Town of Nottingham
P.O. Box 114
Nottingham NH 03290

Office 603-679-5022
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July 24, 2012

Kent R. Finemore, P.E.
NH Dept of Environmental Services
PO Box 95, 29 Hazen Drive
Concord, New Hampshire 03302-0095

Re: Comments & Questions about Pawtuckaway Drawdown

Dear Mr. Finemore,

- Have any studies been done to determine what effect changing the winter drawdown of Pawtuckaway Lake will have on the Lake ecology?
- What are the existing circumstances that make it so urgent to change the winter drawdown of Pawtuckaway Lake?
- Would it be possible to make smaller changes in the water levels at Pawtuckaway Lake in order to study the effects in both the Lamprey and the Lake.
- There are many other questions that have been raised by residents and I am sure there will be considerable redundancy. The key concerns are that all possible issues are looked at and studied before reaching a final determination on drawdowns at Pawtuckaway Lake.

Thank you for your attention in this regard. Please feel free to contact me if you have any questions.

Respectfully yours,

Charles A. Brown, Town Administrator

Cc: Commissioner Thomas Burack, NHDES
James Gallagher, Dam Bureau
Ted Diers, Watershed Bureau
Wayne Ives, Watershed Bureau

Town of Nottingham
P.O. Box 114
Nottingham NH 03290

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July 23, 2012

Kent R. Finemore, P.E.
NH Dept of Environmental Services
PO Box 95, 29 Hazen Drive
Concord, New Hampshire 03302-0095

Re: Extension of Comment Period

Dear Mr. Finemore,

Please accept this letter as the Town of Nottingham's request for an extension of time for receiving public comment on the proposed draw downs of Pawtuckaway Lake. Putting it simply, the Town of Nottingham's Board of Selectmen and many residents, particularly those residents on and around Pawtuckaway Lake found it quite disturbing after a notice of public hearing was released on May 22, 2012 and more-so after the public hearing, that the NH Department of Environmental Services, Dam Bureau was proposing to revise the winter drawdown levels at Pawtuckaway Lake.

While we have been aware of extensive studies of the Lamprey River Watershed and the Water Management Plan Report, we have seen no study or scientific analysis of Pawtuckaway Lake or reports of the effects on the ecology of the Lake. Do to the enormous impact that Pawtuckaway Lake has on our community we feel strongly that extending the comment period by an additional 30 days is a reasonable request. From Mr. Diers' own statements at the Selectmen's meeting on July 2, 2012 the process is behind schedule anyway and it is important that all plans be based on accurate information.

Finally as you may be aware, if there are any adverse effects on Pawtuckaway Lake, it could have an adverse impact on property values and the Town's overall assessed valuation.

Thank you for your attention in this regard. Please feel free to contact Town Administrator, Charles A. Brown if you have any questions.

Respectfully yours,

Mary L. Bonser

Mary L. Bonser, Chairman

Hal W. Rafter, Selectman

Mark A. Carpenter, Selectman

Cc: Commissioner Thomas Burack, NHDES
Governor John Lynch
James Gallagher, Dam Bureau
Ted Diers, Watershed Bureau
Wayne Ives, Watershed Bureau

Town of Nottingham
P.O. Box 114
Nottingham NH 03290

Office 603-679-5022
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August 20, 2012

Kent R. Finemore, P.E.
Assistant Chief Engineer
NH DES Dam Bureau
P.O. Box 95
Concord, NH 03302-0095

Re: Pawtuckaway Lake Winter Drawdown Proposal

Dear Mr. Finemore:

The Town of Nottingham Board of Selectmen opposes the proposal to revise the winter drawdown level at Pawtuckaway Lake from 7 feet to 4.82 feet in order to provide for a second "relief pulse" later in the winter.

The reasons for the Town of Nottingham's very serious interest in this matter were summarized in the board of selectmen's June 9, 2011 Comment Letter on the Draft Lamprey River Water Management Plan (DLRWMP).

- The entirety of Pawtuckaway Lake is within the town's borders.
- Nottingham's Town Beach is located at the north end of Pawtuckaway Lake.
- There are 394 taxable waterfront and water access parcels around Pawtuckaway Lake. About 18% of the total number of homes in Nottingham are located on Pawtuckaway Lake.
- For several years the town has been spending thousands of dollars for the Lake Host Program to prevent exotic weeds from entering the lake.
- In 2006 DES awarded the town a 319 Watershed Improvement Grant to evaluate phosphorus and sediment loading and apply Best Management Practices at 12 sites to improve the water quality of Pawtuckaway Lake.

1. There is not a solid scientific basis for changing the December 19, 2000 Decision on Determination of Lake Level.

In 2000, after an investigation and public hearing, DES issued a decision which maintained the winter drawdown of Pawtuckaway Lake at 7 feet.

> Upon review of the record, it appears that the annual seven-foot drawdown has essentially served these public interests. The record indicates that other than some aquatic weed growth in a portion of the Lake, the water quality appears to be good. The record does not suggest that the Lake's ecology has been adversely affected by the drawdowns. Under current procedures, the lake level is lowered to 18 feet on the gauge during the winter, thus alleviating ice damage to docks and preventing downstream flooding in the spring. Maintaining the water level at 25 feet during the summer provides for recreation activities on the Lake. It does not appear that changing the drawdown would significantly benefit these public interests. In fact, damage from ice and spring floods could grow if the extent of the drawdown was changed to four or five feet.

12/19/00 Notice of Decision, p. 3.

First, the current proposal conflicts with the above finding by DES that: "Damage from ice and spring floods could grow if the extent of the drawdown was changed to four or five feet." There have been no new studies or data collected to change this finding. The two short paragraphs which address ice damage to docks and flood storage in the DES response to the comments on the DLRWMP Plan are cursory and speculative.

Second, the concerns on which the 2000 Decision was based remain serious concerns today.[1]

- The current drawdown level has proved satisfactory for [now over 40] years. Property owners, recreation users, the town and persons living in downstream flood prone areas have relied upon it.

- Existing docks were designed to accommodate the 7 feet drawdown.

[1] See 12/19/2000 Notice of Decision, p. 2.

- A 4.82 feet drawdown will reduce flood storage capacity (regardless of the safety factor that may exist).

- The current drawdown level limits aquatic weed growth.

- Shoreline improvements are facilitated.

Third, there has been no scientific study or hard data collected about the effect of the proposed change on lake ecology. The Draft Lamprey River Water Quality Management Plan latched unto Pawtuckaway Lake (and to a lesser extent on Mendum's Pond) because its size and state ownership of the dam make it an easier and less costly way to replenish Lamprey River water levels than other courses of action. While an extensive effort was made to gather data and evaluate recreation; fish and aquatic life; and riparian wildlife and vegetation in the Lamprey River, there was not a similar effort made with respect to Pawtuckaway Lake. The decision on drawdown levels should be made only after a comprehensive study of the impact on lake water quality, lake ecology, aesthetic values, property values and recreation.

For example, as noted in Appendix I – Draft Response to Comments, p. 17-19 (NHDES-R-WD-11-9) there is already a significant concern about cyanobacteria in Pawtuckaway Lake. The fall drawdown helps alleviate this by flushing out phosphorus. As the Pawtuckaway Lake Improvement Association notes in a letter copied to you, studies in the past support the 7 feet drawdown as an important way to flush nutrients such as phosphorus from the lake.

> One important conclusion of all [past] studies is this: the lowering of Pawtuckaway by the full complement allowed at Dolloff Dam which is a 7 foot drawdown in the winter is beneficial for flushing nutrients such as phosphorous out of the lake. It is especially noteworthy because the water strata "flips" in the fall, mixing the phosphorous rich, oxygen depleted lower levels with the upper levels. Therefore, the flushing at this time is even more beneficial than a Summer drawdown when the water is stratified due to temperature differentials and the phosphorous content is higher on the bottom (thermocline effect).

Pawtuckaway Lake Improvement Association Letter, 7/2/12, p. 1.

There has been insufficient analysis of the impact on the change in drawdown on the flushing of phosphorus. The Response Comments on this concern are based on 20 year old data

and the unsupported assumption that balancing the fall drawdown equally from Dollof Dam and Drowns Dam will compensate for the lower overall volume being flushed out.

Fourth, the lesser winter drawdown is intended to provide for an overwinter relief pulse drawdown between December 9 and February 28. It is an unfair balancing of risks to impose the 4.82 feet winter drawdown every year when the catastrophic downstream flows which the overwinter release flow is intended to alleviate have occurred only twice in the last +30 years. When one considers that the risks of dock damage, less flood storage and more invasive vegetation will occur every year, it is not a fair balancing of public interest priorities to annually incur these risks to alleviate a perceived downstream danger which may occur less than once a decade.

Further, the amount of water which will actually reach the Lamprey River during an overwinter relief pulse has not been established. Water released from Doloff Dam flows through the Pawtuckaway River before it reaches the Lamprey River. Water released from Drowns Dam passes through several miles of the North River before it reaches the Lamprey River. There has been no study of how much of this water would be absorbed by intervening wetlands systems or blocked by winter ice jams. In this regard the board of selectmen agrees with the observation of the UNH/Durham Water System that the creation of relief flows on the Lamprey River is a completely untested concept.[2] The relief flow concept is based on speculative untested estimates.

2. The Dam Bureau should not favor the interests of UNH/Durham over the interests of Pawtuckaway Lake, its shorefront property owners, and its recreational users.

A fair reading of the statutory purposes for the Dam Bureau's management of lake levels is that the purposes are to minimize damage to public and private property during times of high water, protect against flood damage, enhance public safety and improve recreational opportunities.[3]

> The Dam Bureau attempts to ensure that the multiple interests using surface waters for boating, fishing, power generation, wastewater assimilation, aesthetics, irrigation, and water supply do not exhaust the availability of the resource or create an imbalance in favor of one use over the others.

[2] UNH/Durham Water System Comments, 6/24/2011, #9.
[3] See RSA's 482:1, 482:4.

DES Dam Bureau Web Page "Overview."

The Dam Bureau is now being asked to add "downstream flow protection" to its responsibilities. Without delving into the question of whether draining lakes to promote the protection of downstream aquatic species, wildlife and vegetation and/or to protect downstream water withdrawals is within the purvey of dam regulation as intended by the legislature, it is noted that the proposal to change the winter drawdown of Pawtuckaway Lake unfairly favors the interests of the Lamprey River's largest water user – the UNH/Durham Water System.

As we indicated in our June 9, 2011 Comment Letter on the DLRWMP, the Town of Durham has been allowed to take increasingly large water withdrawals from the Lamprey River despite DES's stated need to maintain minimum flows for aquatic habitat. The Lamprey River was originally used by the UNH/Durham Water System as a reserve supply for drinking water. By 2009 the Lamprey had become the primary drinking water source for the growing university and town. In 2010 the system was given the right by DES to drawdown the water level behind Wiswall Dam much further than in the past.

The Draft Lamprey River Water Management Plan admits that relief flows from Pawtuckaway Lake may be necessary because the Affected Water Users' conservation plans and management practices will not sufficiently protect flows needed by aquatic resources.

> It was realized that in addition to the Affected Water Users employing Conservation and being attendant to their water usage, that there is sufficient storage at state-owned dams such that in the event that the Protected Instream Flows are persistently not met, the water be released from Pawtuckaway Lake and/or Mendums Pond in order to provide aquatic resources the flows they need for up to two days.

DLRWMP, Executive Summary, p. vii.

As noted earlier in this letter and as reflected by the above statement, Pawtuckaway Lake provides a speciously simple solution. As a result the bar has not been set high enough with respect to the burdens placed on Affected Users to improve water conservation and water management practices. The draft plan has accepted the status quo and placed the burden on Pawtuckaway Lake.

