

Lamprey Water Management Planning Area Advisory Committee
Meeting July 9, 2010
9:00 am – 11:30 am
Raymond Fire Department

Members Present:

Sen. John Barnes, Jr., NH General Court
Rep. Frank Bishop, NH General Court
David Cedarholm, Town of Durham
Wesley East, UNH Durham
Jamie Fosburgh, National Park Service
Brian Giles, Vice Chairman
Richard Kelley Lamprey River LAC
Therese Thompson, Town of Nottingham
Wesley East, UNH Water Treatment Plant

Others Present:

Chris Albert, Jones and Beach
Douglas Bechtel, The Nature Conservancy
John Brooks, Emery & Garrett Groundwater
Rep. L. Mike Kappler, NH General Court
Cheryl Killam, Raymond Con Com & LRWA
Carolyn Matthews, Raymond Planning Board
Sharon Meeker, Lamprey River Advisory Comm.
Christopher Rose, Town of Raymond
Dan Tinkham, Emery & Garrett Groundwater

Members Absent

Glenn Caron, Scenic Nursery
Ray Konisky, The Nature Conservancy
Michael Lynch, Durham Public Works
Frank Reinhold Jr., Lamprey River LAC
Rep. Judith Spang, Lamprey River LAC

Contractors:

Al Larson, Normandeau Associates
Tom Ballestero, UNH

DES Staff:

Wayne Ives, WMB DES Instream Flow Specialist
Derek Bennett, DWGB DES,
Lisa Fortier, Executive Secretary – WMB DES
Steve Roy, DWGB DES

Wayne Ives opened the meeting at 9:00 AM. Introductions were done across the room and a vote to accept the minutes was taken with changes to page 2.

- The motion to accept the January 8, 2009 minutes with changes were moved by Therese Thompson and seconded by David Cedarholm. A vote was taken to accept the minutes. Richard Kelley abstained from voting because he did not attend the meeting.

The final report on the Lamprey and Souhegan Pilot Project will be passed on to the legislature and a final public hearing will be held in 2012.

Wayne Ives, Tom Ballestero and Al Larsen gave a PowerPoint Presentation on the Lamprey Water Management Plans that covered the natural flow paradigm, critical and rare flows, magnitude and durations, allowable durations, and bioperiods for aquatic life, conservation plans, dam management and water use plans.

Questions and Comments during Presentation

Richard Kelley – Have you factored in water being lost through other sources?

Brian Giles – What about water that gets absorbed by wetlands on the way down?

Recorder wasn't running for answers. [The relief flows include a 20% increased volume to compensate for losses. The effectiveness of this will be assessed as part of the monitoring program. CWI]

Cheryl Killam – Shouldn't Onway Lake Dam should be 1.9 miles instead of 19?

Al Larsen – That is to the beginning of the current designated river and is at the beginning of the Lee/Durham town line. That is from the outlet to that point.

Therese Thompson – This all has to do with the designated part of the river. If you take water out of Pawtuckaway Lake, we are only looking at the designated part of the river? We have streams coming into Pawtuckaway Lake but we are not looking to see what the effect of that is.

Al Larsen – From what perspective do you mean?

Therese Thompson – I am looking from the perspective of the health of the upstream rivers of Pawtuckaway Lake. If you take water from Pawtuckaway Lake to help the current designated river it may have negative effects upstream.

Al Larsen – We have looked to see if there are extensive wetlands upstream of an impoundment and if they will be impacted by lowering the water surface but we haven't looked at contributing streams going into those waterbodies because we would be impacting that waterbody itself.

Richard Kelley That is close to your stream gage point.

Al Larsen – The advantages to Mendum's Pond and Drowns Dam is that Drowns Dam discharges into the North River which then goes into the designated part of the Lamprey River, just upstream of the town line. Mendum's Pond goes into the Little River and the Little River discharges right into the designated river. Those two waterbodies have a direct impact on the Lamprey designated river. There is a proposal afoot to designate the rest of the river and these other impoundment could potentially be utilized.

Brian Giles – Has any one looked at the effect of a drawdown on wildlife in the impoundments?

Al Larsen – No, not yet because we haven't looked at what the potential draw-down would be.

Brian Giles – Might we be impacting the wildlife in these ponds at the expense of keeping water in the rivers?

Wayne Ives – That is part of the concern and part of the evaluation that has to be done. As we go further, we will figure out if we are going to impact the ponds and how much we are going to impact them. Will we have to lower the water by five feet or a few inches? There will be a significant difference on the impact on wildlife so we need to know what the plan can or should be.

