

Lamprey Water Management Planning Area committee Meeting
February 11, 2011
Raymond Fire Department
9:00 am – 11:30 am

Members Present:

Doug Betchtel for Ray Konisky, The Nature Conservancy
David Cedarholm, Town of Durham
Wesley East, UNH Durham
Jamie Fosburgh, National Park Service
Michael Lynch, Durham Public Works
Sharon Meeker & Jim McCartney for Brian Giles, Vice Chairman
Richard Kelley, Land Use Board
Therese Thompson, Town of Nottingham

Members Absent

Sen. John Barnes, Jr., NH General Court
Rep. Frank Bishop, NH General Court
Ann Caron, Scenic Nursery
Glenn Caron, Scenic Nursery
James Duprie, Lamprey River LAC
Wesley East, UNH Water Treatment Plant
Thomas Fargo, Chairman, Dover Con. Comm., Strafford RPC
Frank Reinhold Jr., Lamprey River LAC
Rep. Judith Spang, Lamprey River LAC
Kevin Webb, Durham Planning Board

Others Present:

Chris Albert, Jones and Beach
Douglas Bechtel, The Nature Conservancy
Dawn Genes, LRWA
Jim Hewitt, Wright Pierce, Lamprey LAC
Bob Kilham, Epping Wastewater Treatment Facility
Mike Metcalf
Jim McCartney, NPS
Sharon Meeker, Lamprey River Advisory Comm.
Joseph Vercellati, Aries Engineering

Contractors:

Al Larson, Normandeau Associates
Tom Ballestero, UNH

DES Staff – Watershed Management Bureau:

Derek Bennett, Drinking Water & Groundwater Bureau
Christine Bowman, Drinking Water & Groundwater Bureau
Steve Couture, Rivers Program, DES Watershed Bureau

Lisa Fortier, Executive Secretary – NHDES
Wayne Ives, DES Instream Flow Specialist

9:00 – 9:10 Acceptance of July 9, 2010 minutes – draft minutes available at:

<http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/lamprey/wmpa.htm>

The following changes were recommended to be made to the minutes of 7/9/2010.

1. **Richard Kelley** - There are issues with the listing of the affiliations of the members present. Richard Kelley represents the Land Use Board and although he is on the Lamprey LAC he does not represent them. Judith Spang is also listed as Lamprey River LAC. She is not a member of the LAC anymore. She represents recreational interests.
 2. The adjournment time is incorrect because we did not end at 4:00 p.m.
 3. **Chris Albert** mentioned that his question about the 50 acre feet at Pawtuckaway, regarding the estimated time of the evaporation and transpiration and asked if estimated time (ET) and environmental aspects, such as wetland uptake, were considered in Tom's 50 acre feet that would be drawn out of Pawtuckaway to reach Wadley Falls was not in the minutes. His question was answered later in the meeting.
- **Richard Kelley** forwarded Motion to accept minutes as amended this morning, **Mike Lynch** seconded, a vote was taken none opposed.

9:10 – 9:20 -45 Program updates

We have developed the parts of the Water Management Plan that are the functional action parts that will be taken by the affected water users and the affected dam owners. When it is pulled together it will pass to Task 10. Task 9 is putting all those subcomponents together and discussing them with the water users and the dam owners. We are near the end of that. Task 10 is putting them all together in a proposed report which will be presented to the public for a thirty day review period. That leads into the public hearing with a 30-day comment period following. We will have 60 days to look at the Water Management Plan and its subcomponents and at the end of that 60 day period we hope to have a set of comments to revise and then put the document before the Commissioner for adoption. The approved Water Management Plan would become the process for managing the protected flows in the designated river. We would have both a set of numbers of the Surface Water Quality Standards and a way to achieve those. After Al Larsen talks about the details of the plan we will rehash and then go into details of the changes we made after comments from the last meeting and since then. We have made changes because of the comments from Durham and Raymond, as well as others, about the plans. We are almost finished writing up the Conservation, Water Use and Dam Management Plans that will meet the protected flows and want to get that to the public for review. I have sent out a notification of the tracking mechanism on the DES website. It includes the protected instream flow that describes conditions, with a table, on the river with the stream flows, relative to the protected flows and two sets of graphs. You can download the spreadsheet to figure out how we track it and where we stand with the protected flows. It is a mechanism for tracking the count of days and whether we are above or below the protected flows. When the duration of flows triggers the Water Management Plan it will indicate what action needs to be taken. If specific water management plans