The balancing of downstream water consumption needs with the retention of the values of Pawtuckaway Lake should be based on realistic estimates of water consumption. The

UNH/Durham Water System notes that the LWWMP exaggerates the per capita consumption by about 50-100%.[4] Additionally, the UNH/Durham Water System has a new well under development which will yield 0.6 to 0.9 cfs of capacity to its system. The effect of this planned improvement upon demand on the Lamprey River and the need for changing the drawdown practice at Pawtuckaway Lake has not been considered.

3. No actions affecting Pawtuckaway Lake should be taken until after comprehensive environmental and economic impact studies of the proposed actions and an analysis of the effect of land use and water management practices in the entire Lamprey River Watershed have been completed.

The board of selectmen reiterates the request made in its June 9, 2011 Comments Letter that the reallocation of the water resources of Pawtuckaway Lake should not take place until: (1) comprehensive environmental impact and economic impact studies have been completed; and (2) a study of the impact of land use and water management practices in the entire Lamprey River Watershed is completed. The DES response that these are "Not part of the Instream Flow Program Regulation"[5] is not a sufficient excuse for not doing what ought to be done.

The reasons why a study of the entire Lamprey River Watershed is necessary have been articulated well by Elizabeth Kotowski in her June 20, 2011 comments on the DLRWMP. These include:

- The additional designation of almost 90 more river miles within the watershed for protection.
- The DLRWMP is narrow in scope and should be shelved in favor of a more comprehensive study of the entire river and its tributaries.
- THE DLRWMP is out of date and incomplete. It does not address the impact of removing the Bunker Pond Dam in Epping. It contains no analyses of the impact of increases in population; of the impact of increases in impermeable coverage; or of the impact of improved stormwater management and aquifer recharge efforts on recharge of aquifers and streams.

[4] UNH/Durham Water System Comments Letter, 6/24/11, p.2.
[5] See Appendix I – Draft Responses, NHDES-R-WD-11-9, p. 24-25.

4. The concerns of the board of selectmen are consistent with the concerns voiced by the Pawtuckaway Lake Improvement Association, scores of shorefront property owners, the NH Lakes Association, the Lamprey River Advisory Committee and the National Park Service.

The Pawtuckaway Lake Improvement Association and many shoreline property owners are on record as opposing the proposed change in the winter drawdown of Pawtuckaway Lake. Also on record as questioning the change in winter drawdown with further study of the impacts of the proposed change are the NH Lakes Association, the Lamprey River Advisory Committee and the National Park Service.

> We recommend that additional study be conducted to assess the impact that drawdown during the summer and higher water levels during the winter would have on the quality, enjoyment, and economic value of Pawtuckaway Lake and Mendums Pond. For example, could drawdown during the summer cause boat ramps of these waterbodies to become unusable? Could higher water levels during the winter cause property damage to shoreline structures? What would the effect of lower water level during the summer have on water quality, benthic organisms, and boating safety? Could lower summer water levels contribute to increased cyanobacteria blooms or reduced dissolved oxygen concentrations in Pawtuckaway Lake?

NH Lakes Association Comment Letter, 6/20/11.

> ..... However, winter drawdowns are more ecologically problematic and less manipulation of the impoundment levels would be preferred. The LRAC encourages further examination of this management strategy.

Lamprey River Advisory Committee Comment Letter, 6/16/11.

> Overwintering Period. During this time of year, flows are relatively high, and man's combined influence on winter flows are extremely small (relative to the overall flow). The value of relief pulses during this time period seems particularly suspect. In addition, the 1.5 ft. of less winter drawdown in Pawtuckaway is very controversial and particularly destructive to docks, etc. This deserves to be re-evaluated.

National Park Service Comment Letter, 6/17/11.

In conclusion, for all of the reasons stated in this letter, the Nottingham Board of Selectmen opposes the proposal to change the winter drawdown of Pawtuckaway Lake. It should remain a single drawdown of 7 feet as it has been for decades.

Respectfully submitted,
Nottingham Board of Selectmen

Mary L. Bonser, Chair

Hal W. Rafter, Selectman

Mark A. Carpenter, Selectman

cc: Michael L. Donovan, Esq.
Pawtuckaway Lake Improvement Association

PAWTUCKAWAY LAKE IMPROVEMENT ASSOCIATION
PO Box 30 • Raymond, NH 03077

July 20, 2012
Kent Finemore
NH DES
Box 95
27 Hazen Drive
Concord, NH 03302-0095

Dear Kent,

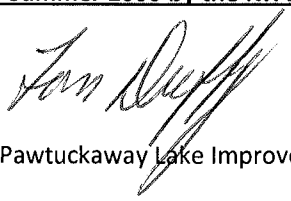
Per my verbal request during testimony on June 26, 2012 for a separate hearing on the Summer Drawdown of Pawtuckaway Lake, as it relates to the Lamprey River Watershed Management Plan, **I am now making that request here in writing,** with a copy to the Commissioner and other interested parties.

The health of Pawtuckaway Lake and its ecology is at stake. There are over a dozen related issues that result from the proposed plan, and none have been addressed. It should be emphasized that the Pawtuckaway Lake Improvement Association, in existence since the late 1950's, has been conducting water testing and other lake evaluations in coordination with the NH DES since the 1980's. Because of the farm land uses in the Northern lake watershed area, the accumulation of phosphorous in the lake continues to degrade the water quality. The 1994 Diagnostic Study, funded by grants from the NH DES, clearly points to the threat that this poses for the lake, its aquatic species, and the related life chain. A second grant in 2008 funded a study and remediation efforts to mitigate the effects of non point source pollution, and demonstration sites were created with matching funds from the Town of Nottingham and the PLIA. We have made major investments of thousands of volunteer hours and dollars for preservation.

The 7 foot draw down in winter provides our maximum ability to flush out these accumulated nutrients and slow the aging of the lake. Our efforts have rendered the Southern portion of the lake phosphorous content as "stable" according to the most recent study of the Seacoast region lakes, as published (July 2012) by Thomas Burack Commissioner, and composed by Sara Steiner, of the NH DES. However, the same report shows that the Northern Lake is still degrading in this most important element in our lake chemistry. To date, we have seen **no science, no study, no projections on how a Winter drawdown will affect this critical issue.** Certainly, Summer levels are also important, as summer is the most productive time for the negative effects of phosphorous flourish, with the rise of algae, especially cyano bacteria. How does less water volume affect these concentrations? What level of water left in the lake is considered safe for human exposure to algae?

Therefore, before any decisions are made to extract or retain any water in Pawtuckaway that deviates from the Hearing and decision of Summer 2000 by the NH DES, we request a full hearing on the intent of any proposed Summer drawdown.

Sincerely,



Tom Duffy
President- Pawtuckaway Lake Improvement Association (PLIA)
PO Box 30
Raymond, NH 30377
603 303 3039 direct mobile

Cc: Governor Thomas Lynch
Commissioner Thomas Burack,NHDES
Mary Bonser, Charles Brown, Town of Nottingham
Frank Case, Jim Regan NH Representatives
Fenton Groen, NH Senate
Frank Guinta, US House of Representatives
Elizabeth Kotowski
Pamela Kelly

Transcript of the June 26, 2012 hearing for the Pawtuckaway Lake Winter Drawdown Conducted by the NH DES , Kent Finemore, Coordinator

-prepared by Tom Duffy, PLIA (Names of speakers may be incomplete).

Presiding officers shall terminate any comments questions or discussions that are not relevant to the subject of the hearing. That's in the rules. I'm not expecting that as presiding officer I'm going to terminate anyone's comments. However I am going to ask that those who testify to limit speaking time to 5 minutes. We'll be flexible. In an effort to satisfy our rules for testimony and public hearing, we do have these cards. I'll invite people to speak who have submitted a card in the order that the cards were received, and I will try really hard to pronounce your names right. It is our objective to hear from those who have yet to speak before hearing from anyone who would like to speak. That's it I think we're ready to proceed so I would like to ask Jim Gallagher to step up and briefly discuss the status and operations.

Thank you, my name is Jim Gallagher. I am the chief engineer . DES owns gulf drown streams. We operate that dam I have a staff operators that come out here. Many of you may have seen them. I just wanted to give you a sense of the . The state owns 277 dams but the department of the services own 117 of those. Our operators are responsible for 200 and something dams. Only 51 of those have a seasonal drawdown, and then mostly the ones that the DES owns. Those drawdowns are typically from 1 to 4 feet. There are only 5 of those dams that we drawdown. Two of those dams, folks around the lake have asked us to reexamine the depth of those drawdowns. Those drawdowns that we do are typically from when the mill owned them. They used to drawdown these lakes to power their mills. And these drawdowns were dropped to maybe a 7 foot depth. They might have been done in the summer time but we have kept that over the years. Over the years, I have been with the department about 13 years, in these 13 years we have been examining the practice. In the case of Pawtuckaway, what we do with the 7 foot drawdown is evacuate 60% of the water in that reservoir and goes downstream. The fish and game are concerned with that practice. Fish population are more concentrated and as a result they compete with each other for other food sources and eat each other. And the fish and game have asked us to reexamine these things. The 13 years I've been with the department we've reduced the drawdowns. Based on the experience this spring, I was very concerned we weren't going to get the lake filled. We only got 2 inches of rainfall in the months of February, March and April. Normally we get 3 and a half to 4 inches of rain so we have a deficit of about 11 inches of rain. Pawtuckaway Lake is a tough one to fill up because of the size of the lake. When I rank it, it's probably in the top 20% of all these 50 lakes that I have to refill in terms of difficulty of filling. So back in 1999 we had a very similar experience, and we had a very dry spring, and we didn't get to fill it up then, you know we missed it by 6 inches. There was some interest on the part of lakeshore owners to look at that practice and we had it very similar to the input we will get tonight. And based on the input we got form residents we took a survey. We had 45% of the folks who responded to the survey and 52% of the residents around the lake responded wanted to keep the drawdown. Based on that, we kept the practice. We have reexamined this because fish and game keeps coming back to us to reduce the drawdown to improve the fishing in our lakes. If you have any questions of the operations or condition of the dam, I'll be here all night listening to the comments.

Thanks Jim, just a reminder, if you are going to speak you need to step up into the microphone and you need to be within about 3 inches of the microphone in order to pick out what is being said. I would like to ask Wayne Ise to provide a brief presentation on the draft of the water management plan.

