dr. Peterson: I have one other question. That is I gained insight this morning through listening to John Dorney and Matt Matthews that there's a huge burden that I presume falls on EEP even though a lot of the work may be done by third party mitigators or storers of keeping track of all the various mitigation projects and what they have gotten credits for so that there is a GIS or some kind of coded record that's easily accessed by your office and the public to know what bits of land are already credit for something else. I wonder whether your administrative costs properly include what I see to be a pretty bloody big effort to keep track of all of this, especially given that it's not all within your program that its multiple third parties elsewhere who I hope we're requiring to feed us that information as well so that you could be the repository of all of that.

Suzanne Klimek: We certainly track all of our projects and I encourage any of you to go to our website and we do have a lot of data related to our projects on our website. The administrative costs that I spoke of in this presentation and that are being proposed for 2B .0274 are related to what administrative burdens we have in managing and delivering projects. It does not account for managing data related to other mitigation projects outside of our program.

Dr. Peterson: I was fearful of that because you cannot expect multiple third independent parties to be running in coordination a state database that then makes the public comfortable that there's an accounting for all this and that's got to be included as a cost somewhere to the broad set of programs. It may all be within your purview.

Coleen Sullins: Right now the Corps tracks the mitigation credits under the federal instruments. We have only just recently begun setting up instruments specifically for nutrient offset and buffers. We are having conversations about how to track all this information and to make sure that we are meeting the requirements that you're concerned about. But this is certainly one of the significant issues that we're trying to figure out how to get on top of it before it gets away.

Dr. Peterson: I would argue that this is one where the user ought to pay. That is to say that client whom we are serving by providing this service and program, that's a legitimate cost of providing that service. So it ought to be shared appropriately and equitably among the users and not to be a burden that we somehow have to allocate three, four or five more staff members somehow to it without being able to charge the client for that cost.

Chairman Smith: Any other comments or questions? Going back to **Dr. Peterson's** first question is there any down side to putting out the alternative of the eight-digit area and the 11-digit area since we are talking about moving to the public hearing process and public comment process?

Suzanne Klimek: The eight-digit is usually the larger one. I wanted to make sure that I understood **Dr. Peterson** that you were talking about the eight-digit or smaller.

Dr. Peterson: Yes that was my interest but I think others may have an interest in bigger.

Suzanne Klimek: I don't see why it would be a problem and I would just check with DWQ because they're coordinating with us on this to put options out there for deliberation during the public hearing process.

Chairman Smith: Yes I would like to see that if you would adjust that language to put those options out there. We've done options on a number of things going out to public hearing and my experience is that it has been beneficial generally. Did you want to do something on the cost point that you were just bringing up?

Dr. Peterson: I don't know but it sure would be useful after this hearing that we review that as one of the cost and it would be useful to have the latitude to include the portion that's appropriate to the EEP in such an administrative process.

Motion (Dr. Peterson): I move approval of taking this to public hearing as adjusted. **Mr. Phillips** seconded. Hearing no other discussion the motion passed.

Administrative Hearing – Contested Case

10-10 Presentation of Administrative Law Judge’s Decision, Appalachian Voices, Inc. v. DENR, Division of Air Quality, Duke Energy Carolinas, LLC; 08 EHR 0779, DAQ 08-3175 Wake County

Frank Crawley

The Chairman called for the contested case which was presented on the parties’ exceptions and position papers, the whole record, and without oral argument. Prior to the meeting, Appalachian Voices, Inc. withdrew its request for oral presentation and both the Department and Duke Energy Carolinas, LLC indicated that they did not wish to make presentations before the Commission.

By written submissions, Special Deputy Attorney General Marc Bernstein for the Department and Charles Case, Esquire for Duke Energy Carolinas, LLC requested that the Commission adopt the ALJ’s recommendation granting summary judgment to the Department and Duke Energy Carolinas, LLC as the final agency decision. Scott Gollwitzer, Esquire and Stephen Novak, Esquire representing Appalachian Voices, Inc. requested that the Commission reject the ALJ’s decision and grant its motion for partial summary judgment.

A motion was made by **Dr. Moreau** to adopt the ALJ’s decision as the final decision. There was a second to the motion.

Chairman Smith called for discussion or questions from Commission members. After further discussion, the Chairman called for a vote on the motion. The motion carried by unanimous vote.

The Commission adopted the ALJ Decision, to the extent it resolved issues as to Appalachian Voices, as the final agency decision and incorporated it as if fully set forth in the Final Agency Decision. The Final Agency Decision held that Appalachian Voices’ motion for partial summary judgment was denied on all issues, that there was no genuine issue of material fact, and that the DAQ and Duke Energy Carolinas, LLC were entitled, as a matter of law, to a judgment holding that the DAQ need not consider the collateral impacts of mining operations in evaluating “best available control technology,” that the DAQ cannot, under the facts of this case, require Duke Energy Carolinas, LLC to burn Powder River Basin coal at Cliffside Unit 6, and DAQ was not required to consider Powder River Basin coal as an alternative to surface-mined Appalachian coal in issuing Air Quality Permit No. 04044T28 or 04044T29 under the provisions of the prevention of significant deterioration program to Duke Energy Carolinas, LLC.

The final agency decision Ordered that:

1. The Department of Environment and Natural Resources, Division of Air Quality, was entitled to judgment and decision in its favor on all issues before the Commission for final decision.
2. Duke Energy Carolinas, LLC was entitled to judgment and decision in its favor on all issues before the Commission for final decision.
3. The Motion for Partial Summary Judgment filed by Appalachian Voices was DENIED as to all issues.