change then we will have to update the table. It only focuses on the protected flows themselves. If someone had something different than the protected flows themselves then the tracking might have to be changed so it shows what their particular plan says as far as their threshold and timing so they can follow it and do the correct activity at that period of time. At the last meeting one of the questions was if the Instream Flow Council Review had been presented. I believe I sent a notification out to everyone when I posted that. Shortly after the last meeting we received a report back from the Instream Flow Council and we discussed what the report meant. DES wrote a summary of the report because of length. We posted both the entire report from the Instream Flow Council (IFC) and our summarization of that report on the website. It can be found at <http://des.nh.gov/organization/divisions/water/wmb/rivers/instream/lamprey/study.htm#task7>. The document was a response to the questions about the technical components of the Protected Instream Flow Study. We asked the IFC to look at various aspects of how we conducted the protected instream flow study, the results and what might have been done differently from a technical perspective. The IFC review is on the website as well as the aquatic life support guidance document for flows. As we went through pilot process we discovered that other parts of the state also needed guidance on water quality standards. The purpose of the Instream Flow Program is to quantify the surface quality rules and related flow needs for biological integrity. We need to do that in other parts of the state, as well as the pilot rivers. We have developed guidance that describes the process that we will use when we have individual permit requests or surface water withdrawals for hydropower or water withdrawals. The document will describe what we will do and the methods we would use to define the protected flows until we have protected instream flows and water management plans for those locations. A description came out of the process as well as a methodology for determining what type of assessment we would use and how it is conducted.

Dave Cedarholm expressed concern that they were never allowed to comment on the Instream Flow Council Review. He was also concerned about modeling a river on pre-colonial conditions and quoted Dr. Beecher's comment about trying to simulate a river from the 1600's. He also expressed concerns about some target fish species being unrealistic for present conditions.

Wayne Ives pointed out that we are not trying to recreate the reference conditions of untouched river but using them as a point of reference. There are many ways of doing instream flow studies and DES had to choose one and doing it this way prevents us from having to use existing conditions as a starting point, which would be different for the relatively un-impacted rivers up north and the impacted rivers in the southern part of the state. This will keep one part of the state from having different criteria than another. Once the protected instream flows that protect biological integrity are defined they will be implemented into the Water Management Plan. Public hearings will be held for the Water Management Plan which will then be followed by a legislative review. Another review will be held a year after that and the legislature will look at any complaints or concerns that have arose. We had to present a plan and implement it before it can go through the review processes. We have tried to encompass everyone's thoughts as far as the development of the Water Management Plan and use that information to balance the surface water quality and the water needs of users, which has been the emphasis all along.

Steve Couture said that they will send out the IFC evaluation to all parties with highlighted comments relative to Dr. Beecher's comment.

Therese Thompson asked what would change if the whole river became designated and also asked how it would be affected if new users came online. Concerns were also mentioned about USA Springs coming back into existence and how that would affect the Water Management Plan.

Wayne Ives stated it would still apply and that the soon to be designated part between the tidal and the current designated river is all impounded so it is probably not going to be a tremendous change. The dam is not going to be removed. The upper portions are already incorporated into the existing rules so if there is a change in the upper sections it would have to do with the locations of the water users and their impact at that location. If someone is using a lot of water upstream but it is not affected the reaches below then the user may not have to take any action. As the designation moves up the river it may come into play more and you would have a closer examination of the impacts on that part of the river. We choose the watershed because it has a lot of varied uses and is not heavily used. The water use in the watershed is in the reasonable to low range. It has the potential to change things as far as the water management plan upstream. Any new user that comes in would have to get their own water management plan that would have to adjust to absorb their impact and that is true of any new water use. If there is a major shift in water use in the watershed for this existing designated section we would still need to have a new Water Management Plan. There could be different instream flows for different areas of the river, similar to the Souhegan. The Souhegan has different instream flows for different reaches, with the upper reaches supporting cold water fish species.

Al Larsen stated that the protected instream flows would have to be modified and the evaluation adjusted upstream. USA Springs was not included as a water user because, although they have a permit, they are not operational. Newmarket has petitioned to be removed from the process as an affected water user because they are more than 500 ft from designated river and they are not using their surface water supplies. They do have a proposal in for artificial recharge and if down the road they start withdrawing from the river or using their surface water supplies they will have to prepare a conservation and water use plan as part of the Water Management Plan.

Dave Cedarholm asked if a new groundwater permitting had to be a certain distance from a designated channel to be considered as part of the instream flow Water Management Plan.

Wayne Ives stated that under the existing rules there is a 500 foot inclusion range to any tributary for the designated river and if you are within 500 feet of any waterbody that feeds into the designated river and you are a groundwater withdrawer, you are within the current pilot program rules. Originally, the instream flow rules had no groundwater component in them and only applied to surface water withdrawals. It is clear to anyone with a hydrological background that groundwater wells have an affect on stream flows. There have been a lot of changes in land use and riparian buffers that have a more systemic or watershed-wide effect on stream flows and that is where a lot of persistent or chronic impacts are starting to show up.