Good evening, my name is Wayne Ives. I work for the department of environmental services. I am here to present to you an explanation of how the pawtuckaway lake winter water levels affect the lamprey instream flow program. The pawtuckaway lake has two dams, one that drains out and water is released to the north river, and the dollof dam drains out to the pawtuckaway river, these are tributaries to the lamprey river. And the lamprey river is the focus of the instream programs for which we now have this water management plan. The water management plan we developed retains more water in the winter time so we try to reduce the drawdown to provide storage and the purpose is to make storage available for possible release. It is to restore the natural stream flow patterns. The storages available from the 2000 method of managing the lake does not provide enough volume to allow this restoration of streamflow patterns or the release to make this happen. So the DES is considering revising the winter water level so we do have storage for a release. Why should we be managing stream flows? Well the reason to manage streamflows is to maintain the water quality. The purpose of the releases is specifically to address impacts of aquatic life. So our purpose then is to mimic natural streamflows, regular runs with peaks and valleys of stream flow. Why do stream flows fall out of natural patterns? One of the reasons is withdrawals by water usages the other is the storage or release by use of dams. There is a problem by land use changes that change the storm water runoff, change the way that water is released into the river. If the goal is to maintain the natural pattern of streamflow then we need methods to address each of these issues. We need to reduce, displace or remove withdrawals from having impacts on the streamflow. We also need to manage diversions by dams. Land use changes are not a part of the instreamflow program so that is not encompassed by this water management plan. The management under the water management plan in the instream flow program of withdrawals has two parts. One is a conservation plan to reduce waste and losses of water. The second is a water use plan and this is where we reduce or try to get the water use to stop having impact on the surface water. The methods of doing that: one is to take public water supplies and have all of the people who use public water supplies reduce or stop outside

public watering during periods of low flow. The other part of that is to take public water supplies completely off the river when stream flows are low so that they are not impacting the water anymore. The plan then is to find alternate water supplies, either storage or wells or other sources of water during that time period. Dam management is also a part of the program and dams also affect the downstream flow. What you see here is the passive management of the spill ways when the water level is above the full pool and you see the stop block way where active management by dam is done by operating the stop blocks in and out to raise and lower the water levels and release water. Jim mention that we were very concerned this spring. Here you can see how concerned we were by the fact that the stopblocks were not allowing any water out. The result of that downstream is that there is virtually no water leaving pawtuckaway lake. This happens to be an extreme year so this is not going to be the case every year but every year the lake has to be refilled and the water that is supposed to be going down the river is not there because we are using it to fill the lake up. Looking at management of lakes, looking at management of streams they are not a one to one comparisons. A very small effect on lake can have a very large effect on streamflow. So that as an example a 1/10 of a foot of water can provide 9,000 gallons of water per minute for two days which is what we provide a two day pulse. Given that we still need to manage for surface water quality for lakes so we still need to make sure we are keeping our lake conditions within the natural patterns of water level and changes of water level that affects lakes so it's not simply focused on how much water the streams should get but we are also including in our water management plan the protection for lake level conditions. The DES has considered under both scenarios the current operating conditions and change operating conditions the effects that may happen to aquatic plants or how ice damage to people's docks, the timing and access of property and shoreline property maintenance. The department has conducted a new lake bathymetry study, flood management study, and how wildlife and fish can either be improved or impacted. The specific changes we want to go from 7 feet of storage being drained out in the fall to only 4.82 feet being drained out in the fall. The reason we have 4.82 feet is what we calculated using the bathymetry information we have and the configuration of the dam to allow the size release we need to go out in the time we have to go out. This is a chart showing the operating land for pawtuckaway lake. What you see here is the purple line that's got the circle identifying it is about 29 years of record for the median water level of the conditions that have happened in pawtuckaway lake. The graph starts from the beginning of September and goes until the end of April. So this is showing you winter drawn out period. What you see here is the historical conditions the dam bureau uses as a guide to manage pawtuckaway lakes water levels; that's the purple line that is highlighted now. I've superimposed and replaced the section of a real years water levels so beginning coming down to here is what happened a few years ago. If a release were required that would draw the water down a little bit more. The reason that the water levels have to be raised by that point is in order to get to the summer full pool, we need to start raising the water levels and start restoring the water in the middle of February. These black triangles represent times and water levels when ice conditions were still on the lake. This is not the end of ice, this is when ice is still on it that is recorded in the dam bureaus records. The releases that we do for the instream flow program are for the environment to support more fish and wildlife. We're off the river with water withdrawals before we release water from the dams. The current management of this dam is side information that we generated as we develop this plan to release water from pawtuckaway lake, we recognize that the current management of pawtuckaway lake is far outside the natural variation of lake levels. So reducing that drawdown is going to be a much more natural condition for the lake. So in summary, the change in the water level strikes a balance between supporting the public's water resources interest on the lake and in the river.

Thank you Wayne, I am now going to open the public hearing. I have 34 cards. First up is Pam Kelley, to be followed up by Jim Kelly, and Ed Kotowski.

I've been a pawtuckaway lake resident since 1999 and when a petition was filed with the DES water division in the fall 1999 regarding modification of the winter drawdown a survey was conducted of lake residents of their opinion on the matter. We are aware that despite the well reason decision that was made in December of 2000, declaring that no change to the drawdown would occur, there is now a decision to modify the drawdown drastically. We who are members of the pawtuckaway lake improvement association as well as visitors of the lake for recreational purposes are concerned that a decision of such import be made with as much information as possible. The impact of this kind of change will be far reaching and we hope that as much effort be made possible to gather as much data about some of these huge ramifications. Let me mention just two. One is the possibility of spring flooding, we have a dock on the lake that is sensitive to water levels and twice it was battered and destroyed by unprecedented spring floods, and twice we had to reconstruct it. I believe that retaining so much water in the lake over the winter will heighten the probability of spring flooding, even in years when snow melt and rains are not as copious of May of 2006 and April of 2007. Another point I want to mention is the threat of invasive weed growth. We on pawtuckaway lake are well educated on the hazards of exotic and invasive species entering and taking over the lake as they have done and continue to do on many other nearby lakes. We know that prevention is crucial to keeping them out of our lake but we have also learned that a deep drawdown of water in the winter helps us kill off other such plants that may appear. This lake belongs to the state of New Hampshire and it is a big attraction for recreation of the state park. It is unconceivable that the state would now thoughtlessly jeopardize the health of one of its most treasured resources through its reckless plant the DES is putting to action. There appears to be some flimsy expectation that it would be a good idea to ensure a large water amount of water on pawtuckaway over the winter in case winter releases are needed. In case those winter releases are needed downstream for drinking water in Durham and maybe for other uses that are unclear. Given the strong

likelihood of damage to the lake's ecosystem and property, there is no support of empirical evidence to support such a decision which shows a shocking indifference to interest other than those downstream. I beg you to hold off on implementing this part of the plan until evidence may be gathered on the actual, the real need for water releases during the winter. If it turns out such releases are not necessary and that the threat and harm to pawtuckaway may be avoided. Surely the risk of damage to the lake cannot justify the remote and untested possibly of benefit downstream. In addition other avenues to supplement the water supply to Durham may be explored in the meantime as it has not appeared this has been done. Finally, Id like to remind you that the DES as a state agency is required by law to protect pawtuckaway lake and not just treat it as a convenient water impoundment.

I've also been on the lake since 1999 and it seems to me what has motivated the DES to begin this process and to make this change to longstanding policy is not really being addressed properly here. There are several reasons to go forward with a winter drawdown, one might be environmental, and another may be public policy, and another might economic. I do not believe that DES has made its case for an environmental justification. To do so, it would mean that the DES has submitted a valid data set to support its theory was is to be gained by this action. The theory set forth so far has been shaky at best and the data is either incomplete or does not support the stated goals. Where is the science? Where is the rigor of gathering data? We have heard fish and gaming vote, have they done studies? What is they're concerned? We have heard a vague concern. And Mr. Ives showed us a slide and he said that they had subsequent to the meeting that we had last year they had other studies and had covered these areas. There are those of us who have been following this who are waiting for these studies, I haven't seen them, and I don't know what they say. We have been promised studies, they have not been done. We have been told of possible outcomes, but there have been no offer of what the probabilities are that these outcomes will actually happen. It looks to me that your position is trust us on this, we're pretty sure and we know what we're doing, and besides, it's natural. I'm sorry that's not acceptable. Meddling with the lake levels without understanding the environmental impact is a recipe for ecological disaster and economic hardship. So if the science does not support an environmental justification for the drawdown, perhaps the real reasons that this decision is before is has to do with public policy and economics. If this is the case, then lets put these issues on the table and discuss them and stop trying to pretend that there is some compelling environmental justification for the drawdown. If the real reason we are here is that communities downstream want pawtuckaway water, and they don't care to pay to develop alternate sources, then just say so! Admit that this is a public policy issue and not an environmental issue. Is this about being green, or is it about the color of money? Because if it is, then we need to gather new data so that we can weigh competing interests. The degradation of pawtuckaway will impact local real estate and tourism throughout this region. Those costs need to be evaluated against whatever plans the downstream communities intend to put in place. I would submit that the first step would be a repeat of the survey of lake residents which took place when DES last looked at this issue. A dozen years have elapsed since the first survey. Many summer camps have been converted to year-round residences, improvements have been made to existing properties and the population of lake dwellers has increased. We who live on the lake have, through the PLIA, become educated about water quality monitoring, invasive weed and allergy growth, shoreline conservation, lake stewardship, phosphate loading, septic issues, and wildlife protection. We are stakeholders, key stakeholders in this process and our experience with all these lake issues would be reflected in a survey if it were taken today. We understand that budget constraints may be the reason you do not plan to take such a survey, we would like to conduct our own survey at our expense and provide the results to you to be considered with whatever other evidence you are gathering. If the plan you are proposing is to be truly reflective of the needs of this region and this watershed, the needs of all, Nottingham and its neighbors must inform your decision. Thank you.

Ed Kotowski , Indian Run Rd
I have a few questions. You mention the bathymetric study, when was that done? (June of 2011) If you only need .1 of a foot to get a pulse downstream, why do you need to retain 2.2 feet or more of the lake? The Last question I have is, this is a winter drawdown hearing, when are we going to hear bout the other season drawdowns? Finally, if you ruin docks and waterfront property, are you going to compensate people for their losses?

I'm Robert Seymour, Lakeview Drive My concern in the winter is not bringing the lake far down enough, but bringing the level up and down during the winter. That creates quite a safety hazard. Hundreds of people enjoy the lake during the winter, ice fishing, snowmobiling, and so forth. Two years ago for some reason in January, the lake was brought up about a foot. What happens is the lake is locked down, and it doesn't move so the water comes up over the ice it will create a very hazard situation. The lake needs to stay at one level. Don't change it up and down.

Hi my name is **Paul Romano, Lakeview drive** -I'm more or less concerned with what I'm seeing. Concerned by heads down by you people. Concerned by misstatements that you people made. You talk about the water level in 1999. You people were the cause of that. It wasn't lack of brain. And now you're asking us to trust you again. The whole idea of your drawing down the lake without proper, credible information that you can pass to us just doesn't make sense. I've got more but ill hold it.

My name is **Clayton Button,Beach Head rd** I've lived on the lake for 29 years. I must admit I missed the May of 2011 meeting because it was on lake drawdown. Summer drawdown is even more important and it seemed like that was slipped by us. For the last day and a half I've gone on your DES website with all the list of material pertaining to the Lamprey water management plan. I've read everything, one question I had, I saw no responses to the questions you received from individuals back in May of 2011. Did you responded, and if so, what were the responses?

Finemore:I believe the questions will be answered when the management plan goes final.

(**Clayton Button** Continued) In the course of revealing this complete list of data on the website, there was like 40 entries. I ran across one 3-pager from the US department of interior national park service. I was impressed with the points they made. First they agree with your 3-part plan, which includes the conservation for water use plan, water use plans for shift spreading, reduce water use, and management. They go on to say, "We support the state of the plan that communities with effected municipal water supplies need to adopt ordinances to allow for mentored water conservation. We support the notice that the plan should clearly establish a maximum lake drawdown in pawtuckaway for summer period." They're saying you should have a maximum so that you have something to go by. It is too loosey-goosey at this point. A stated maximum drawdown supported by a clear analysis of the actual likely cumulative effects based on the period of record would be beneficial. "Item 7 – the NPS park service supports immediate implementation of the first 2 phases of this plan: conservation plans and water use plans. This is the real bread-and-butter of the plan. Reduce as much reasonable direct water impact upon streamflow during times of extreme ecological stress." So they say they support the first to plans, not the management plan. "The NPS park service believes there should be a scientific re-evaluation of the 2-day release pulse concept. Two aspects of this seem overly troubling: a.) during the winter flows are relatively high and lands combined influenced on water flow are extremely small relative to overall fall. The value of a release pulse during this time period seems particularly suspect. In addition the 1.5 feet of less winter drawdown in pawtuckaway is very controversial and particularly to docks, etc. This deserves to be reevaluated. Then finally, one completely different approach to potential dam release would be to quantify the degree to which human cause in the watershed are contributed to the extreme low flow scenario. When I looked over the plan in the summary, the final paragraph said we see this as a work in progress, which will be changed when there are more water uses downstream so you can figure why we're nervous on the lake.