Wesley East – What about the drawdowns prior to winter? What impact does that have on the natural flora and fauna of the lakes and ponds, etc.?

Wayne Ives – That is a big issue we are sidestepping at the moment. It has been shown hydrologically that there is a change in flows from the period when it started consistently happening in the 1950's. For the natural flows the Groundwater Bureau folks developed a graph showing how much difference there was over a period of years. There is an impact there and when we get further along in this process part of what we are doing here may modify that or reduce that change somewhat.

Therese Thompson – If water users have to come up with a conservation plan, will USA Springs, if they come out of bankruptcy, have to come up with a conservation plan before they start pumping our water?

Al Larsen – Yes, they were contacted and they said that they would do that.

Cheryl Killam – As an example, the dam on Route 27 at Bunker Pond Dam in Folsom Park, my opinion is that it has impacted environment and we have lost a lot of the waterfowl that was seen there on a daily basis and it will negatively impacted the turtles that have been there year round. I see that is going to end up being an area where an invasive species is going to come in and take over the wetlands. I have already seen a change of environment and wildlife habitat with that.

Al Larsen – There are changes. They [USA Springs] are doing some sampling and work as part of the evaluation for the removal. There are a number of sources you can check and there have been a number of [dam]removal projects on the Souhegan. The Merrimack Village Dam was removed, which was dramatic, and the general opinion is that it was positive. These go through a process. From what I have read and been told, at the last meeting on the Bunker Pond Dam removal that there was positive response but a few people had concerns.

Cheryl Killam – One of the negative effects on the environment is that the Canadian Geese have lost their habitat. Hopefully, they won't go north where the federal government has been getting rid of geese.

Wayne Ives – This is a good reason to stay involved with the removal process. I am pretty sure they do replanting and don't allow things to grow up naturally. A comment that should be made[at dam removal hearings] is that it should be replanted instead of waiting for invasive species to come in.

Steve Roy – Understanding that any water level behind an impoundment is artificial and the issues related to stabilization of the ecology with an artificial water level, change in the ecology will happen no matter what. I am somewhat familiar with a body of interactions with private landowners around Pawtuckaway, going back to the thirties, and the state. Historically, the state has intervened, with lots of needed legal ingredients, lowering the property owner's ponds. That may limit the states capacity to play around with the water levels in the summer. Has anyone taken the list and done a legal review of the allowable limits of fluctuations in ponds and is there a grand plan to undo those legal handcuffs?

Al Larsen – That would be part of negotiations beyond this. Relative to Pawtuckaway, there was a proposal in 2000 to maintain the water levels. They draw it down 7 feet every year in the fall and there was a proposal to limit the draw-down to 3 feet. There were surveys done and the consensus was that most people wanted it left at 7 feet [Of the 141 surveys returned, 63 preferred the existing 7 ft drawdown;78 preferred a drawdown of 6 ft or less (8 for 6ft, 45 for 5 ft, 24 for 0-4 ft or no preference). – CWI] An agreement was then signed by the Commissioner that it would remain in this operational mode. That is something we are looking into.

Steve Roy – I think the future is in playing with Pawtuckaway's level. There is a compendium of litigation behind dropping that level.

Tom Ballestero – To put it in perspective, you have 900 acres of surface area, if you think back to the number I gave you of 50 acre feet, 1/10th of the 90 acre feet is twice what we are talking about. You are talking about a change of 0.05 feet. I understand your concern but this is what we are sifting through now. If you look at Nottingham Lake Dam for example, they have 41 acres of surface area, would need over a foot of change and that might not even be possible. You don't put all cookies in one basket with storage.

Sen. Jack Barnes – Does Jenness Pond in Northwood have any affect? There is a meeting tomorrow with the landowners there.

Al Larsen – No.

Richard Kelley – It is a balance between the physical, biological, chemical and the Clean Water Act. The solution is the balance of the swimming and fishing is more important than the fish downstream.

Wayne Ives – Once we have an idea of the magnitude of management activities will be, that is when we look at what is a better use of the water. We want to get to the point where we understand what the magnitudes are before we get too concerned about the wildlife and impacts. We need to wait until we have the numbers to figure out what will work to move the water first and then we will deal with the legal problems and wildlife issues. Then we will identify what we can do for management to meet the protected flows and the demands of water suppliers and agricultural demands met. Then we have to figure out how to do that and what the impacts are. The job of the Committee is to state your concerns.

Wesley East – This is a request for the Committee in general. Tom just described the volume release from Pawtuckaway. Can we get a number from you for a common number such as x number of cubic feet, per second, per mile is going to equal this amount, something that is common and everyone can understand?