II. Information Items

10-01 Annual Progress Reports for the Neuse and Tar-Pamlico Agricultural Rules

John Huisman

I will present the Annual Agriculture Progress Reports for the Neuse and Tar-Pam River Basins on the behalf of the Basin Oversight Committees. I will make this brief so that I may get to any questions that you may have but just some quick background. As you know the Neuse and Tar-Pamlico both have nutrient management strategies in place to reduce nutrient loading to the respective estuaries. Part of their strategies includes agricultural rules call from agriculture. The agriculture rule went into effect in 1998 and in the Tar-Pamlico in 2001. Both agricultural rules call for a 30% reduction in nitrogen load from the respective baselines in the Neuse 1991 and 1995 baseline and in the Tar-Pamlico in 1991 baseline. The Tar-Pamlico agriculture rule has the added requirement of no increase in phosphorus load relative to the baseline. The Basin Oversight Committee and local advisory committees were established to implement and assists farmers with complying with these rules. Each year the BOC submits an annual report to the EMC that demonstrates the ongoing collective compliance and estimates the further progress by the agricultural community in decreasing nutrient loss. The estimates provided in this annual report represent whole county scale calculations from cropland agriculture in each basin using an accounting tool called the Nitrogen Loss Estimation Worksheet which we refer to as NLEW. This table (attached) shows the 2008 Estimated Nitrogen Loss Reductions for the different 17 counties in the Neuse Basin. Included here are the reported reductions by county for 2008 and included also is 2007 for comparison. As you can see, collectively, agriculture in the Neuse Basin is reporting a **41%** reduction in nitrogen loss relative to their baseline. That's compared to a **39%** reduction in 2007 representing basically a 2% greater reduction in 2008 compared to 2007. Lenoir County is the one county that's not achieving a 30% reduction goal. That's largely due to challenges from Lenoir County actually seeing an increase in agricultural land since their baseline period and those increases and agricultural plans were primarily corn crops which require additional nitrogen applications. To address this Soil and Water has already conducted an assessment of their local program and will be working with their local advisory committee to encourage additional nutrient reducing BMPs in the future. In general 11 of the 17 counties are achieving at least a 40% reduction relative to their baseline.

Chairman Smith: Before you move on for the benefit of the new members would you explain to them what reduction in loss reduction means?

John Huisman: What we're talking about here is that we're measuring reductions and nitrogen loss basically for agriculture. The calculation tool was used to develop the amount of pounds that agricultural lands were estimated to be losing in the baseline year. In the Neuse we're talking about a 90-95 baseline so we established a baseline number of pounds loss of nitrogen from agriculture. This is basically an edge of management unit number so we have a baseline number for that baseline year and then every year afterwards technicians use an accounting to factor in the types of crops being grown and the fertilizer that's being used, and calculates a new estimate of the amount of nitrogen being lost from those same lands, and it's compared to the

baseline. The difference represents an amount of nitrogen loss reduction so this example there is a 41% reduction in nitrogen loss from the baseline compared to how much is being lost in the baseline year, and that represents in 2007 a 39% reduction in the loss compared to the baseline year. So when you are looking at the difference between 2007 and 2008 there's actually less nitrogen going off from agricultural lands in 2008 that there was in 2007 compared to the baseline. I hope that clarifies loss reduction.

This is a new addition to the Annual Agriculture Report given the number of years we have had the report until the EMC. This shows the collective percent reduction in nitrogen loss by year for the Neuse Basin since implementation of the agriculture rule from 2001-2008. The goal is to reduce nitrogen loss by 30%. Agriculture has consistently reduced their nitrogen loss by at least 30% if not greater so they continually exceed their reduction goal of 30%. Again this last year it's like 42%. There are points in time where the Nitrogen Loss Evaluation Worksheet accounting tool has been updated. We thought it was useful to see the progress of agriculture and how they consistently meet and exceeds that 30% reduction goal. In terms of how these reductions are achieved there's a few simple ways that they are achieved for agriculture. They are a combination of loss of agricultural land, either to development or to conversion to trees; some of the agricultural land goes to idle land, crop shifts from high nitrogen crops such as corn and low nitrogen crops such as soy beans. There's also fertilization management where through forces of economy less fertilizer is applied and BMP implementation. In terms of the Neuse Basin a majority of the reductions are achieved through fertilization to management reducing the amount of fertilizer to 12%, and then we also have crop shifting from high nitrogen to low nitrogen crops at 10% followed by crop land conversion to grass and trees at 6% and developing at 7% with BMPs at 5%.

Tom Ellis: How do you define crop land loss to idle land?

John Huisman: That's basically crop land that's taken out of the rotation in a given year. It may come back in and be planted in the following year but this reporting year nothing was planted on that.

Tom Ellis: So it's not land that has been abandoned. It's just not in production that year.

John Huisman: Right. Now in the Tar-Pamlico Basin the 2008 Estimated Nitrogen Loss Reductions from the Ag community by county collectively achieved an estimated **50%** reduction in nitrogen loss compared to the 1991 baseline. There was a **6%** less being lost from agricultural land in 2008. Eleven of fourteen counties achieved a 40% reduction or greater. In each reporting year agriculture has been meeting the reduction goal. Updates have been made to the accounting tool. Similar to the Neuse breakout that shows how the reductions were achieved in the Tar-Pamlico we have BMP implementation, fertilization management playing a large role over almost half of the reduction achieved through reducing the amount of nitrogen applied. There were also big players where crop shifts going from high nitrogen to low nitrogen crops and BMPs at 10%. There's also the added requirement in the Tar-Pamlico for phosphorus controls. The Tar-Pamlico agriculture rule includes a phosphorus accounting requirement.

A qualitative phosphorus accounting method was developed by the Phosphorus Technical Advisory Committee and approved by the EMC in 2005 to address the no increase in phosphorus

goal. This qualitative method tracks the relative changes to land use and management measures and the relative effect of phosphorous loss risk and compares the increase or decrease in phosphorous loss risk factors to the baseline. We're looking at whether there's an increase or decrease in losing phosphorus from agriculture lands compared to the baseline year. Based on the 2008 risk indicator collected data shows there's not an increase in phosphorus loss risk compared to the baseline. The BOC anticipates that phosphorus loss risk will continue to improve by way of implementation of additional BMPs in the future and they will continue to monitor these trends. The Division of Soil and Water Conservation and the local advisory committees will continue to encourage BMP implementation in both basins as in the past as additional research information becomes available and the Nitrogen Loss Estimation Worksheet will be refined as more research data becomes available.