John Morin –Whites Grove Road,I'd just like to say that you guys should keep the level at 7 feet. It's the way it's been. Obviously that's the way people like it so thank you.

Bill Netishen, Barderry Lane,former Town Selectman, Nottingham, NH- I've been on the lake since 1973. I have more questions obviously than answers. But there are a couple of things that bothered me when you came to the association to discuss this situation and I asked a simple question I thought: You did an evaluation downstream, but what kind of an evaluation did you do on the lake as to the effect of lake wildlife, microscopic elements on the lake, and weeds which has been already addressed. We never got a result for that. I don't have a definition of natural pattern. You're presentation didn't address dating of the data to determine natural pattern, its not defined and we have no database to evaluate what that means. Now, your database goes back to Newmarket Manufacturing Company and the fact that Mr. Gallagher made a reference to water was let out to run the facilities in Newmarket and further downstream. The water level at that point was nowhere near the water level is today or the last 20 years or since the 2 near dams were put in. I'm curious about that definition because it appears to be what is the drive of it. One last thing, what kind of evaluation has been done on the dams themselves? If you're not taking out as much water as we've taken out in the past, that to me means more ice. More ice can effect dams. These are pretty powerful dams, I must agree with you but I don't believe they've felt the pressure of the ice that will be in the lake with the additional water that will be in the lake. Your presentation didn't address anything in that regard. Obviously if one of these dams spring a serious leak, then who cares about what kind of water is coming into the lake during the spring time because its not going to fill up. We also have another concern regarding the pawtuckaway state park and the effect it is having on the water levels and the use of water at the park. You haven't addressed that. The data isn't presentable to us to arrive at some kind of a sound professionally conclusion, or support your conclusion. Your presentation was very brief and that bothered me. It certainly bothers me that we make statements here but we don't get answers, or if we're going to get answers its going to be not transparent until the moment that you make a decision and someone signs a piece of paper and says this is what you're going to do. If we don't get that information then this is a joke. We're all here tonight and it's a joke. And you people are servants to the people of New Hampshire as our selectmen here tonight are serving of the people of Nottingham. I don't say that in a nasty kind of way but we are the recipients of whatever you come up with and yet we don't have a base to agree or disagree. And I'm sure people are going to be talking about many other things on the lake but most of us go back a good amount of time, and this criteria, we've seen the lake, we've been on the lake, we swim there, we boat on it, we know what the lake looks like, we know when we see something growing there that shouldn't be there, and it all has to do with water levels. It has to do with many, many things. This town and this association has spent thousands of dollars making sure that the boaters on the lake and as well as those who come on during the day have a safe boat, they have proper equipment and more

important than that, they check they're weeds to make sure there's no exotic green on it. We've been doing this a very long time and we are very fortunate that we have prevented what is going on on many other lakes. But that doesn't mean that it stops. We have the data and the database that you're using, and I'm sure you have a basis for it, but we just don't have that kind of information. And we would be a lot more comfortable with what you are doing if we had that information ahead of time. Not at the midnight hour of decision-making.

Herb Bernard –
I didn't have a lot of time to prepare for this. It was Sunday when I was notified about it. My main concern is my dock, my property values, my beach and I don't see how its going to do anything different than ruin people's property values and cost them more money.

Mary Bonser , Town of Nottingham Selectman–
From hearing the testimonies tonight the fisheries are fine and that would indicate that there is not problem there. There is nothing natural about Pawtuckaway, it is a created lake, and there has always been drawdowns. The drawdowns are natural because it has always been done on the lake. The plants and animals have become part of the cycle and are part of the drawdown. If you tamper with that, you are tampering with something that is natural. I think the summer drawdown is a bigger concern than the winter drawdown. I believe no one in this room is in favor of drawdowns. As chairman of the board of selectmen I will recommend that we challenge any decision that you make that effects the drawdown of the lake. If it isn't broke, don't fix it.

Mark Carpenter –Town of Nottingham Selectman
I'm a junior selectmen. You are on record saying that this drawdown discussion has nothing to do with downstream water supplies to other cities at any time during the year. I feel the decision for the plan is supported by a lack of data and information. I want to invite you to a televised board meeting so that the rest of the town can hear what you are proposing.

John Ciati , Barderry lane
I submit that maintaining the current drawdown is mandatory and that any change would effect the population as a whole. It would effect animals and fisheries in addition to humans. The residents on Pawtuckaway pay the majority share of taxes to the town and receive the least amount of services. If the lake levels change we will not be happy.

Patricia Farrington – Lamprey Drive
I think a bigger issue is are you going to be liable when somebody goes out and snowmobiles or enjoys the lake, who is going to be liable if the lake is no longer safe to actively go on the lake.

Mitchell Hale, Shore Drive
As Nottingham residents we pay about 25% more in taxes than in Dover for a smaller place but its waterfront. We feel that changing the drawdown is going to have a negative impact on the recreational use of the lake and will effect weeds in the lake. It will also effect our property values and the town of Nottingham is going to have to look elsewhere for funding. People who live outside of the lake can be effected by this.

Greg Larkin, Shore Drive
I would like to poll the audience. That's a 100% who do not want to change the level of the lake. There is a risk for the residents on the lake and the lake itself. Pawtuckaway state park has the highest income of any state park in New Hampshire. We contribute the most but we do not get it back. We don't get reimbursed for police calls at the state park. The concentration of waste in the lake closes the beach, dirties the lake, and if you pull the dam you are going to concentrate that more and create more problems. And also create more milfoil. There is no way to tell if we are going to have one disaster after another, ice slamming into people's docks. The risk far outweighs the known facts.

Therese Thompson Barderry Lane
With the lack of the snow cover this winter the lake still filled up, which tells me that there is vibrant watershed that feeds the lake. We have UNH nearby, lets have them do research in the watershed. Winter drawdowns, for the most part, are really good to control invasive and aquatic weeds. It increases the growth of some wetland invasive plants. A winter drawdown may increase the growth of invasive weeds that produce seeds. Most of the invasive, aquatic plants and weeds found in lakes in new Hampshire is controlled by winter drawdowns. I think we will have more native plants growing along the shoreline. Winter drawdowns help wash and nutrient plants along the lake. If and when, we get an invasive aquatic plant in our lake, are you going to be returning to a 7-foot drawdown?

Thad Russell – Seaman's Point Rd
I really think that we should publish the answers to the 40 summaries we wrote last April. They need to be published so people can read the rationale that the DES have come up with. I don't think we need to change the water level in the winter time, in the summer time we need to be very careful. If there is a drought, the state park is going to be closed anyway.

Stephan Landry , Lake View Rd
I am a geologist. I'm not impressed by your presentation. There haven't been any technical arguments presented.

Richard Morrisey,Lakeview Rd
Your decision sounds like an experiment that has never been done before. If you screw up then you can walk away, but we have to stay here. We don't like being pushed around like that.

Tom Duffy ,President, Pawtuckaway Lake Improvement Association
We test the lake several times a year and have been very successful doing it since the middle of the 1980s. It has been a major DES goal to reduce phosphorus and phosphorus content in the lake. An overabundance depletes oxygen from the water. The NH DES 's concern is that without proper flushing of the lake, to slow down the aging of the lake. I don't see how this plan can be considered without data, science, and studies. Wayne, in your opening comments, you said that in the plan that is being considered so far, there will be no withdrawals from the Lamprey River (from Municipalities or other entities...) during Pawtuckaway release, or withdrawals from other municipalities from the lamprey river during Pawtuckaway releases. On June 18th,The Durham town Council authorities discussed freely there ability to recharged their storage aquifer from the Lamprey River and that they have no restrictions in doing that. So when I hear there will be no withdrawals from the lamprey river during Pawtuckaway releases, perhaps you want to share that plan with Durham. They think they can take as much water out of the river that they want to.

Lee Bartlett,Barderry LANE
I've been on the lake since 1940. The lake has been very stable the last 12 to 15 years. It is broke downstream some place and we are not getting the information as to what's happening. I don't like that you have to sign the bill before you know what's in it.

Liz Kotowski, Lamprey dr I'm very disappointed in the way the DES has handled the outreach on the Lamprey water management plan. The public hearing for the draft plan was held on May 11, 2011. None of us knew this public hearing was happening the 11th hour. It's been more than a year since we have submitted comments on the plan and have not heard back. You need to admit to us the role that Durham is playing in this plan. There has been steady communication between the DES and Durham, and none with the town of Nottingham. We want to see what you have learned from the research you have done, because we own property on the lake. You should keep the 7-foot water level because houses and properties have been built according to the 7-foot water level. If it is change to 4.82, the houses and properties will be destroyed. We ask that you partner with us instead of being in conflict.

Ken Sachs –
My family has been here since 1932. We are receiving no answers for our comments and questions. You are our service. We pay you, the state, and you owe us answers because you are affecting our properties. You are not protecting us on the lake by implementing plans to find out if they will work without statistics and data. We pay a substantial amount of money and put work into the lake and receive no explanations for the plans.

Eric Jennings,
Is there a website or someplace where we can get answers? On Rt. 27, in Raymond, West Epping, the
What studies have been done to identify the impact of these changes? What ecological, environmental, economical health and safety studies have been completed to identify any risks in a water level change. Please leave all levels alone until you can prove a need for change

John Decker-, Lakeview Drive,
Is Fish and Game Here tonight? What studies have been done? What environmental studies have been done to identify any of the risks in your proposal? I have heard none.

Don Morrell ,Barderry Lane
I have heard the results of what is happening downstream but have not heard any results of what is happening upstream. I did not hear the results of the plant life and how much damage its going to do. My concern is if you do lower the levels and we do have damage, how long is it going to take to reverse it? I did not hear any other solution to the problem of downstream water flow. Is there another solution? All of the pollution that can be caused needs to be considered.

Lisa Carey, Seaman's Point Rd.
We fill up every year so how does going down from 7-feet do anything to the downstream effect? If Durham, at will, can take any amount of water and where the flow of our water is supposed to restore natural flow, it doesn't make sense to me. If this plan is a pilot, pilots are short-term, so what happens after? And what are the stops, what are the negative effects on the lake? How will it effect the aquatic and bird life? What is the impact of the removal of the dam and what we are now trying to do on Pawtuckaway? It controlled the water and now it is removed.

Charlie Walsh, Lakeview Drive
Everything that you do has to be approved by the lake association and legislation. In 2000 you changed the water level of the lake and it wasn't approved by legislation.

Unknown speaker
Your proposal to lower the drawdown will hamper fish's release to the ocean. The federal government pays big money to stock fish in the lake because it is their natural habit. When you lower the drawdown they will not be able to release and will be eaten by bigger predators. (Editors note: the US Govt is funding this Lamprey River Management Study)

Mary Bonser, Town of Nottingham Selectman
I'm glad the state is interested in water issues in our area, but I would like to see an equal amount of effort put on the state side by having a permanent moratorium on large ground water withdrawals for commercial purposes.

Bill Netishen, former Town of Nottingham Selectman
Can you give us the address to follow up in writing? (Answer: Department of Environmental Services: 29 Hazen Drive, Concord New Hampshire, PO box 95, 03302-0095). Our emergency personnel have to respond to the state park, but the water can come up over the ice and will be an issue. That means that there is going to be an additional request for emergency services that we haven't had. When we break it down to our little town, that means our budget and real estate taxes are going to increase. What you are going to do effects the town of Nottingham.

Pamela Kelly,Sachs Rd
What are the magic words that fish and game has so that they can cause this kind of decision to be made without any evidence of the impact on the lake. Fish and game said it was crucial to make this change but nobody knows the reasons why.