Being a water supplier, I am used to dealing with million gallons per day and when I see cubic feet per second it takes me a few minutes to figure the amount of gallons. In the Conservation Plan you have the term 100,000 gallons, which is a confusing. We need a common reference so everyone will understand.

Al Larsen – Why we used the thousands of gallons is if you had thousands of gallons, which you would have hundred thousands of gallons followed by thousands of gallons, it can be confusing because the unit convention that was reported was on record with DES. I understand it is confusing because we have acre feet, cubic feet per second, cubic feet per second mile, and acre feet. I got an e-mail from Wayne asking if we could change it.

Wayne Ives – We will at least try to put the conversion information in there. It is hard to go back and edit things all the time.

John Brooks – Why did you just pick a two-day volume? What is the statistical source?

Al Larsen – We asked that question of Piotr Parasiewicz, the contractor working on the PISFs, of what it would take to reset the hydrologic conditions to create a balance again in the short-term and he said a two-day relief flow.

Sen. Jack Barnes – How many two-day relief volumes do you need in a year?

Tom Ballestero – If you know the future, you know the answer.

Sen. Jack Barnes – If you just have enough storage volume for a two-day volume and everything is designed on that, once you use that, if it doesn't fill up again you don't have enough for the next time.

Wayne Ives – That is a good point, thank you for making that.

Al Larsen – What did you come up with in your estimate?

Wayne Ives – If we figure for the four events, and we are still tweaking this a little bit, we are around 290 acre feet. You have the fall drawn-down, which is the salmon spawning period. They are dropping Pawtuckaway seven feet. If you were to drop it down only five feet you would still have water for the over wintering period following that. If you hold two feet in reserve [during the fall drawdown] you have some storage available for the over wintering period and if you don't use that then, that water stays in the pond and provides additional water downstream during the spring flood period because you don't have to replenish or refill that volume before you release water down stream. Now you have covered most events in the over wintering period. And the spring flow period is enormous so unless you get into really rare low events we are probably not going to be able to manage some of the flows related to the spring flow. We start off at 0 [feet of drawdown in the pond] in the beginning of the year [after spring flood] at the clupeid spawning stage and then the four subsequent bioperiods that happen from late spring until you get back to the over wintering period when they are about to release again in the fall. That leaves you with four bioperiods with deficits.

Sen. Jack Barnes – Can you have more than one event for a bioperiod?

Wayne Ives – Theoretically, yes. It is going to take dramatically disastrous conditions to have an entire period like that, where you have bioperiod after bioperiod that is at the 99 percentile. We are talking about using the 90th percentile volume. Releasing that should cover 90 percent of the events. Ten percent of the time we will fail to meet or exceed the protected instream flow. Rather than try to manage risk at 100% to cover every event. We are taking the road that we will cover 90% of the events that will happen or four bioperiods of water stacked up. It is very unlikely that you will have greater than 90% repeatedly [in each succeeding bioperiod], so what you don't spend in one or the others you theoretically have available. I am trying to work out now what the likelihood is of needing all four of those and maybe dropping that back to some other level. Right now the dam management plans say that all of the dams in the watershed are not currently being looked at. It isn't that we will never use them for the water management plan. If we need more water eventually and they are actually able to provide some water in the future, if there are other water demands that we need to manage, then they become another asset that we can look to see if they meet the needs and fulfill the use of the impoundment. I have heard that the Dolloff Dam is going to be reconstructed

and the new requirements for storage of 100 year floods is now 2 ½ times the 100 year flood which means that changes to the dam rules may require changes in the elevation of Pawtuckaway regardless of what we are doing with instream flow. Things are continuing to happen and we are trying to keep up with the changes and generate some realistic numbers in the process. We are trying to home in on what we feel is a reasonable approach. As we implement the water management plans we can cut back if we feel that they are too much and if we feel that they are not enough then we can push conservation or the water use plans harder. The purpose of the Water Management Planning Advisory Committee is to advise us on what is the best direction.

Al Larsen – These are the 99% percentile range. People ask why we want to use the 99%, what is wrong with 90%. It depends on what is the acceptable risk.

Rep. Frank Bishop – A number of these lakes have dams that have drawdowns to clean beach fronts. Have you taken that into consideration the times of the year that the water table is low and you need the water to replenish the water stock. Would it be appropriate to clean the beach fronts and keep the water in reserve?

Wayne Ives – Our authority only covers affected dam owners. There are other people out there that are doing things outside of the community that we are involved with. There are management issues that we can work with. Some of these things would have to be voluntary. They are owned by private individuals and there is not a lot of recourse for the state. We don't run everything.