Jamie Fosburgh had concerns about whether the resetting of the clock was an effective tool or not and asked when the threshold for management action changed from 22 cfs to 18 cfs and if it changed as a result of the Instream Flow Committee.

Wayne Ives state that it probably happened when they recalculated and had nothing to do with the Technical Review Committee.

9:45 – 11:30 Presentation and discussion of the Lamprey Water Management Plan

Al Larsen did a PowerPoint presentation that covered Conservation, Dam and Water Use Plans as well as the next steps in the Lamprey Instream Flow Pilot Process including the final report, public hearing, final revisions and adoption. **There will be a copy of the presentation on the DES website.**

Questions and Discussions

Dave Cedarholm – Wayne's commented on how often rare flows happened. I wouldn't call that rare. We had a duration that happened in 2002 that occurred for 53 days. I know of no reported fish kills or catastrophic events. Is 15 days really catastrophic if we had a 53 day event and no reports of real negative impacts?

Al Larsen – The terminology was adopted as part of the PISF process and of the three different flow levels, rare is when we have the greatest potential stress on biota and aquatics. This is a statistical analysis. We have the allowable duration and the catastrophic duration. Based on flow frequency analysis, this was determined to be rare and of an extensive duration. No, I don't recall any fish kills but the potential is there because the system has been stressed.

Tom Ballestero – The system is not supporting the fisheries that are desired and episodes like this are symptomatic of why it can't.

Dave Cedarholm – My concern, and some of the reviewers, is that the target fish species are unrealistic.

Tom Ballestero – The target fish species used are regional in nature. From the outset we are hamstrung because our charge is to look at flow. Some of the reviewers are looking at things completely differently.

Tom Ballestero – It is just opinion and as many people as you ask, you will get different answers. The process that was followed has been used on a number of rivers in New England. This method is a successful method as far as identifying what is capable in the system. It took us 400 years to get here in this river system and we are not going to fix it in one study. The first process is looking what is critical in the system and managing it to move forward.

Jamie Fosburgh – In theory, if we implement the protected flow scheme it will over time have an affect on the proportion of various fish species and we will eventually get to the target. There is no monitoring going on now at a level that can protect that. Is there a plan to come back and do the same kind of assessment with fish species to see if we affected the composition and do we have more desirable fin fish associated with free flowing streams?

Wayne Ives – Before we started this process we ran a week-long sampling event that covered the entire designated segment and covered all of the designated river habitat types from deep water to riffles. We had four different types of sampling to give us a baseline fish community of what existed in the designated river. John Brooks from Emery & Garrett raised this issue. I am glad to hear that people have the interest in continued monitoring and that would be the only way that we should proceed with this is to include long-term monitoring to assess the effectiveness of the instream flow process but, currently there is no budget for it.

Jim McCartney – There are other factors going on. Non-point source pollution will impact what is going on in the system and just expecting that management of the flows is going to produce definitive results is unrealistic.

Wayne Ives – We wouldn't expect river species where we have put in dams.

Richard Kelley – The timeline that you see here is indicative of what we expect. The drafts were submitted in 2008 and three years later we are still working on these plans.

Derek Bennett – The requirement to submit a conservation plan to my program gets triggered when a water user decides to develop a new source of water. What typically happens is they will propose a conservation plan but it may be many years before they finally move forward with the final permitting of that source. Epping just received approval a few weeks ago.

Mike Lynch – In the case of Epping, if they have a groundwater supply, once the final groundwater permit is approved, do they go hand in hand?

Derek Bennett – The Conservation Plan becomes approved independently of it but it doesn't become effective and need to be implemented until that source gets permitted.

Jim McCartney – When do the conservation plans become effective for affected water users who do not have a new source?

Wayne Ives – The scenic nursery doesn't have a new source and they don't plan to have a new source. In the instream flow process you get a conservation plan as part of your water management plan which becomes effective as soon as your conservation plan is approved. The scenic nursery doesn't have one and we are taking their conservation plan from the write up that we did for this process before we shifted over to the Drinking and Groundwater Bureau's conservation plan. We are submitting our write up of what they are doing and intend to do with updates. That will be their submittal.

Al Larsen – I am assuming that DES is going to adopt the approved conservation plan as the conservation plan for that system, whether that new source gets permitted or not down the road. That becomes become the conservation plan.

Mike Metcalf – Are you asking if they have a conservation plan even if they don't have a new source?

Jim McCartney – The question was when does this become effective and the response was that it doesn't become effective until that new source is permitted. The corollary question is that assuming that source is not permitted there is a conservation plan that is being developed as part of this process. Can I assume that the Conservation Plan becomes effective when the Instream Flow Rule is put in place?

Wayne Ives – That is our intent.