Stephan Landry, Lakeview Dr
There have been droughts and floods regardless of the dam being in place. The natural course of water and there are thousands of streams throughout the state that have no dam control and they go dry. It's a natural course of evolution that the state says they are trying to control. Does the state have a plan, if the water is drawn down 4.82 feet, does that mean the Lamprey River is going to flood? There are going to be floods and drought without any bearing if there is a dam or not. Has the state looked at statistical information for projections of floods on the Lamprey River, and seen what would happen? (Answer: there is a study that has not been publicly shown on the website)

Dee Ann Decker,Lakeview Dr
If you don't flush the phosphorus in the winter time and then you do a bigger drawdown in the summer time and the water levels are lower, the water will be warmer, there's going to be more phosphorus, grow more plant life, and reduce the oxygen. We are going to make the lake age faster.

Liz Kowtowski, Lamprey Drive
What's your plan for releases in the winter? The basic goal is to store water, but will there be releases and if so for what purpose? I understand that Durham drains their pipe where they pipe water from the Lamprey in the winter. What releases could we expect in the winter and what would be the purpose of those?

Wayne Ives , NH DES
The winter release would happen based on the time of how long it takes for the Pawtuckaway River to decline below a certain threshold, and to stay under that threshold for that period of time. **There is one release and only one release available from the storage that we've provided for the winter time so it will happen once and wont happen again.** We've looked at statistics and hope that its sufficient and looked at comments from the public and recognized that raising the water level up would be a bad idea to you so in compromise we've looked at only one drawdown per year. That would change the water level at 0.65 feet because the water level is not at the full pool, that 1/10 foot I talked about earlier is going to be bigger because the pool that it's drawing from is a smaller pool so it has to drawdown further. It would go to 4.82 to 0.65 feet less than that and then it would not be lowered any further the rest of the winter.

Robert Seymour, Lakeview Drive-
We have the level of the lake down to 4.82 feet and the ice is frozen. Now you're going to lower it down another 6 inches so we now have a 6 inch gap of air between the ice and water and now there is a very dangerous decision. Snowmobilers and other recreationists may get killed.

Ken Sachs, Sachs Rd
We have publicly asked questions and we should be publicly answered instead of being sent emails. Can you give us a timeline when we will get an answer?

Mark Carpenter, Selectman, Town of Nottingham
I am completely blown away by the experience and knowledge in the testimonies. I think you should wanna be in partnership with these people. The town of Nottingham is going to want a copy of the tapes that you made and a copy of the transcript, so who do we get that from?

Steve Soreiff, Dolloff Dam Rd
Im curious to know how do we fight this? Should we submit a petition? (Answer: You can file testimony in writing between now and the end of the commentary, which is July 26. The decision hasn't been issued yet so we have to compile a decision based on the various factors and also testimony that we have received, so there isn't been a decision and its not a done deal. Once the decision is issued, there is an appeal period and that is the process.) Can we make a petition before the decision is issued? (Answer: A testimony. The testimony will be addressed to me)

Liz Kotowski, Lamprey dr
I have one request: The commissioner and you look very carefully at the 2000 decision. It enumerates many reasons why the 7-foot drawdown was seen as appropriate for this lake and so the new decision really needs to address why each of those cases and why you think this would be a better level for the lake because it really represents the departure from what we've been told by DES during previous decisions also from your own fact sheets about drawdowns on the website that talk about the benefits of drawdowns and we certainly agree with what we read in your own publications in that decision so this would be precedent-setting to completely reverse what was said in the 2000 decision. So we would like to not just hear what the decision is but also why those points apply.

John Ciatti, Barderry Lane
When the decision is made, can we get a copy of the decision emailed to us? (Answer: Yes)

Kent Finemore, NH DES
I'm going to close the public hearing at 9:37 pm. Just remind you to submit written testimony for the record between now and the end of the commentary, which is July 26th, 2012, 4 pm.

Therese Thompson 76 Barderry Lane tathompson@mountida.edu 895-3050
Associate Professor - Biology
EPA 319 grant 2006, Pawtuckaway Lake Advisory Committee
Lamprey River Water Management Planning Area Advisory Committee, 2005-2011
Southeast Watershed Alliance, 2009-present

With the lack of snow cover this winter, yet, the lake still filled up, tells me there is a vibrant watershed that feeds our lake.

What is your reason for the change in the winter drawdown?
What scientific studies are being done, on the watershed of Pawtuckaway Lake?
What scientific studies are being done, to understand the reptiles & amphibians in the brooks/streams that feed the lake & in the watershed with a 7 foot or less winter drawdown?

Pawtuckaway Lake Watershed is 1180 acres, 11,851 acres drain into the lake, 11 brooks/creek feed our lake.
http://www.wildlife.state.nh.us/Fishing/bathy_maps/pawtuckaway_nottingham.pdf
http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/nhdes-wspcd-95-2.pdf

Scientific research has shown, Winter Drawdowns cause physical disturbance of aquatic plants, freezing, and drying of the roots !!
Winter Drawdowns kill & prevent growth of some invasive aquatic plants.
Winter Drawdowns also allows flushing of nutrients out of the lake.

If and when we get an Invasive Aquatic plant in our lake are you going to return to a 7 foot winter drawdown?

7-26-12

Kent Finemore Dam Bureau,

I serve on the Lamprey River Water Management Planning Area Advisory Committee

I also live on Barderry Lane on Pawtuckaway Lake

My perspective of the North end of the lake regarding the **7 foot Winter drawdown**:

I see these dead freshwater mussels/clams every year. These are important in filtering the water. Are they dying because of the drawdown?

dead freshwater mussels/clams

You have the lake levels for Jan. 11, 2012 when the 2nd photo was taken = winter view of Log Cabin Island & toward Fundy Cove. The 1st photo was taken Fall 2011, see attached PDF (Winter vs. Summer). The amount of exposed ground and lack of water is very telling. These pictures were taken by me at my house.

Fall 2011

Jan. 11, 2012

During the Fall Drawdown, we have many Canada Geese that come to this area of the lake.

Canada Geese produce 1.5 pounds of fecal matter per day (http://pubs.ext.vt.edu/420/420-203/420-203.html) . Normally we don't see these geese, but the exposed soil brings them here.

Winter Drawdowns is the most important tool to control invasive aquatic plants such as **Milfoil**. At this time we do NOT have any **aquatic** invasive plants in our lake. BUT, if and when we might get **Milfoil** into our lake, it most likely will occur in the Fundy Cove/North end of our lake, due to the public boat ramp and shallow water at this end of the lake. We have been hand pulling 2 **wetland** invasive plants, *Phragmites* and Purple Loosestrife and no longer have these plants at this end of our lake, North of the Twin Islands.

Native aquatic plants are important for young fish, I believe we will have more growth along the shoreline with a Winter drawdown of 4.82 feet.

Appendix 1 Draft Response to Comments (July 21, 2012) to the Draft Water Management Plan NHDES-R-WD-11-9 included changing the Winter drawdown to allow 50% of the release from Drowns Dam due to excess amounts of Phosphorus at this end of the lake. I think that would be a great idea and I assuming this Dam is capable of handling this. In the past 75% of the drawdown was controlled by Dolloff Dam.

I always believed the winter drawdown was done to collect the Spring rains and prevent flooding damage downstream from the lake in neighboring towns. Will this change in Winter drawdown negatively affect this protection of homes close to the shoreline and downstream?

My greatest concern is **Overwintering of Alewives,** these ocean fish are put into our lake by NH Marine Fish & Game. I hope a drawdown of only 4.82 feet will not prevent these fish from leaving our lake in the Winter.

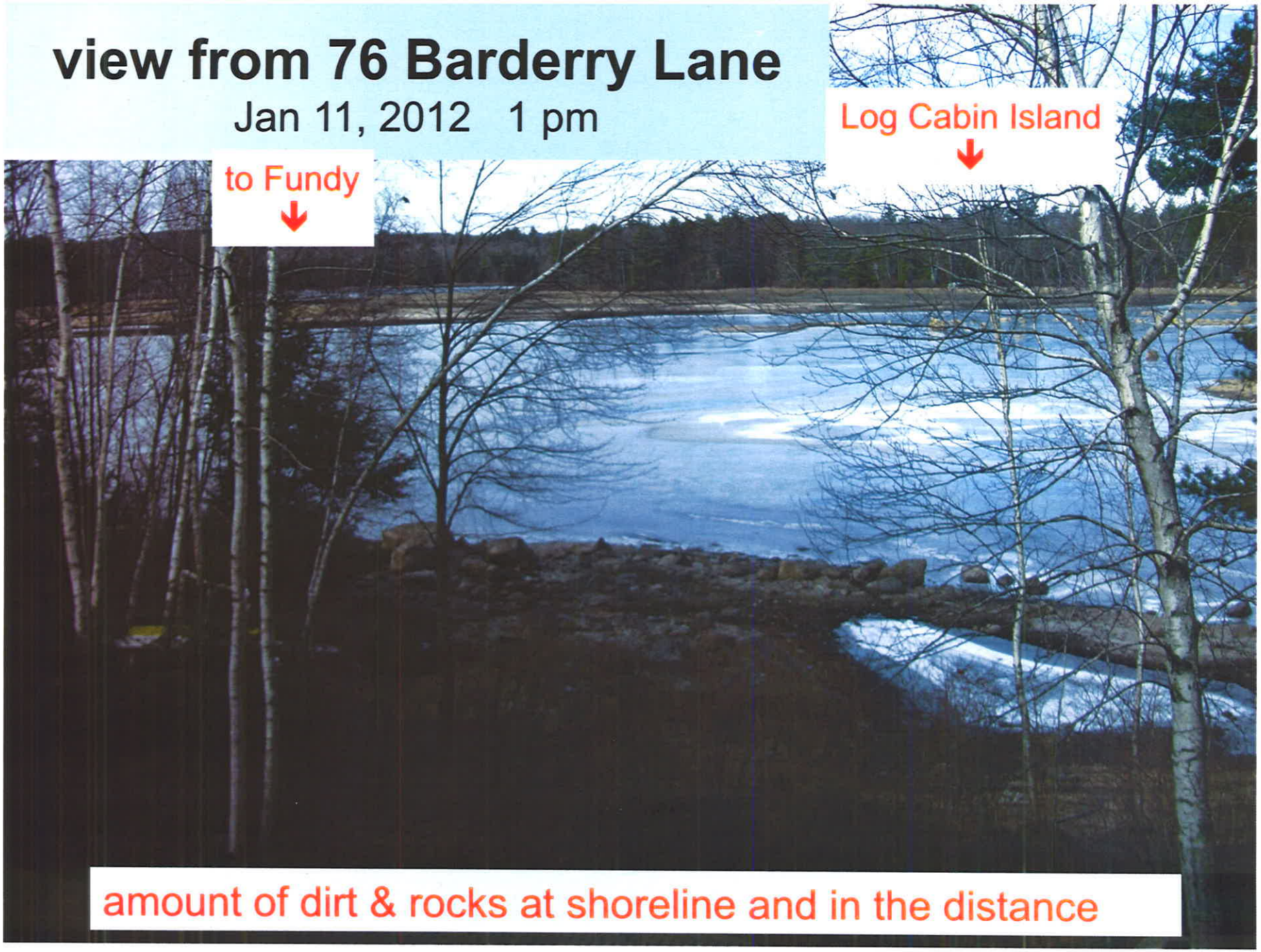
Thank you for your consideration,
Therese Thompson
Therese Thompson
76 Barderry Lane, Nottingham NH