The Division of Soil and Water regularly meets with the technicians and the local advisory committees in the counties to keep in touch and promote BMP implementation. As you know the technicians that are in place in Neuse and Tar-Pamlico are funded through a couple of different mechanisms and a large part through a 319 Grant. With any grant funding there is always concern and need to seek continued funding for the list positions. The Basin Oversight Committee will participate in reviewing and providing information for the Tar-Pamlico Basinwide Plan that's under development and planning to come to the EMC in the spring of 2010. Following up on some of the things listed out in the Neuse Basinwide Plan there are some action plans, plans for the BOC to participate in the reconvening of a land accounting group that will help develop tools to better account for land use changes. I'd like to acknowledge all the different parties that play a role in developing these reports and particularly thank the Division of Soil and Water Conservation and the technicians who put a lot of effort into developing these reports.

John Curry: Does anybody have evidence of improvement in the rivers involved as a result of these efforts to reduce the fertilizer applications?

John Huisman: The agriculture rules are part of a larger strategy for both the Neuse and Tar-Pamlico. I'm sure many of you are aware from our presentations that last year of the Neuse Basin Plan we presented the impairment in the estuary has not improved. We are seeing similar concerns in the Tar-Pamlico where it looks like the impairment has not improved as of yet. Again we don't have specific information to point to any one particular source. We have agriculture reporting they are achieving their reductions. We have data from the Point Source that they're achieving their reductions and stormwater programs are in place. That's why in the Neuse Basin Plan we've listed some action items and things to follow up on to get a better handle of what's going on and how the estuaries respond to things. There were things that were missing and we need to get a better handle of contributions from groundwater, whether there are underground tiles on some of the agricultural lands, whether there are concerns over land application or waste from point sources or atmospheric depositions. So the short answer is the estuaries at this point have not improved. But we can't it is because reductions are not being achieved from this particular source. One of the other recommendations of that action plan was to try to focus additional sampling at first on basins or smaller sub-watersheds that are largely agriculture and try to see if we can do some trend analysis to see if we can connect some water quality data to the on- ground BMP improvements. My understanding is that there is some sampling going on from the Lower Neuse Basin Association and the Point Source Coalition

that's focused on some concentrated agricultural watersheds that might be able to help us develop those trends in the future.

Ms. Deerhake: Does the term fertilizer management represent those traditional fertilizer and manure management? What does that capture in your tables?

John Huisman: The fertilizer management in the tables just represents the amount of reduction that's associated with less application of fertilizer. That would capture the results of fertilization management plans that encompass both inorganic and organic fertilizers because there has been training for applicators in the Neuse and Tar-Pamlico Basins agricultural lands that either take a Nutrient Management Training Class or have Certified Nutrient Management Plans for the land. The reductions that we have seen in the pounds of nitrogen applied to the agricultural plans are a result of reductions from both.

Ms. Deerhake: Do you have enough data to tease out the livestock and poultry portion of that?

John Huisman: I am not sure and I would have to check with Soil and Water staff to talk with them about that. Not sure of the availability of all the data, particularly when it comes to poultry information which there is some limitations on the data that is available to us. But it is something that we can certainly look into.

Ms. Deerhake: My final comment is that even though there aren't any noticeable improvements yet in the estuary these are nice improvements just from the edge of the field. The Basin Oversight Committee and the local advisory committee's model seem to be working well in these two basins. Is there any way that the model could be applied in other basins that aren't designated as nutrient sensitive that may have subsheds with nutrient impairments? If the model is working well here couldn't it be beneficial to other sheds or basins?

John Huisman: Right. I know in terms of Jordan and Falls Lake we are pursuing a similar approach but in terms of others that haven't been necessarily designated yet I hadn't thought about it that way. That's a good suggestion.

Ms. Deerhake: My question is what works with these committee models

John Huisman: It seems that they have enjoyed having the flexibility of finding the most cost effective means of achieving the reductions. We give them a goal to achieve and they figure out the solutions to get to that goal rather than us coming in and being very prescriptive in saying that you will do this. That seems to be at the core of the success of that model.

Jeffrey Morse: Marion just to answer your question, there are some other models in other parts of the state that are reflecting what has been done at the Neuse. The Catawba River has one actively going on right now. John, on the report that you just gave back in 1995 and 1996 when I had a chance to serve on the Commission we started the Neuse rules and implemented the program. I recall over the years millions of dollars have been spent by local governments, especially Raleigh and others in reduction of nitrogen and changing their plant operations especially all the municipalities along the river as well as the agriculture group and others I want

to make sure that I understand what you're saying. Since all of this has been implemented your water quality testing shows that there has not been any corrections or improvements to the Neuse as a result even though the millions of pounds have been reduced and phosphorus has been reduced and all the activities we are still not seeing any benefits yet to the conditions that existed back in 1995 or 1996?

John Huisman: In terms of the impairment, the chlorophyll-a impairment and estuary we haven't seen a reduction in the spatial impairment of the estuary. The estuary is still impaired in that a large part of the nature of nonpoint source pollution where it is a lag time in seeing the benefits of the reduction on land. That is certainly something that came up in the Neuse Basin concern about the massive investment that has been made from the point sources and well documented reductions from them. We're concerned that maybe from some of these non point sources the calculations may not be as accurate and we need to take a closer look. We are taking a close look at refining calculations and getting better research and data to better understand how the estuary is responding to the reductions that we are calculating. There are other things that are not captured in terms of atmospheric deposition and groundwater that may be offsetting some of the reductions that we've seen. Climate can play a role as well.

Jeffrey Morse: I'm hearing that the empirical evidence is there that maybe the future activities won't necessarily be directed toward the point source whereas now maybe we are recognizing the significant problem is now looking at the nonpoint source. We have pretty much tackled the issues for the point source. It seems to me what you are saying is that we really need to get a better handle on the nonpoint sources and put our energy toward finding a recommendation to deal with the nonpoint? Is that the direction that we're going now?

John Huisman: We are laying out things to follow up with the nonpoint sources because there is more uncertainty in the calculations for the nonpoint sources that we address. There is a higher level of certainty in the calculations and in the end-of-pipe loading from the point sources. Along with that there are some things to take a look at with point sources when there is land application of residuals taking place and how much of that may be ending up in the stream. There is a focus on getting a better handle on the nonpoint sources.

Jeffrey Morse: So as you take this model now to the rest of the state we'll have a better feel to what we have to implement in the future in different areas of the state rather than just concentrating on point sources. We will take a stronger look at the nonpoint sources as well now as you move this model to the other basins in the state as a result of this experience you're having in the Neuse.