Jamie Fosburgh – I want to return to the two-day relief flow concept. If what you are trying to protect is clupeid spawning, and you know they need a week to complete spawning activity, wouldn't the restoration period be a week or something more scientific related to what you are trying to protect?

Al Larsen – That is a good point. It is a balance between trying to walk the path of the natural flow paradigm. This drainage system is managed to a certain extent. This is not like the Colorado or the Kennebec River where you have the peaking hydro operations that are radically altering the stream flow pattern. Trying to stay within that natural variability, with the thought being to reset and provide some relief to biological entities, is better than nothing. I understand what you are saying. If the catastrophic duration is a week, why don't you provide relief flow for a week?

Jamie Fosburgh – If you are concerned with clupeid spawning, and if two days isn't enough, you do something but you haven't helped them spawn anyway.

Wayne Ives – There are some years that are bad, and catastrophic conditions happen and spawning may not happen. [No spawning] isn't supposed to happen every year and the point is to tide things over for the odd events that happen in excess of the normal events and hope to keep the fish surviving so they are available to spawn the following year. If you start having a catastrophic event every clupeid spawning period then you have gone beyond the scope of this process and you have to get into larger watershed scale protections. If you see a catastrophic event happening every year in the same bioperiod, clearly there is something wrong and it is not a normal part of the watershed hydrology. You wouldn't expect to have two days for clupeid spawning year after year. You would expect to have a few good years in a row and then you would have a catastrophic year. It shouldn't happen that you have another catastrophic year.

David Cedarholm – This is relative number of a volume you would like to have in storage someplace and in a relative sense it is a small amount of water and is probably less than ¼ inch of rain over the watershed. If we were to have a little bit of rain it would satisfy this.

Al Larsen – Where is the water going to come from? It is either going to come from the atmosphere or limiting people withdrawing water out of the river? Or it will come from manageable storage.

Brian Giles – What happens with the conservation plan? Tom stated that even if conservation caused zero withdrawal it wouldn't impact the equation that we are talking about and all of the water that is needed to meet these events has to come from impoundments and not conservation by the municipalities. Where does that come back into the picture?

Wayne Ives - Water conservation is a small portion of this. It doesn't make as much of a difference here as it does in other places. This is pilot program and we can't ignore the fact that this is not the only circumstance we are going to apply this to. There will be other circumstances where conservation will be a larger or smaller part, like on the Saco River, where there are almost no water users, except for a few ski areas. There is not really a conservation effort there other than to prevent the waste of water that is being filtered, treated and pumped and the cost of that. It is a component of the overall process.

Tom Ballestero – One of my comments, a little out of context, was describing the common flows. This is supposed to be a living document and we keep seeing growth in this watershed so we can't start the conservation plan 50 years in the future. Everyone who comes onboard, as well as everyone that is online now, will have to have a management plan.

Al Larsen – The water has to come from someplace. Obviously, a direct withdrawal from the river has an impact but if you think of groundwater, the wells are inducing recharge from the river and having an impact on the river. They may not have as large an impact as a volume of water sitting behind a dam but they are having an incremental impact on the river. If you have wells that are off the river, if you take the watershed perspective, and you are extracting water, some of it may be eventually returned to the river so there a couple of different ways of looking at it.

Comment and discussion period following the presentation

Chris Albert – As far as this whole process, the Town of Epping is working on taking out and reconstructing two bridges and reconstructing bridges that are used for flood control. Is that something DES would be involved with? How much discussion should we have with you guys? I know that Dave, from the Town of Durham, is interested.

Wayne Ives – Bridge reconstructions generally aren't involved in this. I am not sure how it would affect the stream flow.

Chris Albert – We have major flooding at two bridges under high flows, which we are going to try to correct. I didn't know if that is something that this group needed to look at.

Wayne Ives – I don't think so. I think it is something that the Local Advisory Committee might want to look at if it is a project affecting the river. The LACs are notified so they get to have some comment to make sure that what is happening meets their objectives and the Water Management Plans that they have.

Tom Ballestero – It depends, you may be doing some flood control during peaks but all of our analyses are on average daily flows and the impoundment created behinds those two structures isn't generating so much storage that it is changing the average daily flow. It wouldn't numerically affect it.

Wayne Ives – Laura, would bridge reconstruction go before the LACs?

Laura Weit-Marcum – Yes, if it is within a quarter of a mile of a designated river.

Wayne Ives – It is upstream of the designated river.