view from 76 Barderry Lane

Fall 2011

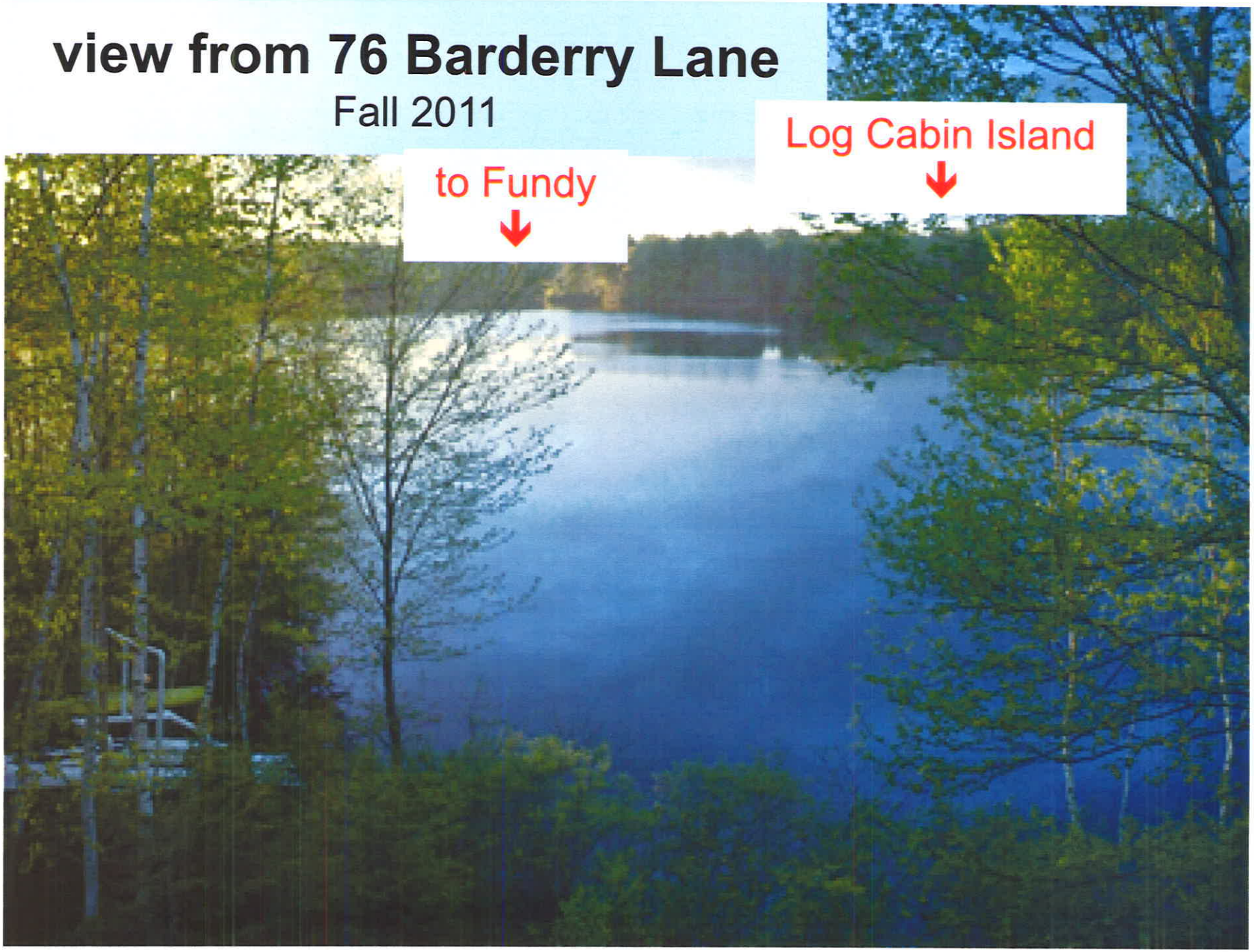
view from 76 Barderry Lane

Jan 11, 2012 1 pm



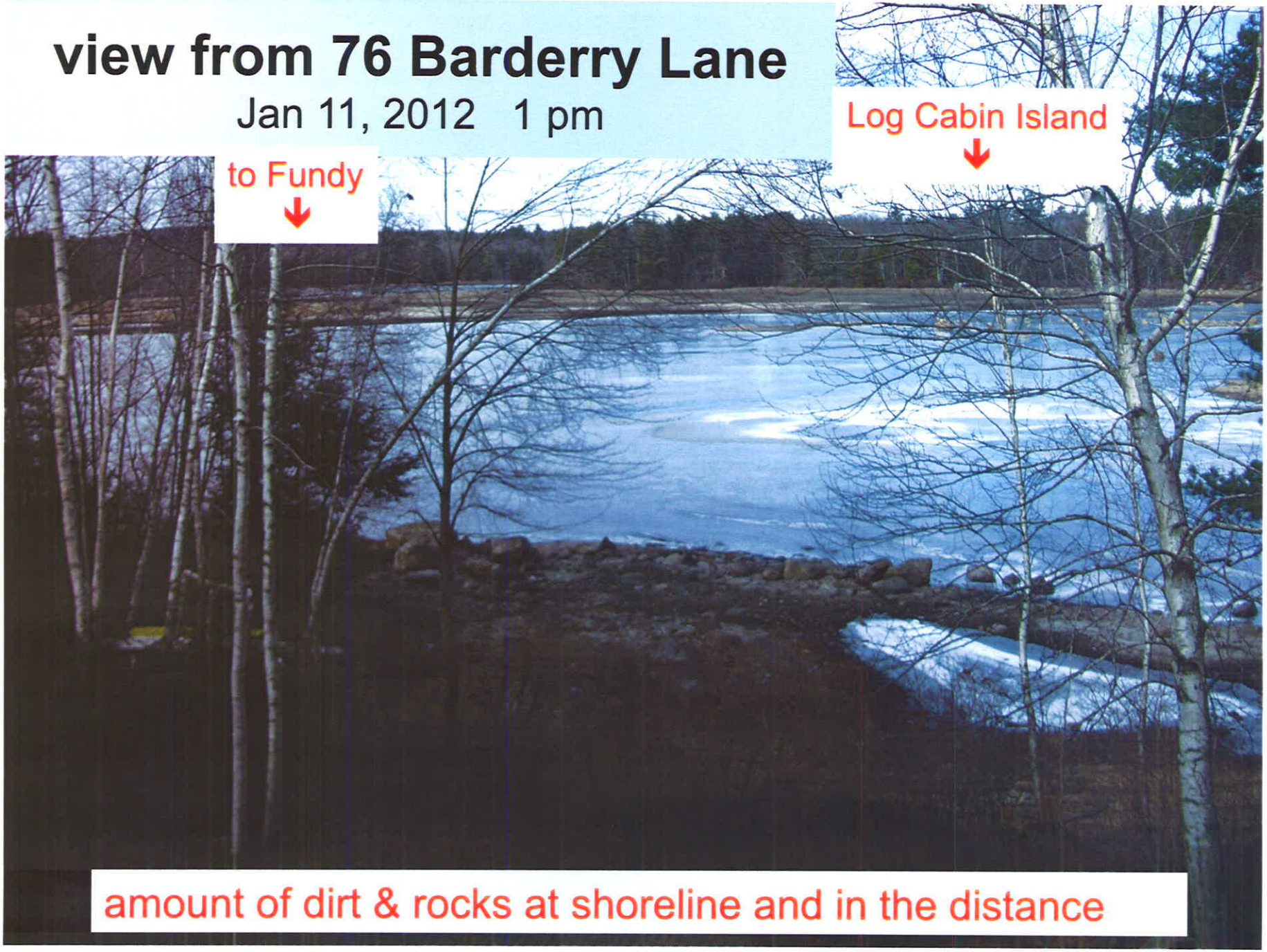
view from 76 Barderry Lane

Fall 2011



view from 76 Barderry Lane

Jan 11, 2012 1 pm



Finemore, Kent

From: Jill Donahue [jill.onthelake@yahoo.com]
Sent: Monday, August 27, 2012 4:56 PM
To: Finemore, Kent
Cc: jill.onthelake@yahoo.com
Subject: Pawtuckerway

As a 14 yr resident & tax payer trying to cope with the financial increases that continue to be added to our lives, I object to this new effort to reduce the water level from our lake. There is insufficient evidence it will not harm our property. Please consider further research to prove the benefit to us as property owners.

Jill. the in

KEVIN JORDAN
23 Beach Head Road, Nottingham, NH 03290
603-895-4334, kjordan882000@yahoo.com

Kent Finnemore
NHDES
PO box 95
27 hazen Dr
Concord NH 03302-0095

RE: Lake Pawtuckaway drawdown program et al.

Dear Kent,

Apparently the main idea behind this drawdown program is that Durham wants water. Their idea is to take water from Nottingham to do so.

If the need arises, is Nottingham to supply Lee, Epping, Newmarket and Dover too? Where does it stop?

And once the water-flow is dictated by Durham, what's to stop DES from imposing other restrictions over time, e.g. Durham is not happy with the water quality, so we will limit motor size of boats on the lake to 50hp, then a few years later 25hp, then to 10hp, then finally to canoes and kayaks only. How long before there will be "No Swimming" signs on Lake Pawtuckaway outside the State Park Beach because the lake is now the designated *Resevoir* for Durham, Newmarket and Dover?

There's something very fishy and wrong about this whole process that never even considered or queried Nottingham residents. How can you do a study and not consider the source?

More immediate concerns include:
SUMMER DRAWDOWNS: This will expose rocks and bring others close to the surface making the lake dangerous to boaters. Lake Pawtuckaway is a shallow lake and even a six-inch drawdown will raise havoc with many dock areas for the lake's residents.
WINTER DRAWDOWNS: Recently, "winter drawdowns" slipped in through the back door. When will Spring and Fall drawdowns slip in? Drawing down water under the ice creates dangerous air pockets for people who use the lake for ice fishing, skating, nordic-skiing, snomobiling, etc. When the 1st kid falls through an ice pocket, how long before we see "No Skating," or "No one allowed on the ice" signs posted?

The current November seven-foot draw down protects docks, kills invasive weeds, and has worked successfully for more than a generation. The fact that Durham needs water is not a good enough reason to change something that has worked well for so long.

The truth is: if Durham needs water to fuel growth, they can drill wells. The only reason they don't is to because it's cheaper to take it from the river. If Durham wants to grow, then the Durham Planning Board should figure out a way to do it with Durham resources, not with Nottingham resources. Certainly, with planning, a minor fee can be assessed to each new development earmarked for future water expansion projects.

Maybe it's time to revisit this whole program and look harder at what the problem is (Durham needs water) and ask tougher questions like: How can Durham solve their problem themselves first, before taking from other towns.

Please consider how disruptive these drawdowns will be to the lake residents of Nottingham, out-of-state and out-of-town boaters, and consider placing the burden for providing water to fuel growth directly on the towns or organizations that benefit from the growth, be it new housing, new business, or UNH.

Thank you,

Kevin Jordan

Finemore, Kent

From: Rosborough, James P [James.Rosborough@ca.com]
Sent: Monday, August 27, 2012 3:40 PM
To: Finemore, Kent
Cc: jimrosborough@gmail.com
Subject: Pawtuckaway Lake winter drawdown comments

Kent,

I'm writing to express my concerns about changing the Pawtuckaway lake winter drawdown from its current 7 feet:

1. Drawing water from the lake once it is frozen can lead to unsafe ice conditions – ice sheers, thin ice, etc. These conditions can cause injury and possibly death.
2. The higher winter level will result in damage to my dock as well as many of my neighbors. These docks were built based on the states documented drawdown of 7 feet.
3. Higher winter water levels will allow more weeds and vegetation to survive causing deteriorated summer water quality. I have noticed an increase in weed growth in the southern end of the lake over the last 5 years with the current 7 foot winter drawdown.
4. Higher winter water levels will increase phosphorous levels leading to deteriorated summer water quality and increased lake weeds/vegetation.
5. I've seen no documented, proven reasons as to why the winter drawdown level needs to change, just vague unproven references.
6. It seems clear to me and the people I've spoken to that the Lamprey River Water Management Plan, which the Pawtuckaway Lake winter drawdown is a part of, is shortsighted. Future development will put even greater stress on the Lamprey River, and as a result Pawtuckaway Lake, triggering even less winter drawdown and increased summer drawdowns. I realize the comment period is limited to the winter drawdown only but it's obvious the 2 are intrinsically linked. The NH DES positioning the winter and summer drawdowns as 2 separate projects is misleading – the citizens of New Hampshire are not idiots and it does nothing to assure us the NH DES is working in an open, honest, and fair manner.