John Huisman: Right. We definitely build upon the lessons learned from these past strategies. So yes.

Dr. Peterson: Before Mr. Morse rejoined us there had been a report that discussed progress on the Neuse and concentrations at Fort Barnwell. It might be good if we can organize getting a copy of that report.

Dickson Phillips: How would you rate reliability of the data on which these findings are based?

John Huisman: The technicians are going out and information is collected from different agriculture staff at databases in terms of the different crop acres out there and what's being planted on that. There's checking with local offices and extension offices and our local stormwater offices to get information about the fertilization application rates that farmers are currently using in that county. The data we get and the calculation tool we have is the best that is available. There's continual refinements to that NLEW accounting worksheet that was developed through North Carolina State, and as additional research comes in and we see efficiencies for buffers change, we have updated that calculation sheet. There's just an inherent uncertainty with accounting for the nonpoint sources in particular when you are calculating a reduction that's measured comparative to a baseline year where that baseline load has to be calculated after the fact.

Mayor Moss: What I'm hearing is that there was a conscious decision at some point in the past that you had to start somewhere and that has led us to where we are today?

John Huisman: Yes.

Chairman Smith: asked for other comments and questions.

10-02 Falls Lake Nutrient Management Strategy Development Update

John Huisman: I will be giving you an information update on the Falls Lake process to develop a nutrient management strategy for the Falls Lake watershed. I gave a similar update to the EMC back into November and prior to that an update was given to the Water Quality Committee in September.

In terms of background, I'm sure that most of you are familiar by this point the Falls Lake watershed is located in the upper Neuse River Basin and a 770 sq. mile watershed that spans portions of six counties, Wake, Durham, Orange, Person, Granville Counties, a small part of Franklin County, and there's also municipality portions of Durham, Hillsborough, Butner, Creedmoor, Stem, parts of Roxboro and tiny little slivers of Raleigh and Wake Forest down at the bottom. As you know, the Falls Lake serves as a water supply for roughly 420,000 residents in Raleigh and the surrounding areas. For the purpose of discussions, I want to note that NC 50 runs through the middle of the lake. When we talk about the upper watershed, the upper lake or lower watershed, lower lake and I mention upper I am referring to the portions of the lake and watershed that are west of NC 50 and lower for the portions that are below NC 50.

Based on the 2002 through 2006 water quality data the entire Falls Lake was listed on the draft 2008 303(d) list of impaired waters listed for impairment for chlorophyll-a exceedance of 40 mg per liter chlorophyll-a standard throughout the lake. There's also turbidity impairment and the portion of the lake and the upper portion of the lake that's above I-85. There's legislation in place, SL 2005-190 (S981) that calls for the EMC to develop a nutrient management strategy for Falls Lake and for that strategy to be based on a calibrated nutrient response model. The deadline for getting that strategy in place is January 15, 2011.

In general there is a higher percentage of exceedance in the upper lake and as you move down in the lake there's a lower exceedance of the chlorophyll-a standard. The water intake for Raleigh is located at the bottom of the lake. With that, I want to take you into an update on the rulemaking process and let you know where we are.

As it has been discussed in the past and you heard on yesterday an information item on the watershed model, there have been two models developed for Falls Lake, a Watershed Model and a Lake Model. The Lake Model was actually presented and approved by the EMC at the last meeting in November. The Watershed Model gives us a general idea of the relative loading contributions from the different sources in the watershed. The Lake Model gives us the information to determine what level of reduction is needed and the loads being delivered to the lake to achieve the water quality standards in the lake. There was Technical Advisory Committee process of a smaller subset of stakeholders that provided input into the monitoring and developing of the models. They also review the model outputs before they were presented to the full stakeholder group.

In terms of the rulemaking process we have convened a full stakeholder group and they've been meeting since August 2008. We've had eight meetings so far and we are scheduled to have our ninth meeting next Thursday which we will be going over draft rules with them. Back in September and through December, the larger stakeholder groups broke up into these smaller focus subcommittee groups to work on detailed rule language because up until that point the large stakeholder group was talking about the model, the general lake concerns and general concepts to the rules. These subcommittee groups that we've formed will start working on specific rule language to develop and we have since that time provided some draft language for that group to review. This is a list of the different subcommittee groups that are meeting between September and December. We had a new development subcommittee to talk about new development stormwater rules, a point source and package plant to talk about a point source rule and an existing development and onsite wastewater. We combined that under our existing development rule where we're capturing onsite wastewater discharging sand filters failing septic, conventional septic under that umbrella of existing development. Also as a local jurisdictional approach which is by treating the ability for a local government to combine a point source allocation with an existing development allocation and find ways that are cost effective to get the reduction from a collective allocation and also an agriculture subcommittee. There are some other rules that we're working with but these were the subcommittee groups that we were focusing on a specific rule language.

Since meeting with those groups we have provided draft rule language to those four subcommittee groups listed above: the agriculture, new development, and point source and existing development. They had an opportunity to review the first draft of those rules and provided comments back to DWQ on December 23rd. We have been reviewing those comments making revisions to the rules and following up with meetings on some of the stakeholder. A revision of the rules is scheduled to go out later this afternoon to the stakeholders in preparation for a final stakeholder meeting which is scheduled for next Thursday, January 21, 2010. At this time the stakeholders will have until the end of the month, January 29th to provide additional comments back to us both on these rules and some additional rules that we are providing to them today.

Along with developing the draft rules DWQ has been doing a programmatic assessment of different regulations and programs that are already in place in the Falls Lake watershed, getting a handle on how things have been going with those and identifying opportunities for more

immediate reductions and providing information to the planning staff that could help us in the rule development process. So that was a large effort on the part of the Regional Office and they provided some valuable information to staff that we can consider as we draft these rules.

We are also developing a fiscal analysis that is work that is ongoing. We are on a tight timeline but the plan is to get a draft to the Office of State Budget Management by the end of February. Ultimately, we hope to bring draft rules back to the Water Quality EMC requesting approval to go out to public hearings. Obviously the fiscal announcement will have to be approved first but we want to at least provide a draft to you when we come to you in March.