Richard Kelley – A variety of parameters affect the management plans and one is the instream flows and as a member of this Committee I don't want to revisit them because they are water over the dam. I agree with Jamie's concern regarding the two-day volume and, as a member of this Committee, I would like to see from the State or its consultants, something that would justify that, whether it is used in other water management plans around the county. In addition, one of the big parameters that we seem to be relying on the gauges in the river telling us how much water we have. I would like to hear from all of you, in regards to whether there is any concern regarding the accuracy of the gauges, especially at low flows.

Tom Ballestero – Those gauges were used in field investigations. The only investigations that were performed delineated the habitat available and it was tied to what the gauge was reading. It was tied to the accuracy of the gauge. If it was inaccurate then that should be a wash. If they were reading too high or too low, the PISF were developed around those values and the associated habitat.

Wayne Ives – We did look at the gauge accuracy for one of the comments for the Instream Flow Report. The USGS sent me some information on their quality control stuff and it was very good. In the sum of the comment response there was some discussion about the quality of the gauge results.

Brian Giles – Where are the gauges now and do we have any plan for the future? The Lamprey LAC agreed to finance a gauge upstream of the designated river sections in Lee and Durham.

Al Larsen – There is one in Packers Falls, which is the longest running gauge, and now there is one upstream of that on Langford Road in Raymond. That is available online at the USGS website. The flow data is there.

Brian Giles - Will that do the job for us as far as providing data because all of our decisions are dependent on these gauges and their accuracy?

Al Larsen – I believe so. That was one of the reasons for the recommendation to put a second gauge in the upper part of the watershed.

David Cedarholm – In the last week or so, we talked about Durham's Water Conservation Plan and we are still not sure how to resolve how our conservation plan works with other sources. You didn't mention that in terms of Epping, which relies upon wells that are assumed to be directly connected to the river but are not. Epping has alternative sources and isn't drawing from the river and from Durham's perspective and also Epping's and Newmarket's, how do you anticipate working with those other sources and disconnection of a well that is assumed to be connected?

Al Larsen – The approach we have initially taken is a blanket approach. In the case of Durham, we have the other communities that have water sources that are all located within the watershed of the designated river. Durham does not. Durham has one source within the Lamprey, which is a direct withdrawal. So in the case of the Durham we looked at was using what was already on record, a very detailed Conservation Plan. We had some differences with a number of stages and actual flow levels but is tied into the process was the Lamprey withdrawal, which is one source we would be focused on. Other communities have withdrawals within the watershed. We would look at more in a unified sense. Epping has the Hoar Pond wells and the Fremont Road wells. Do they directly impact? The analysis that Tom did on one Fremont Road well indicated that it could impact small tributaries but it isn't directly on the Lamprey so you have to put it into context. In looking at trying to apply these conservation plans to the public water supplies, what is the minimum that can be done to conserve water use during this bioperiod of concern during the low-flow periods? The only thing that could be done to utilize existing conservation plans in place is trying to adopt those conservation restrictions or bans and tie them into the PISF, relative to the overall water system as long as it resides within the basin.

Wesley East – Related to Dave's comment, because we do have multiple sources, if we were not using the Lamprey at any of these trigger flows, we could ignore your conservation warnings, is that correct?

Al Larsen – We may have a difference of opinion here. I would say yes.

Wayne Ives – I would defer to Derrick. We had a plan when writing the rules that said that we would look at the Best Management Practices (BMPs) for various water users. There would be different BMPs for irrigation and factories, etc. In the meantime, Derek's group has written conservation rules that said what those things are. Instead of reinventing the wheel, we are just taking the conservation rules and apply them because the staff have already done the work of figuring out the best tools for conserving water for various users. We have already had this done for us and rather than us manage the conservation plans that are related to the Protected Instream Flow Program, Derek managed the conservation plan relative to the conservation programs plans that are required of public water supplies. We dumped everything on Derek. Derek's Program has pretty much taken over the Conservation Plans and if you have a conservation plan that is approved then I think it would be applicable all the time.

Derek Bennett – Durham doesn't have a conservation plan.

John Brooks – I think that we would all be agreement that conservation plans are good idea because they protect the natural resource but tying the PISF into the emergency plans is another issue. That is where the question in Durham is. If you are going to use a trigger that indicates that you are going to have to start modify your water resource use and they are using a well in Lee, which is in a different watershed.

Wayne Ives – Maybe we need to incorporate the non-use of the Lamprey so you don't hit the triggers. This is why we have the WMPAAC.

Derek Bennett – The conservation rules apply to any applicants developing new sources of water, regardless of whether it is part of the instream flow or not. These affected water users that you are talking about do either have an approved conservation plan that is in place or have one that is proposed. A lot of this discussion may not be necessary.