I appreciate the opportunity to document my concerns. As a tax paying Pawtuckaway Lake waterfront owner, I implore you to reconsider the entire approach to the Lamprey River Water Management Plan. We need a long range, sustainable solution, not a short term band aid that will significantly alter and potentially destroy Pawtuckaway Lake.

Sincerely,
James Rosborough

Finemore, Kent

From: William Clewes [clewtec@roadrunner.com]
Sent: Thursday, July 19, 2012 8:29 AM
To: Finemore, Kent
Subject: Pawtuckaway Lake Drawdown

Dear Sir:
My wife and lived on Pawtuckaway lake for over 40 years, we presently do not reside on the lake or in Nottingham . During our time on the lake and a few years before the subject of drawdown has been hotly discussed many times. Some people were upset that any drawdown was experienced using reasons such as fish loss, may not have run off for a full lake next year to others that escape me at the moment. Others favored a lesser drawdown to maybe 5 feet at the gauge board located at Dolloff dam.
On a few years the lake was taken down well below the normal drawdown for dam rebuilds, my guess is the mid to late 70's. The water reappeared the next spring.
During the early 60's the lake level was not taken down as far as normal. The resulting spring ice floats destroyed several docks. One that I recall was located at Neal's Cove, this dock used railroad rail as vertical supports for the dock deck. These rails were twisted in unbelievable shapes by the ice floats in the spring. Numerous dock made of wood were completely destroyed and left floating as waste in the water.
The year after the greatest drawdown (dam repairs) we did observe a significant reduction in August weed population in Neal's Cove. One other lake that I have a small bit of historic knowledge about is Lake Bomoseen in the Castleton Vermont area. This lake was during the 30' to maybe as late as the 60's used as head water for a hydro electric plant. After the summer season the utility was allowed to draw the water down below the summer levels. This lake has historically had a weed problem. During the 70's I believe based on pressure from groups the lake was not drawn down as far for a few years, the weed population exploded. I believe I was told the lake was then drawn down during the winter to historic levels and weed population decreased to more normal levels.
Not being a resident of Nottingham or having a home on Pawtuckaway probably excludes me from having a voice in the drawdown so I offer the above as history. If asked I would lobby for retention of the traditional drawdown
William N. Clewes

Finemore, Kent

From: Dave Finn [d_m_finn@hotmail.com]
Sent: Thursday, July 26, 2012 9:27 PM
To: Finemore, Kent
Subject: Water Levels of Pawtuckaway Lake

I am a lifelong resident of New Hampshire, a 22+ year resident of the Pawtuckaway Lake area, and I am also a past officer of the Pawtuckaway Lake Improvement Association (during the EPA Grant Study period).

I am opposed to the proposed reduction of the winter drawdown level of this lake. My training and experience make me believe the unique characteristics of Pawtuckaway Lake demand that the drawdown level continue to completely drain off the area referred to as 'Fundy' (North of the 'Twin Islands'). The historic drawdown exposes the floor of this area, and through the hard-freeze of the roots decimates the many aquatic species would otherwise quickly choke off this area (about 1/3 of Pawtuckaway Lake) and greatly accelerate the eutrophication of this lake.

Given the devastation of the "Mother's Day Floods" just a few years ago I don't believe it would be wise to be impounding that much more water the next time 'Mother Nature' unleashes such an overnight impact! Imagine the downstream devastation if Pawtuckaway was already half full when that storm began! As it stands, the current drawdown level still results in water 'over the dam' (spillway) in the spring of every year since I've lived here. (So storing more through the winter would only result in additional Spring 'spillage', with the same resulting 'full-lake' level – since the spillways are fixed, concrete depth limiters).

And "hundred year storms" have been coming pretty frequently lately, haven't they?

My business background leads me to believe the only interest in impounding more water over the winter in Pawtuckaway is so that more would be available to be 'bled off' to satisfy downstream interests. However, springtime in New Hampshire has never been a time to want more water! We're usually anxious to drain off our flood-plains instead! I have to believe this proposal is an attempt to appear to offset the (also proposed) summer draw-downs of Pawtuckaway Lake. Those drawdowns would only be called for under drought conditions and by then any Winter storage water would already have long-since gone 'over the dam'.

Finemore, Kent

From: John Edwards [john-edwards@comcast.net]
Sent: Monday, August 27, 2012 1:15 AM
To: Finemore, Kent
Cc: jim rosborough
Subject: Winter and Summer Drawdowns - Pawtuckaway Lake

Dear Mr. Kent Finemore,

I find the proposed changes to the winter and summer drawdowns of Pawtuckaway Lake in order to provide drinking water to the town of Durham, and the UNH Campus at Durham ill advised.

1. According to the 5-year USGS analysis of Southern New Hampshire ground waters, the water quality contains high concentrations of arsenic, radon, uranium, and many other heavy metals. Expenses to remove this contamination will incur continued annual expensive treatment.

2. Further, the increased supply of lake water to eliminate the Durham, and UNH water shortages during significant drought years ahead are beyond Pawtuckaway Lake capacity to provide the solution. This "solution" is doomed to failure while making a disaster of Pawtuckaway State Park's premiere resource.

3. You need to provide a complete water supply solution the the Durham and greater seacoast communities for the next 40 - 50 years versus this current shortsighted duration solution.

4. I suggest you count the cost of a true solution: ie. Build a Seawater Distillation station on the coast sufficient to completely resolve this water inadequacy permantently for most seacoast towns. Fortunately, according to the latest "Group of 20 goals" the next several years appears to be the "Infrastructure Era" for Federal spending $$$.

5. Your current proposal to sacrifice the lake recreation not only to Pawtuckaway Lake waterfront owners, but also to the thousands of tourists from NH, and many other states who annuallly enjoy the superior splendor of Pawtuckaway State Park and its unparalled picturesque lake is one great boondoggle.
i.e. "The Bridge to Nowhere!"

6. Pawtuckaway State Park brings significant financial resources to the State, and the economy of the town of Raymond NH. Significant drawdowns during the hottest months of summer will likely significantly increase cyanobacteria blooms which will close the State Park waterfront to swimmers.

Respectfully,

John K. Edwards
53 Mooers Road
Nottingham, NH 03290

Finemore, Kent

From: russfmjr@verizon.net
Sent: Monday, August 27, 2012 12:43 PM
To: Finemore, Kent
Subject: Pawtuckaway Lake Draw Down

Dear Kent,

I do not think the winter draw down or the summer draw down should be changed. The present system does a good job of killing invasive weeds and it also turns the water over in the spring which is good for the fish. Changing it by 2 feet has not been studied so we don't know the effect. In addition having water available for release down stream during the winter may not be a good idea because the invertebrates and other stream life in the Lamprey River system have already accommodated for the winter and a fresh burst of water may hurt them instead of helping. In addition there have been a number of flood issues at Dover so a winter or spring release of additional water could be a danger. Also I think Wayne'study/report mentioned the historic flows. These flows are what happens now. By that I mean what nature provides. Except for the draw down period in Oct/Nov the flow down stream is just what happens with rain and snow and the normal run of the Pawtuckaway River.

Thanks for your consideration.

Thad Russell
27 Seaman Point Road, Nottingham, NH

July 26, 2012

Mr. Kent Finemore
Assistant Chief Engineer - Dam Bureau
NH Department of Environmental Services
P.O. Box 95 – 27 Hazen Drive
Concord, NH 03302-0095

Comments on the Lake Level Investigation for Pawtuckaway Lake

Dear Mr. Finemore: I'd like to begin my comments by stating that I am opposed to the proposal to change the annual drawdown of Pawtuckaway Lake from 7 feet to 4.82 feet. NH DES Commissioner Robert Varney issued a Decision in 2000 to maintain the 7-foot drawdown. To quote that decision: "... [T]he Lake serves several public interests by protecting and preserving aquatic habitat, water quality and storage, scenic beauty, and recreational opportunities. Since the Lake is a public resource, DES is obligated to protect and ensure its equitable use, and in determining the lake level, must balance protecting this valuable natural resource with the interests of all users of the Lake. Thus, changing the annual drawdown is evaluated with respect to existing and future impacts on water quality, lake ecology, aesthetic values, and recreation."

The Commissioner also said "Upon review of the record, it appears that the annual seven-foot drawdown has essentially served these public interests." He also noted that "... [D]amage from ice and spring floods could grow if the extent of the drawdown was changed to four or five feet."

For all of the reasons stated in his 2000 Decision, I would like to see the 7-foot drawdown continue. The testimony provided at the June 26, 2012 public hearing and in the online survey of residents just submitted to DES today show that almost all property owners agree.

The current dispute over this issue is a shame because DES has always been a trusted partner in its collaboration with the Pawtuckaway Lake Improvement Association (PLIA) and the Nottingham Pawtuckaway Lake Advisory Committee (PLAC). The Instream Flow program has changed all that, causing distrust and anger when we should be working together. Pawtuckaway Lake should not be viewed as a simple bathtub to be raised and lowered by computer model to meet undocumented downstream "needs" at the expense of its own values for recreation, scenic beauty, wildlife, fisheries, tourism, and the quality of life. There is no evidence that the lake ecology, recreational safety, and condition of private property on the lake will not be impaired or degraded by the proposal to change the winter drawdown. At the same time, we see no evidence that this change is needed downstream, due to the lack of data about the effects of winter flows on the river and aquatic life. Therefore, I ask that you please retain the annual drawdown at 7 feet and explore other alternatives to this proposal.

For the record, I would also like to point out that in the same way the hearing notice for the draft Lamprey Water Management Plan in 2011 did not mention that the WMP had any relationship to Nottingham or Pawtuckaway Lake, the hearing notice for the Pawtuckaway Lake Level Investigation did not disclose the relationship between the proposed annual drawdown change and the draft Lamprey Water Management Plan. In addition, the current version of the public notice for the Lake Level Investigation was posted on the DES website after the hearing on June 26; it does not mention Drowns Dam, which the Dam Bureau also uses to control the lake level on Pawtuckaway; it does not give a reason for the proposed change; it does not mention that in addition to changing the winter lake level, DES is also proposing to release water from the lake in the winter; and it does not reference the 2000 Decision by Commissioner Varney or provide a link to that decision.

In summary, the current lake level proposal feels like it's being pushed through at the expense of the lake and with inadequate safeguards for residents who have a large economic stake in this decision. I am not convinced that DES has considered the full ramifications of any aspect of the WMP, including the drawdown change as proposed, and I urge the Dam Bureau and Commissioner to move very cautiously and consider all aspects of this decision for the sake of the people who live on and use Pawtuckaway Lake.

Sincerely,

Liz Kotowski
14 Indian Run
Nottingham, NH 03290

July 25, 2012

Kent Finemore
NH Department of Environmental Services
27 Hazen Drive
Concord, NH 03302

Via email: Kent.Finemore@des.nh.gov
Cc: Thomas.burack@des.nh.gov

Re: Comments on the proposed changes to the winter drawdown of Pawtuckaway Lake

I am 100% opposed to changing the winter drawdown level of Pawtuckaway Lake. There is no scientific evidence that this will help either the lake or the river environment. In fact, there are serious questions as to whether changing the lake level will damage both the lake ecology and the river ecology. There is adequate evidence that this will damage property, and there are questions about safety to users of the lake.

The Protected Instream Flow Report for the Lamprey River (PISFR) references a "recommended winter level" for Pawtuckaway Lake. In this report they explained the "need" for additional water downstream in certain years and for that reason there is a need to retain more water in the lake.