At this time I want to touch on the draft rule concepts that are captured and the draft rules that we sent out to the subcommittee members to discuss. This is an ongoing conversation with the stakeholders. We certainly are not at the point where we have agreement on all these concepts because we are just beginning to get input. There's varying points of concern from stakeholders and we are polarizing comments coming in. But I just want to highlight where our current thinking is and what we have presented to stakeholders for consideration.

There's two main core parts of the strategy. One is the reductions needed to achieve the water quality standards in the lake and the approach in which we get those reductions through an adaptive approach. The overall goals for Falls Lake is to obtain the water quality standards which is a combination of reduction goals that were established based on information from the calibrated nutrient response model, the Lake Model that the EMC approved. They provided information on different combinations of reductions because we need reductions from both nitrogen and phosphorus for Falls Lake. We developed different combinations of the reductions that would achieve the standards in the lake, discussed them with stakeholders and listened to their preferred combinations. There was stakeholder interest in seeing higher reductions in phosphorus and lower reductions in nitrogen because there's already the Neuse strategy in place requiring 30% reduction from point sources and agriculture.

There were additional concerns about addressing nutrient loads that come from background sources and adjusting the goals to easily capture the loading coming from the background sources and capture any predicted reductions in loading to the lake that were estimated from decreases in atmospheric depositions in the future. The reduction goals have been adjusted to represent that redistribution of loads from the background sources and account for those predicted reductions and atmospheric deposition. This is the overall goal for reductions in a lake to achieve a standard. We are talking about large reductions here and that's why we are proposing a staged adaptive approach.

These are some key stakeholder concerns that we have been taking into consideration throughout the process. One was the flexibility-concern that we employed an adaptive management approach that allowed us to revisit the approach as things are implemented as additional information becomes available, and have the implementation of the requirements comes in stages over time. There's a Stage I of immediate reductions and a Stage II that works with the overall reduction goals and provides options of how these reductions can be achieved by the different sources. Concerns about equity involve creating a whole watershed strategy requiring reductions from all sources because in this case for these high reduction needs, we're looking for reductions from everyone everywhere we can get it. In recent months it has been an increased focus on the drinking water intake in the lower lake.

That has led to a focus on ensuring that the water quality standards would be achieved in the lower lake in the first state of the strategy. This has led to some concerns and some ongoing

discussions about the implementation timeframes of the different stages. Some folks want to see Stage I and Stage II happen much faster and some people want to see them take more time as we get additional information.

Feasibility and cost are always a concern of any strategy. There have been questions about whether these reduction goals are achievable. The cost will be factored into the fiscal analysis that we are doing for these rules. How will we be measuring the progress in monitoring with any adaptive approach as we move forward? Again keeping in mind those concerns we are proposing an adaptive management strategy approach given the short timeframe we have to develop a strategy, wherever possible we're patterning things after the Neuse, Jordan and Tar-Pamlico strategies and not trying to re-invent the wheel. But there are differences in this strategy because of the larger reduction needs for the Falls Lake watershed for the Falls Lake.

We are laying out a framework of the objectives of the different stages in with the adaptive approach our goals rule. Again recognizing the larger reduction needs providing for ongoing water quality monitoring in the lake, allowing for the maintenance mode if parts of the lake achieve the standards quicker than we anticipate and also in general the strategy is calling for reductions from both point and nonpoint sources. There's a lot of discussion about the goals rule in the adaptive approach and we literally made changes last evening to send to the stakeholders for review. There will be additional discussion about that. The Stage I again calls for nutrient reductions controls in watersheds. These measures are intended to get us on our way in getting the overall reduction goals. But they are also intended to achieve the water quality standard in the lower lake during Stage I. Stage II calls for additional reductions in the upper watershed, the area above NC 50 and to work with achieving the overall reduction needs for the water quality standards throughout the lake. I will quickly touch on the main concepts of the rules that we put out.

We are calling for a 20% reduction in nitrogen and 40% reduction in phosphorus in the stage approach for agriculture. We're taking a similar approach in the Neuse and Tar-Pamlico where we have this collective strategy approach having the Watershed Oversight Committee to get the reductions any way they can to achieve those reduction goals. We are also calling for biosolid residual application to use Realistic Yield Expectation (RYE) nitrogen rates and run and comply with the Phosphorus Loss Assessment Tool (PLAT). That's essentially saying apply residuals at agronomics rates, the rates at which the biomass and the plants take up the nutrients.

Stage I will have the reductions within ten years by 2021. Stage II works toward an overall reduction of 40 and 77%. We do have a clause in Stage II that if agriculture does not meet their Stage I goals in ten years we would require buffer for all cropland and exclusion of livestock in all pastures keeping things out of the stream but that's just a clause if they don't meet the reduction goals in Stage I. The timeframe is 15 years by 2036.

Stormwater - we are using a similar approach as the other strategies. We have onsite nutrient export targets and these rates are based on the 40 and 77 percent reduction. New development - we need to meet a 2.2 lb per acre for nitrogen and .03 lb per acre for phosphorus. We are having a slight difference in our onsite treatment requirements in the Neuse and the Tar-Pamlico. Once you get to six pounds per acre per year for residential or 10 lbs per acre per year for commercial the developer is able to go offsite to buy down the rest of their nutrient offset. Because of the large reduction needs in the watershed and potential limitation of offset options in the watershed we're looking to get more treatment onsite. So we are putting out for comment for the stakeholders the idea of requiring 50 or 60% reduction of the untreated condition onsite before they can go offsite to buy down. That potentially means more treatment onsite than what we are

requiring in Jordan Lake. Again there's bigger reductions needed in the Falls Lake than in Jordan Lake.

Based on some stakeholder input we're including the option of a low impact development, the pre-post hydrologic match as a potential option to achieve these goals. They are still ongoing discussion about the best way to define that in the rule. In terms of point sources, there are three large point sources in the upper watershed, the Hillsborough, North Durham, and SGWASA Plant. There are also two small package plants in the lower watershed or drain to lower watershed and three smaller package plants that discharge between five and fifteen thousand gallons per day in the Falls watershed. We're calling for a stage approach for the point sources establishing mass limits in Stage I for the three large facilities in the watershed. Those mass limits are based on a 20% reduction similar to the reduction for agriculture. We base these mass limits off of 110% of their current flow which allows for some level of growth during Stage I and not forcing the concentration limits to below Best Technology limits during Stage I. Concentration limits for those two aquifer facilities in the lower watershed have different technology limitations for the package plants. O&M improvements for the limits of those three smaller facilities in the upper watershed are effectively achieving limits within five years by 2016. Stage II additional mass limits would be based off the 40-77% reduction targets for those three large facilities based off their permitted flow Stage II achieved with 20 years after Stage I by 2036.