Judith Spang – What happens to this plan if there is massive growth, either residential or industrial, post 2008? Does the Conservation Plan have a certain amount per household so it doesn't matter how many new houses come on the system?

Wayne Ives – The Conservation Plan doesn't tell water users how much they can use. It is more of a way for the systems to be operated by measuring water withdrawals and keeping the measurements accurate by maintaining those meters and the lines so there aren't water losses that aren't accounted for and leaks are repaired. It is not a conservation plan in respect to how much water an individual or the system can use a certain amount of water. That would come under the Water Use Plan. We are trying to avoid any type of limitation on water use. I don't think that we have the authority to force people not to use water.

Judith Spang – You are requiring agriculture to use BMPs. Why shouldn't we require industry and UNH to also use water saving methods?

Al Larsen – They are and that is reflected in the plans. There is a discussion within each of the individual plans with regards to their conservation.

Dave Cedarholm – Just because it is a draft plan doesn't mean that the water system isn't already being implemented. In the case of UNH, Durham, it is a draft plan but it is being implemented because it gives us a chance to actually see if it works.

Chris Albert (UNH) – In defense of UNH; in large communities we probably lead the state in water conservation because we can actually control what happens in our buildings. A typical water system has no legal aspect to control what goes on in a persons home or business. We can't do rolling brown-outs like the electric company. The only thing that a typical water supplier can control is outside of the home. If there is outside water we can control that.

Judith Spang – We can talk about who is doing what in terms of water conservation later.

Richard Kelley – Back in July it was 8 of 11 state dams, not 7 of 11 state dams. Did the state lose a dam?

Al Larsen - Bunker Pond Dam, Epping, is being proposed for removal so we dropped it.

Bob Kilham (Epping) – You didn't finish the comment on Freese's Pond Dam in Deerfield.

Al Larsen – It is a contingency dam because it is so far up in the watershed. There are questions about it would be an effective release but it is a large body of water.

Richard Kelley – Back in July, Jamie inquired if a two-day pulse was enough. How was the two-day pulse arrived at? Do you think it will be successful and why? How will we measure that success?

Wayne Ives – Whether the two-day pulse is going to be successful will depend on how much attenuation we have. We are starting with the assumption that we are going to release an amount that is equivalent to the 90% worst case. We will look at the stream gages alone. We haven't gotten every detail on all the fish. We have made the assumption for four fish species for what we can control and the habitat conditions we have identified. We only get to manage the flow. We are trying to recreate the flows that are necessary. We have done the MesoHABSIM process.

Richard – Are you going to be doing trials in advance to see if the releases are successful?

Wayne Ives – No, we don't have the staff to create a study. We went out in 2009 under ideal conditions, with no more evapotranspiration from trees and we released the dams on the normal schedule of dam releases and we measured flows below the dam and at various places down the river. We saw a contrast in the upstream gage above the release and the downstream gages. Historically, we heard that there was once a small (2cfs) water release from Pawtuckaway that didn't show up downstream.

Dave Cedarholm – Is the 14 cfs release for rearing and growth, an equivalent two-day release, what you are looking to release from Pawtuckaway or what you are looking for downstream?

Wayne Ives – It represents the 20% buffered release downstream and would be what we would be releasing from Pawtuckaway. It is already the 90th percentile plus the 20% buffet and we would just change it from acre feet to cfs for a two-day release.

Dave Cedarholm – What would show up at the Wiswall Dam would be less than 14 cfs?

Wayne Ives – Yes, we are assuming it would be. We took the difference in the thirty-year deficit period and looked at those two days. We took all the differences between what we were trying to accomplish and the actual conditions. In theory, this downstream release should be enough to meet all but 10% of those events.

Steve Couture– You put a 20% buffer on top of the 90th percentile?

Wayne Ives – Yes. We added a 20% buffer because of losses to wetlands and attenuation. There is always going to be attenuation of flow.

Chris Albert – How did the 20% get developed? Is it just a safety factor?

Wayne Ives – 20% is just a safety factor and may or may not be enough and that is why we have the contingency dams available. If this isn't working then once we have done the monitoring then we will see if the 20% is enough to offset the losses in wetlands and attenuation.

Chris Albert – Why couldn't we do a draw-down this past summer? Is it staffing? This is a pilot study.

Wayne Ives – Unfortunately, they don't listen to me about everything that I would like to do.

Theresa Thompson – It says that Pawtuckaway has 900 acres available and 783 for full recreational pool. Who decided the recreational pool number?

Wayne Ives – I don't think that the 900 is accurate. It is a number that the Dam Bureau had and if you take the GIS number it is 780. A lot of it has to do with correcting data sets that were filled in years ago on a sheet. Pawtuckaway has been in existence a long time.