Al Larsen – We recognize that for Epping and for Durham there are draft plans, which outline everything that they are supposed to be doing and we basically accepted that.

John Brooks – They didn't write it to say they were going to have PISFs. I have a couple of comments about the conservation plan, and I understand why you are trying to adopt them. When you look at the details between Epping and Raymond you are cherry picking the steps that you want. In one you pick Steps 2 and 3 and in Raymond you are picking Steps 1 and 2. Why not just say what you want. When you look at the language what is required by your triggers are different for the two towns.

Al Larsen – We tried to utilize what had been developed locally and adapt that with what we were attempting to do. The conservation plan, if we were take a uniform approach, and Durham has more details on their stages, is trying to pull in and take multi-stages and get them into three stages: alert, restriction and ban. Some do and some don't. Some have subdivisions and that is why we either deleted something or integrated it into another.

Derek Bennett – I think that we need to distinguish between the conservation rules and the instream flow's [conservation plans], my conservation rules in no way require restrictions. Those restrictions are strictly part of the instream flow requirements. Any conservation plans that come to me, if they do include restrictions in them, are strictly a voluntary thing and I nothing that I would be reviewing plans for. That is a distinction that should be made.

Al Larsen – When I had outlined the basic water conservation measures those were the foundation for the conservation plan, making sure that everyone is metered and the water use is recorded.

Steve Roy - I think that is a poor distinction. Wayne has mentioned that the process being described here piggybacks on the water conservation plan for the Rivers Program when in reality it speaks to when you implement water use restrictions and bans. Water conservation rules don't apply nor does the state have the authority in statute. I think that a relevant issue is that now it is a time of a rare flow and you have the affected water users and Derek is in continual touch with water systems around the state that have already, without any drought, issued water use restrictions or bans. I believe that right now the whole concept of a water conservation plan and the example of the assistance of voluntarily issuing discretionary use restrictions or bans basically state that the posture of water conservation for the affected water users and water restrictions is pretty high right now. This tethers into the comment Brian Giles made earlier. The rubber hits the road with the impoundment management. I think that water conservation is well covered with the affected water users and the fact that they are already proactively getting in front of water use in times of scarcity. Are there any impoundments that are voluntarily releasing water?

Al Larsen – That is a good question for the Dam Bureau, since they manage most of the dams.

Wayne Ives – That is how management is done in the state of NH. There is no operational procedure other than the fall drawdowns and the flood control issues. If there was a flood and they had identified certain inflows, they would release certain volumes of water based on the data coming in from the gauges

and in the fall they do it all by rote. It isn't looking at what is happening out in the environment from the state, municipal or private dams.

Steve Roy – Is there any talk about the enabling, in statute and in this process, to require discretionary water bans. Last year the state put in place a statute that allows towns to issue discretionary water bans in times of drought to private and public water users. The Governor has that capacity and for public water users, the convergence and condition as it has the potential to graft on top of that the ability for discretionary water use restrictions based on some authority.

Wayne Ives – We haven't looked for authority on this partly because it was the public water suppliers that came to us with this proposal that we enact this as something that is part of our process for them to do. They volunteered that they would like to have a process to allow them a way to control the peak usage during the summer times.

Wesley East – In typical municipalities it is usually left within Town Councils, etc. for approval and most of your municipalities can only control what is outside. Unique systems, such as ours, where the university is the bulk, have more power and we can control to some extent and can make sure that all faucets and toilets are low flow. Don Ware and I want to protect our baseline flow so we won't have to turn our specific customer off because of instream flow. Whenever specific rules are promulgated for a specific river, because they are eventually going to hit every river or watershed, we need baseline. If we grow from that point then it is our responsibility to compensate for that difference but when it is promulgated for that river then we need that baseline flow to maintain our customers. That was the point of our whole meeting, not about what water suppliers can do for conservation because most already have conservation measures in effect. They do it not so much for the environment but because of treatment costs. If you are wasting water then that is money out of a water supplier's budget and most of us are not private and our funding comes from elsewhere. We have been conserving for years. I just want to protect my baseline flow when it gets promulgated for the Lamprey so I don't have to turn customers off.

Al Larsen – In that discussion, the proposal that came out of that was that we weren't trying to reduce your current volume but what was the minimum that could be done to reduce demand on the river during periods of concern.

Wesley East – My baseline demand is 1 cfs and that is more than I need to meet my bare requirements. The way it is going, I am not going to be able to withdraw that if I need to.

Tom Ballester – I think that you are looking for protection that no one in the state enjoys. What you are asking for is that when these Instream Flow Rules come in, whatever anyone is taking now is guaranteed and anyone in the future isn't necessarily guaranteed.