Jeffrey Morse: What kind of responses are you getting from the point source on your proposal so far?

John Huisman: The response so far is concern over Stage II whether it's achievable and the desires to see potentially remodeling of the lake before Stage II requirements are put in place.

For existing development Stage I approach is getting reductions from existing to the loading coming off of existing developed lands and the watershed of Stage I would be reducing the existing developed land load back to the 2006 baseline level, because the reductions in the Falls Lake are all relative to 2006. So there will be ten years by 2021 to get back to baseline. Stage II achieved the overall 40-77% reduction from existing development. We've put out some options for comment in the rules one of being in Stage II for the local governments proposing a plan for at least half of the reductions within 15 years or the local governments proposing a different compliance timeframe that meets explicit criteria laid out in the rule. Both of these stages will require revised plans coming back to the EMC every five years.

These rule topics are going to be patterned after what was developed for Jordan Lake. We have a state and federal entities rule which are stormwater requirements for state and federal entities like DOT, non- DOT entities, a fertilization management rule, trading rule which is laying out trading in the watershed and a definitions rule. There will be some need to amend the new development stormwater rule just to make agreement between the offsite thresholds, the pound thresholds in the Neuse rule and the idea that we're using a 50-60 onsite treatment in the Falls Lake. There will need to be some changing in the rules to make the rules sync up and there's not two conflicting requirements.

In closing, I want to highlight some of the key stakeholder comments in the first round of comments. There has been a focus on the adaptive approach. There has been significant input on the goals rule about making sure that it allows for the potential to remodel lake before

implementing Stage II. We made some tweaks to allow the option if a party wants to provide a different nutrient response model after the implementation of Stage I. There is potential to consider the results of any additional modeling before implementing Stage II. There are ongoing discussions about the time of implementation. There's some stakeholders who think that Stage I should be accomplished within five years for all sources including existing development. There are others who think that it needs to take longer than the ten years that we are proposing. So we have conflicting comments coming in from there.

Some specific comments about the specific rules is that under our existing development rule we capture septic systems onsite wastewater and we include that under there in terms of ways that local governments can get reduction credit. They can find funding or grants to get people to hook up failing septic systems or to remove discharging sand filters. They can get credit for that but there is concerns that we're not calling for specific reductions in a point source rule from septic and discharging sand filters. There are also comments about requiring buffers and exclusion for Ag. We have that clause in Stage II of the agriculture rule that states if they don't meet their Stage I goals that would be a possibility. Aside from giving that idea as an option there has been suggestions that require for all new development and to limit nutrient offset options altogether. Some of the comments state there shouldn't be any nutrient offsets available in the Falls Lake watershed. We are trying to find some agreement and the best route. At this point we are providing for nutrient offset option in the rule. We are sending out revised draft rules today to the stakeholders for their review and we will meet next week to discuss the rules. The location of the meeting will be in Durham and the stakeholders will have until January 29th to submit additional comments. We are working on the fiscal note; our target is to complete it by the end of February and to get it to the OSBM for review. We will come back to the EMC in March with the draft rule package for approval to go out for the official public comment period and again the overall goal is to have a strategy adopted by 2011.

Jeffrey Morse: Are there anything in these rules that require pre-existing conditions, upgrades responsible by local governments? I know that discussions were going on earlier this year in some stormwater rules but there's no requirement for pre-existing upgrade?

John Huisman: There is an existing development rule in this rule package. They need to get reductions from that existing, developing reductions for municipalities based upon what they were loading. In Stage I we are recognizing that development throughout the watershed since the baseline 2006 so local governments have to propose a plan to reduce loading from their existing developed lands that would offset that increase in loading since 2006. So there is a rule requiring for reductions from existing developed lands from a local government.

Chairman Smith: Mr. Morse, one of the things that we discovered when we looked at Jordan Lake for all that long time that in short it just simply wasn't going to work if we didn't include the existing development, a substantial existing development piece of it as well. This caused a lot of controversy and difficulty. Once it worked its way through us and we passed the set of rules dealing with Jordan Lake and they went through the RRC, the General Assembly approached it the same way receiving a lot of the same comments all over again. They came to the same conclusion as well. Not quite an oversimplification but to put it shortly there is a substantial existing development piece in what the General Assembly passed that is now the law relating to Jordan Lake. Knowing something about the layout of the Falls Lake watershed I

think it is safe to say that the same conclusion got reached early on. The necessary reductions to protect the lake and the resulting water supply were simply not going to happen without dealing with existing development.

Jeffrey Morse: But a fiscal note has not been done on what it is going to take for local governments to achieve these goals. That's in the process now for doing a fiscal note on that issue. Is that correct?

John Huisman: That's correct. Some of the local governments provide some initial information but the fiscal note is still being developed.

Tom Ellis: I would like to compliment the staff having heard from a number of members in the agricultural community. They have appreciated the concern and the fact that you have listened to them. The one item that they have the most concern with is not actually the rulemaking itself but in the watershed model itself as to what actually is identified as agricultural land whether it be row crop or pasture. They seem to feel that a lot of other lands are being misidentified which boosts the acreage in agriculture. Do you have any comments on that?

John Huisman: That has definitely come up during the watershed model presentation that I gave on yesterday. There was concern from many different sources about whether the watershed model overestimated their contribution or maybe underestimated somebody else's. There are definitely limitations to the model. It's based off the 2001 land cover data and whether or not agriculture really makes up that portion that we've estimated in the watershed model, ultimately we are not basing any sources reduction needs off of the watershed model. It's based off that calibrated nutrient response model. Even if your relative proportions are going down or up we are still looking at that percent reduction from that source.