Jim McCartney – I am looking at the equivalent two-day flow release for the rearing and growth period, 14 cfs and equivalent change in pond of .05 feet. According to the slides, the worst case scenario was 53 days below and we had a 15 day period below and the release was to reset the clock. Dividing 53 days by 15 days is four releases in the worst case scenario of 14 cfs with a total draw-down of .2 ft.

Wayne Ives – That is pretty much the thought but if you start from the full pool, which you wouldn't be once you release water, so it would be a larger draw-down.

Jim McCartney – We are looking at a 1/1/2 to 2 inches in the worst case scenario to meet downstream needs?

Wayne Ives – Yes.

Jamie Fosburgh – I think it was in the PISF analysis that the river should never drop below 4 cfs.

Wayne Ives – It was an observation by Piotr Parasiewicz, Rushing Rivers Institute, that the natural flows never really got below 4 cfs. As an addendum, he said it should probably be maintained. It was dropped because it would just create a fight so we took it out.

Jamie Fosburgh – Theoretically, it could go to 4 cfs and no management action would be taken?

Wayne Ives – No, if we got below the protected flows for a certain time we would take management action. If we get down to flows lower than 4cfs we are probably in a situation where the Governor and the Commissioner are declaring emergency situations. I think we will be more worried about more things than maintaining anything more than a stream. At that point there isn't any more that you can do that hasn't been put in the Water Management Plan.

Jamie Fosburgh – Instead of releasing a two-day pulse you could spread it over the two-week period than expect to continue in a drought condition and keep it from going below 4 cfs rather than sending it up to 18 cfs.

Tom Ballestero – Water management would be so easy if we knew the future. Statistically, we try to match we think are the most natural flows for the system. After each bio-period, if you break the flow and raise it up for all the entities that we are trying to protect, it gives them some breathing room to keep going. If we knew that we would have an exact flow for 22 days, we would manage that way but we never have that. Weather predictions, at best, are good out for three days. The management strategy is to hold everything back that you can for as long as you can. The pulses do more good than bleeding it out.

Wayne Ives – A lot of management actions take place when you don't know what is going to happen in the next two weeks. We can't count on actions that are going to take a long time to have an effect

like reducing groundwater pumping. If we know we are going to have a drought period that will last 25 days and we know that the use of groundwater doesn't have a significant event until 12 or 15 days out, we would ask people to reduce their water use 10 days before the drought. We don't know how long that is going to last. A lot of things we do as we go through the assessment process are hindsight. Our inability to predict leaves us with having to set some standards. We can't ask people to reduce water use because we don't know how long the drought will last.

Jamie Fosburgh – Let's say that you are in the 2002 scenario and you have two pulses already. After the second pulse, you get to the 2 cfs range and it is still going down, it might be worth doing something other than releasing all the water in two days.

Wayne Ives – I agree and if I were the one allowed to make the decisions that is something we could do but we are putting things down and in the management plan and nailing them down.

Jamie Fosburgh – It seems to me that this is the time to be thinking about this.

Wayne Ives – I don't know how you would document enough scenarios to make that work.

Jamie Fosburgh – The summer flows tend to be more persistent. I spent some time looking at statistics fifteen years ago and those were the periods that not only had low flows but long durations and I think it has to do with groundwater contribution. The other thing that is apparent, looking at this table, is a comparison of the relative impact to storage to meet those needs. You are talking 200 cfs during the graf spawning period, June 20 to July 4, and 5 hundredths of a foot from storage from July 5th to October 6th. That is a big chunk of the year. An inch and a half to two inches from storage is negligible in terms of impact to a waterbody rather than a water course. There is a lot available from storage. What is available in storage has a greater potential to result in beneficial effects on downstream reaches during those periods. Whether it is released as a longer pulse or a shorter, larger pulse, or maybe one to push you just over whatever value you are trying to get to for two days. Some of those pulses could be larger to simulate a natural rain event.

Wayne Ives – That is why we are choosing a value, rather than a moving value, because we are asking people to take action in a short period of time. Rather than tailor an individual event to just hitting that protected flow, we want to get above it and drop back down as a natural event would. The release of a 90% flow will bump up the flow to above a bare minimum. We are not trying to just get above the bare minimum but have a natural paradigm shift back above the natural flows and let it recess as it will.

Tom Ballestero – Bleeding out water doesn't get the habitat. It has to go above the 16 cfs or the habitat is not available. Bleeding water out doesn't serve a purpose other than for kayakers and canoeists.

Jamie Fosburgh – I am talking about the higher pulses

Tom Ballestero – At this point, it is how much and how long do you want to do it. When you look at the historic record, one or two days of breaking it and then it goes under seem to reflect the characteristics of the past.

Wayne Ives – One of the complaints with the process was the complexity. We wanted to keep the complexity down so one of the avenues that we have taken was to define something that seems to be the most functional and relative.