Wesley East – At this point, if Instream Flow was made law, between all my sources, I need a half a million gallons per day. We can survive three weeks off of that and then we would be in a state of emergency. Right now, under the laws that are out there, if any town were to declare an emergency under the 401 Rules, we can withdraw from the Lamprey to meet whatever we need to and then we need to justify it after-the-fact. Don Ware and I were in agreement that as a system on a smaller source, we don't want to see an abuse of the declaration of an emergency. The town could declare an emergency every other week and be draining a river or pond empty and then be completely out of water.

David Cedarholm – I wanted to clarify something about the Durham/UNH Conservation Plan. We have a plan that was revised and updated to meet the state rules for our application for a new groundwater source. That is in the process. The Water Conservation Plan is moving along at the same rate as the permitting of the new well. We are following our water plan and we met yesterday and are in Stage 1. It is a fluid document and we don't get many opportunities to test it. We thought we were going to be able to test in 2007 but we got rain. We need a fluid document but we need one document. I don't want to have a document that is different for the Lamprey than the other rivers but eventually we are going to see

similar restrictions on the Oyster River. We are going to need to balance all of our sources all at once, whether that is blending two rivers and all of our sources at once or blending two rivers and/or groundwater sources. We would like to work with DES to incorporate what makes sense into the whole variety of tools that we have. Right now we are not drawing from Lamprey River because it is inconvenient to implement a flow monitoring plan and our dam is not in a good state to do that. We are redesigning the dam so that next year it will be easy to do that and, as our infrastructure improves and we bring on another well, we are able to artificial recharge using water from the Lamprey, the conservation plan is going to change and our approach to how we manage our 3 or 4 sources will need to be a very fluid thing. Wesley said that they aren't drawing from the Lamprey River so we don't have to follow what you folks are saying. Yes and no. At the same time, we are not drawing from the Lamprey River when we have half as much water as we did a few weeks ago. We need to manage the sources that we are drawing from very carefully. But at the same time school is not in session so we are using half as much water as we will in September so it is not as critical today but if it could be if it continues into September.

Al Larsen – We need to talk about follow up approach.

Jamie Fosburgh – I surprised to see that so many dams were eliminated from consideration as far as releasing flow. A small contribution from a bunch of sources could be politically and ecologically preferable to large contributions from a single source. Some dams, that were eliminated, with maybe minor modifications to the spillways, could be deemed suitable. Maybe it should all stay on the table, from highly suitable not to not suitable now.

Al Larsen– Most were eliminated because of small volume or long distance from the current designated section of the Lamprey River and are considered to have considerably less bang for the buck. Wayne was an advocate for spreading it around. The issue is that we can get 1/2 cfs out of a small dam 20 miles away. If the upper portion of the Lamprey becomes designated, these will then fall within the contributing area and could be revisited at that point. Relative to tweaking the outlets, there are a couple of dams that would need major modifications. It is primarily their size and distance.

Wayne Ives – The outlets are only a convenience thing at this point. I have made it clear that we are not disallowing anything because of a limitation on structural outlets. We can rebuild that. In fact, on the Souhegan, we intend to do some modification to the outlet structures in order to make the more suitable dams function the way we need to have them function in order to store all this water.

Jamie Fosburgh – I don't know all the scenarios but if you have a large number of 1 cfs dams on one tributary, what is the impact on that tributary compared to dividing it up between five sources and maintaining more of a natural system?

Wayne Ives – That is something we have been concerned about, not only with volume but with temperature issues and things like that. The first thing is to figure the volumes that we are going to be looking at. If you were talking about 200 cfs that could be a significant impact on a small stream feeding down to the Lamprey River but if you are talking about 12 cfs that is well within the range of summer storm flows. The first task is to figure where it is coming from and how much for each dam and then to define whether putting too much water into a small tributary is likely to be a problem. That is something we were concerned about right from the beginning.

Al Larsen – Relative to the draw-down on Mendums Pond and Pawtuckaway Lake in the fall. You are dropping 7 feet within several weeks and that has been done for decades. That is an ongoing management activity where you probably have higher flows during that time period already and they are doing it sequentially.

Rep. Mike Kappler – I have been involved in five or six commissions and committees and we have been meeting heavily this spring on this issue and I think that several of the questions that were asked could have been answered. I am surprised at the presentation that there has been no mention of watershed and I

think the state is turning to, or will be turning towards, watershed activity as opposed to a river. The Lamprey River has six or seven rivers that are tributaries to it and if you were discussing watershed as opposed to the Lamprey River, you would be discussing all the rivers in the watershed. Also, when you start talking about the differences in the conservation plans, dam plans, etc., yes. If you were dealing with the Lamprey watershed or if you were dealing with the Ammonoosuc, up by Berlin, you would have considerable differences in the plans. I think that one of the things that seem to be lacking is the lack of thinking at a watershed level, as opposed to a river level.