10-03 Falls Lake Septic Tank Study

Ted Lyon: We are here because we are responsible for the Onsite Wastewater System Program. The Division of Environmental Health is responsible for rules, authorizing county employees as local agents of the state to enforce the rules and we are responsible for providing them with technical assistance when they have problems. In order to get a handle of all our contributions we have met with all of the counties that border the lake. We've had four meetings with them since October to talk about how to deal with nutrient reduction. The primary focus of our discussions has been with existing developments and we have divided that into two groups. There are two approximate dates that are in issue and one is 1976 or 1977 when the statewide sewer program went into effect as far as septic tank systems. The other is 1982 or 1983 when the requirement for a repair area for the septic tank systems went into effect. If you use 1980 as a ballpark figure developments prior to that time are where we see more of the problems. They tend to be in worse soils and have smaller lot sizes so we have less options for repair when there are problems. These are generally the areas where the discharging sandfilters are located as well. These are also the areas of the older systems. The older they get the soil tends to clog up over time and that's where you will have your failures. Since 1980, particularly the more developed counties but all of them to some extent have had larger lot sizes. Since the repair area requirement has been there, the surveys that have been done have come back with very few

failures. Today there's enough density that the failures get dealt with fairly quickly. If your system is not working a lot of times you're calling, a lot of times it's your next door neighbor. As far as future development, we think the best way to handle nutrient reduction is through nitrogen management. We heard some mention of disagreeing with the model. We disagree with the model from the standpoint of the contribution of phosphorus from a properly functioning septic tank system. The soils that are in the lake watershed tend to bind up phosphorus pretty well and there should be very little movement to the lake. We do however think that with nitrogen there is no question but what nitrogen moves. In the lower part of the Neuse where it goes and how it gets to the river is fairly well established. In the Falls Lake watershed where you are not dealing with coastal plain soils we are not sure, and we think there's possibly reason for some research to figure out where that nitrogen is going along with limiting it with new development.

Chairman Smith: I have one. It's a combination of a question and comment and I will direct this to both you and Ms. Sullins. My guess is that you all are working toward this. I assume you know that SB 1020 directed the Department and the EMC to identify improvements needed for the design operation and citing of septic systems within the Falls Lake watershed, and to report these recommendations to the Commission of Public Health and the Environmental Review Commission of the General Assembly in March 2010. One of my statutory obligations is the EMC Chair is to make quarterly reports to the ERC. Were you and Ms. Sullins aware of that requirement?

Ted Lyon: We are aware of that. It may be a bit of a challenge from a time and staffing standpoint. There's also some concern that any recommendations that we come up with, particularly on existing development, are likely to be expensive and we'd like to be sure that any recommendations we have will be effective. If we're spending money we want it to go to a good use. So we may be a little late.

Chairman Smith: What does that mean?

Ted Lyon: We are going to try to make the deadline. We are not sure at this point whether we are ready to go to the Commission with the recommendations that we can tell them they will be successful in reducing nutrients. Again, our concerns are phosphorus doesn't move from a properly functioning septic tank systems through the soils and watershed to the lake. We are confident of that. We know nitrogen will move in the soil profile but we don't know where it is going. We're concerned about putting regulations into effect that we are not sure will solve the problem.

Chairman Smith: I certainly share that concern. Before you leave today would you leave me your contact information or just send me an email? Then you and I can stay in touch as we move toward meeting this General Assembly March deadline. Thank you very much.

Ted Lyon: Ok. I will send you an email.

Chairman Smith: Other questions or comments?

IV. Status Reports by EMC Committee Chairs

A. Water Allocation Committee Mayor Darryl Moss, Chair

The Water Allocation Committee did meet. We had two action items and one information item. The action items were the approval of the IBT Settlement process guidance document which the Water Allocation Committee did approve. It will be on our March agenda after you have had a chance to review it. We had the extended conversation about the approval to initiate the Round 4 Jordan Lake water supply allocation which we approved earlier today. We received an update on the interbasin transfers for the Greenville Utilities Commission, the Kerr Lake Regional Water System and the Brunswick County Public Utilities.

B. Water Quality Committee Dr. Charles H. Peterson, Chair

We considered three action items and one information item. Two of the action items appeared on today's agenda and we discussed them. They were delegation of the management of the Goose Creek watershed to the County of Mecklenburg and the request to go to the EMC today to make the Phase II stormwater designations, the additional ones. The one action item that we didn't have on today's agenda will be on the March agenda and that was a request to proceed to the EMC for permission to hold public hearings on amendments to the water quality standards as a consequence of the required EPA Triennial Review that we conduct. Some of those are quite challenging and doubtless will challenge folks to try to meet if we proceed with them which will be on the March agenda. Then we had an information item that was brief on the Falls Lake watershed model that was referred to earlier by John Huisman.

Chairman Smith: The Groundwater Committee did not meet.

C. Air Quality Committee Marion Deerhake, Chair

We had three concepts. One was amendments to the Hospital Medical and Infectious Waste Incinerators rule and the other was amendments to the Prevention of Significant Deterioration and Permitting rules to include greenhouse gas tailoring rule. The third concept was amendments to the Prevention of Significant Deterioration in Nonattainment New Source Review rules to include PM 2.5 provisions. On the second concept we heard about the upcoming promulgation by EPA of the light duty vehicle greenhouse gas rules and accompanying that a second rule called the tailoring rule which raises the trigger threshold to 25,000 tons of greenhouse gases as opposed to 250 tons for other pollutants, to trigger the Title V and permitting programs for coverage of this newly designated pollutant, carbon dioxide and other greenhouse gases. Because of this schedule and its impact on states to put that rule into place at the state level and the regulated industries need for some sort of a program to carry out that set of standards, the department will operate under an interim policy memorandum while the EMC proceeds with rulemaking to adopt these two federal rules. The Division of Air Quality has recommended that we move at a good pace including both a temporary and a permanent rule proposal to get these tailoring and the light duty vehicle rules in place as soon as possible, so that we can handle the increase in the anticipated workload of the carbon dioxide and other greenhouse gas pollutants are going to cause. The Division of Air Quality's requested that we be prepared to have a special meeting in April to hear the draft ruling and propose it for public hearing. As I understand it, there is no driver to get it completed by November but a temporary rule

could be finished as earlier as August. The permanent rule could be finished as early as October or November. So the committee was willing to request that the Commission consider possibility of an April meeting if necessary.