Judith Spang – It seems to be a basic question of how much water is going to be retained in these recreational lakes. How are you determining what recreational full water level is and are we endangering habitat in the Lamprey River so we don't have to navigate rocks in Pawtuckaway?

Wayne Ives – For criteria we asked what is the least impact we can have on Pawtuckaway and Mendum's and still offset some of the low flow conditions when they have exceeded their durations.

Judith Spang – Why don't we worry mostly about the habitat?

Wayne Ives – We are concerned about the habitat within the impoundments as well. We don't want to create a water quality violation by trying to prevent another. We could release more water to create more flow but simplicity and trying to have the least negative effect has been our byword and we tried to take as little as we could.

Jamie Fosburgh - You are challenged to accurately measure a 5 hundredths of a foot change even with a laser level. I challenge anyone to measure the difference in the summer drawdown in Lake Pawtuckaway.

Wayne Ives – Therese, do you think that is true?

Therese Thompson – People on the lake are complaining that you are lowering the lake more than seven feet. I look at dirt all winter.

Wayne Ives – It has been less than seven feet this winter. I know what you are saying, that in physical measurements, .05 feet is almost unnoticeable.

Steve Couture – DES is certain that these flows will allow us to maintain protected instream flows. That is what we are trying to accomplish.

Richard Kelley – I want to back to the monitoring and testing of this. It is a shame that you didn't have the resources to do this. As an Advisory Committee member I would advise the State and its consultants to do testing in advance of putting the management plans out. If I understand correctly, the monitoring will occur post-plan and that is when things will change. What happens if the assumptions were wrong and just weren't anticipated and you need to calibrate that model and change the table to maintain the protected instream flow? What is the process to amend this?

Wayne Ives – We would go through a water management plan change. There is also the legislative review one year post plan implementation. When do you feel there is there enough testing and monitoring enough to make that assessment complete? It is really a multi-year task because the last two years, 2008 and 2009, we wouldn't have had any management at all. It would have taken us three years just to get to an event where we could test. In order to get something to test we need to get it down first and write it up. I feel that, once we get to that monitoring is appropriate and adjustments to that make sense. One of the things that we would like to do in the legislative changes is to incorporate an adaptive management period because one of the things we realized is that it is going to take a bit of adjustment and because the water management plan would be difficult to change without an adaptive management strategy, it really needs to be incorporated in the future iterations of the Instream Flow Program. I agree but we can't put another two or three period of testing, which would only give us one year's worth of testing. You really need a good ten years worth of evaluation before you start getting a feel for it. The idea is to put the plan into place and do the monitoring and adjustments after a sufficient amount of time has passed with enough data to make revisions to this. I don't think that sticking it in earlier makes much sense at this point.

Jim McCartney – Can you explain the rationale for gradually increasing the value for system demand as a percent of available capacity? Part of the idea of implementing these various measures is to try to reduce the demand by conservation, restrictions and bans, etc. One would expect that the demand will stay flat or reduce, rather than approach the 85%.

Wayne Ives – There are two variables here: the capacity of the system and the percent of the demand. We are still looking at this with Durham/UNH and I think this still works ok. If we had more time we would have spent time monitoring and creating calculations of water use, system capacity use and stream flows to see if it makes sense. This may have to be revised at some point. We are looking at something that recognizes that Durham/UNH has something that is outside the Lamprey Watershed

and their water use is so much lower in the summer than the system capacity that we wanted to focus on trying to use the groundwater sources when the river's are below the protected flow magnitudes, preferentially, and use the river to reserve the groundwater sources when the river capacity is healthy enough to do that. Given that component, I think that if we can maintain an operating procedure that keeps the system capacity protected then it doesn't have to go from using the water sources outside of the Lamprey River, which they have used up, to heavily using the Lamprey.

Jim McCartney – I think I understand that the available capacity isn't a static number so the percent that is available is changing and I want to understand why that available capacity is not static. I think I understand because available capacity has to do with storage in the Wiswall Reservoir.

Dave Cedarholm – Yes, also storage in the Oyster River and whatever degree we pump the Lee well. Our safe long-term yield on the Lee Well is 550,000 gallons a day, however, for 40 to 60 days we might consider pumping it at 1,000,000 or 800,000 gallons a day. System demand is decreasing because we are encouraging water conservation measures amongst the users and UNH may be implementing operational changes. They have the ability to do that so as we go from Stage 1 to Stage 4 the demand decreases as well as well our available capacity decreases because we are using up storage in Wiswall and the Oyster River before we even get close to Stage 4. Stage 4 is essentially a water emergency where we would be going back to the Lamprey River once storage has been drawn down 18 inches. Stage 4 is a water emergency.