Al Larsen – Hopefully, I hope I didn't mislead you into thinking that this isn't a watershed approach. This is a watershed approach because we are looking at the affected water users. What I should have done in the beginning is define what the water management plan area is, which is the watershed upstream of the end of the Lamprey designated river. All the affected water users that are being considered as part of this study are located within this plan area, which is watershed management.

John Brooks – I am little concerned about the emergency triggers for conservation plans. I wonder if there will be additional time to comment on this as we learn more about the other components of the plan. I don't want to leave the impression that I am in total support of the trigger idea and all the components of it because I have just learned about it. I see many issues with it that need to be worked out such as how dams and water use will be incorporated.

Al Larsen – We have distributed draft plans to all the affected water users and we have requested and received comments from most of the affected water users. Based on this presentation, there are other people with concerns relative to this process who are affected water users or interested persons. They should contact Wayne Ives or me with those concerns. The plan was to wrap up the conservation, water management and dam plans, working with affected dam owners and water users to tidy up the handful of water use plans so we can send them to Tom to start working on the Water Management Plan. That was the concept but we do have to talk to some people additionally who did have comments today.

David Cedarholm – My understanding of the legislative deadline is that this needs to be wrapped up by September or October of this year?

Wayne Ives – Yes, it is still a legislative deadline but I don't think that we are going to meet that. We would like to have another meeting with this group to go over final details once we have developed more of that and then we need to have a public hearing and we need a sixty day bare minimum to do that. We have to see how the comments come in to see how much revision is required for the final document. We are looking a little further out than the legislative deadline but we are hoping that they will let us have a pass. The legislative deadline was September 30th.

Al Larsen – To put this into perspective, the PISF Report was issued in July 2009 and this project was started in 2005 and was supposed to go 18 months.

Rep Barnes – That tells you a story.

Wayne Ives – That tells you that we are trying to test a lot of different things rather than running something up the ladder to see if it floats. We spent quite a bit of time on the Souhegan.

Rep Barnes – The Souhegan was completed?

Wayne Ives – The PISF Study is completed but we are still working on the water management plan for that as well. We have part of that done but not quite as far with the management plans, but similar.

Rep. Barnes – Back in '05, was that just the Souhegan?

Wayne Ives – The first one was just the Souhegan and then a year later we got funding for the Lamprey but it was a year before we could get the contract done because the funding came in late in the year, which put it a year or two behind.

Rep. Barnes – How much did feds put in?

Wayne Ives – \$545,000.

Al Larsen – For this project one of the problems that we encountered right out of the gate is that we didn't have cooperative hydrology. If you remember in 2006/2007, what was going on with the river, it was flowing high. Part of the study was measure the extreme low flows and it hard to capture the extreme low flows when you are having 100 year flood events and 500 year flood events. That delayed us for two years starting right out.

Steve Roy – Now that we are in rare event phase, is there anything to prohibit state owned dams from being modified for flow?

Wayne Ives – In theory, there is no physical reason why they couldn't. They can easily go out and pull a stop log.

Al Larsen – There is an agreement on record from 2000 in that the water levels will be maintained at a certain height.

Steve Roy – As long as they're both that height right now there is a fixed value so it can be pulled down to that fixed value.

Wayne Ives – I have a call into Jim Gallagher of the Dam Bureau about testing the results of a release during these low flow conditions.

Steve Roy – Can the feasibility of this be examined under very rare flows if you look at how much water you are releasing and if it actually gets to the gauges?

Wayne Ives – Last year we actually did do a test of that during normal flows but that was an ideal condition. I am not sure when I would have the time to actually track it. That is the problem because I am pretty heavily involved in trying to get this Water Management Plan done. If we actually had staff it would be a good idea [to do it again.]

Steve Roy – If you had some warm bodied volunteers?

Wayne Ives – It is a theoretical possibility, if not a real one and it would be a good time to do.

Dave Cedarholm – It was my understanding months ago that you received a peer review document from the Instream Flow Council that was going to be released. What is the status of that?

Wayne Ives – It is done. I just need get it out. We did get their comments and we replied. There was ensuing conversations and we came to a decision that we are done with the review. I need to get that out.

Al Larsen – You will also be able to view this on the DES website for viewing and downloading the PowerPoint presentation in a couple of days.

Adjourned 4:20 PM