The Steering Committee did not meet.

D. NPDES Committee

Dr. Peterson, Acting Chair

The NPDES Committee met and Dr. Moreau had to leave to go teach a class. The NPDES met and has the consequence of a challenge by the Friends of the Rocky River to the renewal of the NPDES permit for their wastewater discharge of the Town of Siler City. The Judge had recommended that the permit was properly granted and that we as a Commission, the NPDES Committee as an acting arm of the Commission affirmed that decision. We addressed all the issues on the table, the testimony the Judge's views and we heard from attorneys on both sides. On the basis of that we had great sympathy for the Friends of the Rocky River who were concerned that there was slow degradation in a lot of aspects of the river that the folks living there hold dear. But at the same time we did not find sufficient evidence in hand that the discharge from the wastewater treatment plant was contributing to degradation of the river and on those grounds we upheld and affirmed the judicial decision.

Chairman Smith: I'll add to that. Once we had completed that and could move into areas outside the record of that contested case we had a pretty extensive discussion on a number of concerns of members on the committee with the issues raised by the contested case. That is the continuing degradation of the water in the Rocky River being a good example of a water body that needs to be preserved and protected. It is one of our cleaner rivers. We explored the possibilities of a basinwide look at that watershed or a watershed wide look to try to figure out what the specific sources of the degradation were.

John Curry: I was on the NPDES Committee and I heard the discussions. I would ask what can we do to ensure that this issue about the Rocky River, the broad issue about the water quality in the Rocky River, which clearly causes concern on the part of all of us on the NPDES Committee. Can we in some way be assured that this issue is taken up again that we can get some kind of report back? I find it frustrating that for a number of years there have been members of the public and some live on the Rocky River who has expressed concern about the quality and obviously they have gone to the extent of hiring experts, hiring an attorney, appealing the NPDES permit issuance so they are very concerned about the status of the river. Yet how do we get a handle on assessing what they see as a significant problem? This one side issue that comes up, does the fact that you have a group of concerned citizens in a relatively small watershed, compared with the other things discussed today, is that a consideration for spending money, doing a study and spending public dollars to really assess the issues that we discussed after our meeting? I would like to hear back at the next meeting or at least in a couple of meetings from the division what might be done to confront some of these issues that we discussed.

Chairman Smith: We can certainly schedule that for future EMC meetings but what I would suggest in response to your specific first question is that you follow up with both Mr. Wakild and Mr. Runkle on yesterday's discussion and the things they discussed as possibilities about how to see to it that the gathering of information on the Rocky River is done. Both of them had some suggestions. So I would encourage you to follow up with them and stay in touch with me.

John Curry: I will do so.

E. Renewable Energy Committee

Dickson Phillips III, Chair

The Renewable Energy Committee did meet. We may be beginning the end of our dealing with the woody biomass issue. It is a very important issue and it concerns the goals for production of electric power from renewable energy resources of which biomass, in particular woody biomass are most plentiful. We see in conjunction with a demand for woody biomass to meet the 10% goal for biofuels in the state. We have had a series of Technical Advisory Group meetings convened over at the State Solar Center and we developed a set of general policy, a range of policy options. We heard some comments yesterday from several interested groups, the North Carolina Forestry Association, the Biofuels Center and the Environmental Defense Fund jointly submitted comments, and the Department of Environment and Natural Resources submitted some comments. I am anticipating that in March we will need a long meeting to try and sort some of that out.

Chairman Smith: If it's agreeable with you we will schedule the Renewable Energy Committee in the final slot of the day so that you are not jammed in with another meeting coming immediately behind you.

III. Concluding Remarks

Marion Deerhake: I paused a little too long in my report. I did want to pass along that Mr. Abraczinkas told me this morning that one amended rule that we thought was pretty innocuous has received 10 letters of objection, and it's the fugitive dust emission standard which had a three word change. He had received no indication from the regulated community that there was any concern about it and then out of the blue got 10 letters of objection. This is not the first time this has happened. I think the division has made great efforts to bring the stakeholders into discussions as they plan for drafting rules. It's a growing concern that we need to work to make sure that there is plenty of participation as a rule is being drafted so that this does not come and hit, and just stall things at the very end. We did have a report from the Science Advisory Board Liaison for the division yesterday. They will be working on formaldehyde as an air toxics risk assessment review in the future because EPA has now declared that it is a human carcinogen. The Science Advisory Board will also be looking at the question of whether or not they should assess risk from an a cumulative risk perspective. That is multiple air toxic. Thank you.

Chairman Smith: I'll say in response to your piece about the fugitive rule getting ten letters of rejection. We can't create a stakeholder process extensive enough to avoid that happening. The General Assembly has rewritten the Administrative Procedure Act to include that 10 letter of rejection rule virtually inviting that pretty much everything we do come before the General Assembly and they have volunteered for that duty. I hope they have as much fun with the fugitive dust rule as we did. Are there any comments by the directors?

Frank Crawley: You will have three contested cases in March. One is dealing with an air quality permit where there's a challenge to a term or terms of conditions, an open burning civil penalty case and a 401 water quality certification with regard to the removal of a dam on the river at the Town of

Franklin and Haywood County and the Town of Dillsboro. You will be getting those records in plenty of time to review.

Chairman Smith: The only thing I'll add is that you did hear Ms. Deerhake say that because of the greenhouse gas tailoring rule modifications we are called upon to consider to adjust our various rules to accommodate the addition of greenhouse gases as a regulated pollutant. We may have to call a special meeting in April to keep the Division of Air Quality from being overwhelmed with Title V and PSD, various issues from the folks that meet the threshold of producing or emitting greenhouse gases under the present thresholds. That will only happen if EPA promulgates the tailoring rule in March which they are shooting for. We will do the best we can to not call you back in April, partly to inconvenience you and partly be mindful of the state budget crisis. We will keep you posted.

Hearing no further comments the meeting adjourned at 2:15 p.m.

NOTE: Attachments are on file in the Division of Water Quality with the Official Minutes.

Lois C. Thomas, Recording Clerk

By Commission Members
By Directors
By Counsel
By Chairman

Adjournment AG01-14-10