Al Larsen – Another restriction they must deal with is when flow falls below 16 cfs for greater than 15 days in the reservoir storage, and as it is written now, they are limited to a maximum drawdown of 18" below the spillway and at rate that cannot exceed 1" per day.

Chris Albert – Have you equated a savings of water from these stages?

Al Larsen – No one wants to go through the process of implementing restrictions or bans because someone will have to enforce it. Would it be the police or a code enforcement officer? Raymond had an event where they had to go directly to a ban and they backed off to restrictions. Neighbors were turning in neighbors. UDWS is looking at de minimis .25 cfs and if they are splitting it with the Scenic Nursery it is even less.

Jim McCartney – Do you have a calculation of how the de minimis value of .25 cfs would be sorted out among the various users?

Al Larsen – It would only be for the users who have direct withdrawals, which are two.

Wayne Ives – Scenic Nursery doesn't use their river withdrawal that much in the summer and, if they do, they aren't using much water. That value represents two hours of full speed pumping for UNH in May. That would be exempt from their impact on storage and they could take it directly from river flow.

Jim McCartney – How do the individual plans fit into the management plan? When the draft water management plan is released will they all be a part of that?

Al Larsen – Yes. The Water Management Plan will be summarized within the text and each individual plan will be in the appendices. The individual plans are the basis for the Water Management Plan.

Jim McCartney – Are Emergency Response Plans components of that?

Al Larsen – We would refer to those and they were the basis for the water use plans.

Jim McCartney – Will the actual documents be included in the material released? I am thinking that there would be value to that.

Wesley East (UNH) – Emergency plans for water supplies are restricted documents. You will get the conservation plan.

Judith Spang – Are there any incentives for communities and users think out of the box? What about the use of Locke Lake and water rates? How do we encourage proactive thinking?

Al Larsen – We would do that by this process and it would have to be locally based. Some communities do have an increasing rate for increasing water use and some municipalities have implemented that. It is a town by town basis.

Judith Spang – The rates could be jacked up during times of drought. Is there anything to encourage water users to be more proactive in terms of making our whole systems more efficient to accomplish goals with less water?

Wayne Ives – The conservation plans are designed to make systems more efficient. I don't think that is changing the water users their activities, other than notifications. Under the Raymond and Epping plan DES would notify watershed area that there is a level of concern about an existing situation, and if it isn't turned around by rainfall, people should take voluntary actions. As part of the plan, the water systems would distribute that information from DES to each of their water users. It is not enforced but it is a proactive notification action request from DES to the water users.

Judith Spang – It seems very passive to me. People say, "This is how much water I want. How are you going to provide it to me?" We are going to looking at more and more growth. If we want our economy to grow we want to plan for our future for more water use. There is tremendous water and energy use savings for industries. Who is working with those industries? We want to induce industry to become more efficient and agriculture to build more storage.

Al Larsen – When new supplies are brought online, the idea is to require permit applicants go through process of documenting their existing use and Best Management Practices (BMP), which are all part of the conservation plan. That applies to industry, agriculture and public water supplies and is one of the tools that the state is using to get the affected water users to think that way.

Doug Bechtel – Is their a target date for draft water management plan for Souhegan?

Wayne Ives - Yes, three years ago. We would like to see a hearing by April 2011. . It depends on DES finishing file touches on water use plans. We have to get that to Tom Ballestero. Some time will be needed to document the thought process we used to pick the dams and define the deficits. This will be in the report and the appendices will include each of the sub-plan groups: the water use plan, conservation plan and the dam management plan. The description of how we got the protected flows to selecting two of those protected flows that were actually going to be managed and dropping the common flow. We will have the document out for 30 days before we have a public hearing. Right now we are butting up against a time line and we must work quickly to get the sub-plans completed and finish the Water Management Plan Report.

Jim McCartney – I wanted to come back to rate structures. There was a slide on conservation plans. The way I understood it was that adoption of water rate structures that encouraged conservation were a requirement.

Derek Bennett – The requirement is that it needs to be based on the unit price of water and it must increase with the amount of water consumed. It doesn't allow for declining lock rates but flat level rates are typical. When you are talking conservation you are really talking two different things in the water system, supply side initiative - making sure you are delivering the water as soon as possible and demand side - reducing what users are consuming through things like rate structures and outreach

programs. Social marketing program has to occur for behavioral change purposes. The conservation rules are broad enough that they don't allow the declining lock rates but they do allow an inclining, which some systems have, and flat rates.

Judith Spang – Throughout the entire process has been relative to getting input. I get the feeling that there is a lot of criticism of what you do. Having been involved from the beginning with the pilot programs, I have tremendous respect for the work you do. I think there was a lot of thought about how it should be done because everyone has different desires.

Wayne Ives – It is much appreciated because normally the people who are satisfied don't show up at the meetings and the people who still have concerns are the ones that do.

Al Larsen – Thank you. None of us thought that we would still be here today talking about this and not having the plan completed yet. It was a pilot project and hadn't been done before. It was all new to everybody. Now we know how it works and down the road if decisions are made to continue or modify this approach then more power to whoever gets to do that. We have all learned a lot through this process and that is one of the reasons it was a pilot project was that it hadn't been done before with this approach.

Richard Kelley – Does the Notice of Public Hearing, along with the release of the Water Management Plan for public review, include the instream flow because the state hasn't officially adopted that instream flow? Have we gone through the public hearing process for that instream flow?

Al Larsen – The protected instream flows will only be adopted when the Water Management Plan is adopted.

Wayne Ives – The protected instream flows have to be established as water quality standards before we adopt the Water Management Plan. It was supposed to be 60 days after the public hearing but it took us longer than that to wade through the comments. There has been a waiver request submitted, which is still pending, to hold the protected instream flow establishment until later. The establishment of the instream flows as water quality standards can happen right before we adopt the water management plans.

Richard Kelley – That may just be a procedural thing. In looking at the NH Code of Administrative Rules 1904-0, which describes the sequence, “the department shall establish scientifically supported instream flows prior to the adoption of the Water Management Plan.”

Al Larsen – There was a declaration document on the Souhegan where those were established.

Wayne Ives – The purpose of that is to establish as WQ criteria, the protected instream flows. Now we have quantified the surface water quality regulations that say we need to maintain physical, biological and chemical integrity of waters and do the things that are in the narrative standards in the WQ Standards. This generates a number for the Souhegan and for the Lamprey when it gets established.

Al Larsen – We are not anticipating any major changes in any of the plans or the details that we have presented before the public hearing. What you saw today is what is in the proposed draft Water Management Plan, which will be put on the street, soliciting formal public comment. If you want to submit comments prior to the Water Management Plan you could contact Wayne and give him those comments.

Richard Kelley – I would direct the second question I have to the chair of this Committee but no one can identify who that is. The vice-chair is no longer on the Committee. There is some housekeeping that we have to do to get our comments to the State of New Hampshire.

Wayne Ives – We considered whether the WMPAAC should submit a committee response. Each of you represents a certain group of stakeholders, who may or may not be compatible with other stakeholders in the group, so it seemed that individual stakeholder comments and responses are more helpful.

Steve Couture – The WMPAAC can submit comments if they feel it is appropriate, it is the Committee's prerogative if you want to submit comments and how you want to do that. DES would not be involved in the drafting or the submittal of that. It would have to be the members who develop the Committee's comments and submit them to DES to make sure we have the separation between the entity submitting the comments and the entity creating them. Wayne had some points about individual differences on the committee.

Wayne Ives – We do need to do some housekeeping. In the last few years some people have dropped out and we did go through the effort in November to replace or identify people who were nominally on the Committee but were not attending. It is an involved process of finding the people and submitting a resignation and allowing us to open up the slot again. We are supposed to go through nominations again from all the potential candidates and then they must be appointed by the governor. It is not a quick process and I don't think we may be able to complete it before we need to be finished.

Richard Kelley – This process has gone on for so long. I am concerned that this committee, whose charge has only been since the instream flows has been established, because before it was all TRC and now it is us. This is only our second meeting and we are being asked to go public hearing in April. I feel that this Committee needs to meet again to discuss the plans and decide whether to submit individual letters or a Committee letter to DES.

Jamie Fosburgh – I agree with that and I think we should meet again. We have had very little time to discuss this amongst ourselves. Maybe we do have some points of consensus that we would like to express a group.

Steve Couture – From a sense of timing, once the formal draft is out you should meet a week or two after that to discuss your comments prior to the public hearing.

- Wayne Ives decided that there were enough members present to nominate a chair and a vice-chair.

Dave Cedarholm made motion and **Wesley East** seconded to nominate **Richard Kelley** for chair. A vote was taken and all were in favor.

- Motion for vice-chair to nominate **Dave Cedarholm** was brought forward by **Richard Kelley** and seconded by **Mike Lynch**. A vote was taken, 6 were in favor and 2 were opposed. **Judith Spang** and **Sharon Meeker** voted against the motion. There were two proxy voters: Doug Bechtel voted on behalf Ray Konisky and Sharon Meeker voted on behalf of Brian Giles.

- **Dawn Genes** suggested **Therese Thompson** for vice –chair. **Judith Spang** voiced concern that the Committee was becoming too Durham centric and thought that **Therese Thompson** might be a better choice.

- **Dave Bechtel** suggested we schedule two public hearings on the issue because of culvert issues but **Steve Couture** said there would only be one hearing and there was a September deadline. **Richard Kelley** suggested an e-mail meeting.

12:00

Meeting adjourns