There was a third party review made of the PISFR as part of a NOAA grant received by the state. The reviewers were scientists with expertise related to in stream flow ecology. They made several comments that indicated the study was flawed. Here are some of the comments made by experts indicating there should be either no change in flow rates or a better understanding of the flow rates before any change is made.

The third party review (TPR) said that there was no substantive evidence or study to conclude that the winter flow rates in the stream should be as great as stated. In fact they stated that the flow rates could be detrimental to the fish (winter flow rate = 10 x summer flow rate).

(TPR)"This procedure is likely to washout or dilute the sensitivity to some fast-water dependent species or life-stages with most others that are insensitive"

In other words, the potential exists for damaging the fish in the stream by increasing the overwinter flow.

The response DES gave to the third party experts was that no meaningful study was made of winter flow rates due to harsh conditions and difficult data collection.

Therefore, it appears the winter flow rate is just a guess and in fact could damage the stream. The third party reviewers hired by DES concluded that they have not done enough studies in the winter to draw any conclusions on proper winter flow.

(TPR)"Without any hard data on the effects of spring floods and winter flow conditions on the habitat use of resident fish I'd say it's a stretch to develop quantitative, predictive models"

(TPR)"Over-wintering common flow (238cfs) appears too high for the Lamprey River"

The DES in response to these comments by the experts agreed that there was inadequate study and the best guess as to the ideal conditions was made. No data was offered in response to these comments.

According to the experts the study is flawed. Therefore we should not go forward with the plan and there should be no retention of additional water in the lake.

In another comment made by the TPR, they brought up the subject of factors other than in stream flow on the habitat of the fish in the stream. They specifically focused on thermal pollution and the effects this would have on some species of fish.

(TPR) " I am somewhat unsettled that the Meso- HABSIM approach primarily focuses on the physical habitat (velocity/substrate) relationships of fish to identify the PISF, when other factors namely thermal pollutions ,which all but eliminates habitat..."

DES responded that it was not the goal of the study and therefore the "problem will need to be managed separately. "

The only conclusion that can be drawn from this is that the designated stream was inadequately studied. DES admits no study of the thermal effects on the ecology of the area was done and only today did I find out they are installing meters to study the thermal effect on the designated portion of the river. Note, they still don't consider the thermal properties of Pawtuckaway Lake.

The release of water in any season would change the thermal characteristics of the stream and should not be done without adequate study. No changes should be made to releases from the lake. Therefore no additional overwinter storage is necessary.

The complete report done by the TPR can be obtained from DES. The report is titled "The Instream Flow Council's Review of the New Hampshire Instream Flow Pilot Program: Protected Instream Flow Phase." Dated September 29, 2009. Within the report is a much more technical discussion of the faults in the PISFR.

In another report prepared by the DES the "Total Maximum Daily Load for Pawtuckaway Lake, Nottingham, NH" (TMDL study), dated January 2011, there is a lengthy discussion of the chemistry of the lake and the effects of increased phosphorus and decreased oxygen on the algae and cyanobacteria blooms. The TMDL study of the lake, which was asked for within the comments to the PISFR, was being done by the same agency that said they couldn't do it.

The TMDL study did not anticipate the winter or summer drawdown changes. In fact, DES answers to some of the comments made to DES contradict the TMDL study done on the lake. The answers to the comments had no data behind them but the TMDL study does.

The TMDL study indicates that the phosphorus loading comes mainly from farming activity, not from naturally occurring rotting of plants after the drawdown. The more water in the lake, the more dilution of the farm- induced phosphorus in the lake and the less likely there will be cyanobacteria blooms in the summer months. Furthermore, if the lake water is flushed out in the fall, there will be less phosphorus retained in the lake over winter.

Part of the TMDL study refers to "Anti-degradation regulations which are included in Part ENV-Wq 1708 of the New Hampshire Surface Water Quality Regulations. According to Env-Wq 1708.02, anti-degradations applies to: ...All hydrologic modifications, such as dam construction and **WATER WITHDRAWALS"** (my emphasis). DES will be modifying the flow violating their own regulations and leading to degradation of the lake.

If the current drawdown plans are put in place, then the phosphorus load will increase and there would be more cyanobacteria outbreaks, endangering public uses of the lake as well as drinking water quality downstream.

DES has made many mistakes explaining the summer drawdown of the lake and now with the winter drawdown in question, I wonder if they understand their own plan. In any case, they certainly haven't made convincing arguments to either the experts or the public. For that reason, the winter drawdown on Pawtuckaway should remain at 7 feet.

Edward Kotowski
14 Indian Run
Nottingham, NH 03290

Finemore, Kent

From: deckerjc@comcast.net
Sent: Wednesday, July 25, 2012 8:26 PM
To: Finemore, Kent
Cc: Fenton Groen; Frank Case; Joe Duarte; John Reagan; Kyle Tasker; James Sullivan; John Lynch; news@forumhome.org; Ives, Wayne
Subject: Proposed Winter Draw Down for Pawtuckaway Lake Comments

John Decker
deckerjc@comcast.net
11 Lakeview Dr
Nottingham NH 03290
July 25, 2012

Kent Finemore P.E.
Kent.Finemore@des.nh.gov
NH Department of Environmental Services
PO Box 95
27 Hazen Drive
Concord NH 03302-0095

Dear Mr. Finemore:

I am a long-time resident of Pawtuckaway Lake, and I am writing to express my concern regarding the proposed change for the winter water level drawdown of Pawtuckaway Lake. I am very opposed to the proposed change and do not feel that DES has provided ample documentation to support this change. In contrast, DES specific documentation appears to supports maintaining this 7' drawdown.

I know I will be personally affected by this as I have approximately 5.5' of water at the end of my dock at full pond and with a drawdown of less than that, my dock will be exposed to freeze or other ice damage. Yes, this is a selfish concern; however I have other concerns that are more environmental.

Currently the 7' drawn down has been ongoing for over 25 years, what environmental impacts will occur based on a lesser annual drawdown? I would like to see results of studies that have been completed. I have been led to believe over all these years that removing the 7' of water each winter provides a flushing of phosphorous which is healthy for the lake causing it not to age as quickly.

Fundy cove which is generally shallow will most likely be subject to increased vegetation with a lesser drawdown as much of that area is approximately 5 feet deep. I am guessing that leaving approximately 6" of water in much of that section over the winter would be detrimental to this protected cove.

I attended the public hearing on June 26th 2012 at the Nottingham Town Office and wanted to reiterate the questions I asked then.

It was mentioned that Fish and Game was concerned about the fish population and a lesser drawdown would help alleviate that concern so I asked, "Is fish and game here tonight to support their concern?" The answer was no. I was told at our lake association meeting by our liaison to that department that the

fish population was doing well. I appear to be getting mixed messages. It would be nice to hear what Fish and Game has to say.

I also asked, "Why such a drastic change? Would it behoove everyone to attempt a 6" change as a study for future change? (not that I am in favor of this change)." I'm just saying that there should be data and support for any proposed change. If we keep being reactive to one perceived problem without considering the consequences, we find we have created two new ones. Please carefully look beyond the immediate return and consider the negative impacts of your proposed changes.

Lastly I asked, "What ecological, environmental, economical, health and safety studies have been completed to identify any risks associated with lake level changes."

I followed up at the July 2, 2012 Nottingham Selectmen's Meeting with a question asking about an emergency winter draw down, " How does 6" in water equal a 2' draw down?" I received a fine explanation about head and basic fluid dynamics. I then stated, if necessary a drawdown could always surpass the 7' level where the lower gate is available to draw the lake lower than the 7' available through the boards.

It is clear that the residents of Pawtuckaway Lake and the Town of Nottingham do not support this change and I ask that you please leave the lake levels alone until you can prove a need for a change.

Sincerely,

John Decker
deckerjc@comcast.net

CC: Frank Case (casescove@comcast.net), Joe Duarte (joe.duarte@leg.state.nh.us), John M Reagan (john.reagan@juno.com), James M Sullivan (james.sullivan@leg.state.nh.us), Kyle J Tasker (kjtasker@gmail.com), Fenton L Groen (fenton.groen@leg.state.nh.us), John H Lynch (governorlynch@nh.gov), The Forum (news@forumhome.org)

July 25, 2012

Kent Finemore
NH Department of Environmental Services
27 Hazen Drive
Concord, NH 03302

Via email: Kent.Finemore@des.nh.gov
Cc: Thomas.burack@des.nh.gov

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In another report prepared by the DES the "Total Maximum Daily Load for Pawtuckaway Lake, Nottingham, NH" (TMDL study), dated January 2011, there is a lengthy discussion of the chemistry of the lake and the effects of increased phosphorus and decreased oxygen on the algae and cyanobacteria blooms. The TMDL study of the lake, which was asked for within the comments to the PISFR, was being done by the same agency that said they couldn't do it.

The TMDL study did not anticipate the winter or summer drawdown changes. In fact, DES answers to some of the comments made to DES contradict the TMDL study done on the lake. The answers to the comments had no data behind them but the TMDL study does.

The TMDL study indicates that the phosphorus loading comes mainly from farming activity, not from naturally occurring rotting of plants after the drawdown. The more water in the lake, the more dilution of the farm- induced phosphorus in the lake and the less likely there will be cyanobacteria blooms in the summer months. Furthermore, if the lake water is flushed out in the fall, there will be less phosphorus retained in the lake over winter.

Part of the TMDL study refers to "Anti-degradation regulations which are included in Part ENV-Wq 1708 of the New Hampshire Surface Water Quality Regulations. According to Env-Wq 1708.02, anti-degradations applies to: ...All hydrologic modifications, such as dam construction and **WATER WITHDRAWALS"** (my emphasis). DES will be modifying the flow violating their own regulations and leading to degradation of the lake.

If the current drawdown plans are put in place, then the phosphorus load will increase and there would be more cyanobacteria outbreaks, endangering public uses of the lake as well as drinking water quality downstream.

DES has made many mistakes explaining the summer drawdown of the lake and now with the winter drawdown in question, I wonder if they understand their own plan. In any case, they certainly haven't made convincing arguments to either the experts or the public. For that reason, the winter drawdown on Pawtuckaway should remain at 7 feet.

Edward Kotowski
14 Indian Run
Nottingham, NH 03290

Deborah Fexis
47 Lakeview Drive
Nottingham, N.H. 03290

Dear Mr. Ives,

My mother and I have recently moved to Pawtuckaway Lake and intend to make it our permanent home, having purchased a year-round house with lake frontage, a large dock, and a stone retaining wall that borders the shoreline. As such, I have been following this proposed plan and the numerous objections to it with great interest, at least for as long as I have been aware of it. My overall impression is that the DES's plan, as currently constructed, will certainly negatively impact homeowners along the shoreline and those not along the shore but with a vested interest in the health of the lake and the damage your plan will undoubtedly cause to properties adjacent. I have a significant financial interest in my newly purchased home, which I intend to protect.

I realize I am late to the party on this, having just been made aware that the comment period had been extended through today. I have read through many of the comments submitted by my fellow Nottingham residents, both on and near the lake, and I would like to add my voice to the chorus of those diametrically opposed to this "plan". I place the word in quotation marks, because it seems to be a plan only as regards what may happen downstream of our lake. I don't believe much, if any, real rational thought based on hard scientific data has been given to the effect of the lessened drawdown of 4.8 feet (versus 7) will have on the health and safety of the lake and it's many and varied aquatic flora and fauna, the quality of the water, the safety for boaters and other recreational users of the lake (in all seasons), and the property damage (and resulting decimation of property values and tax basis for the town of Nottingham) that will likely be wrought by ice around docks and other shoreline structures, as well as potential flooding of properties.

To wit, please consider and inform the residents of the lake, the Pawtuckaway Lake Improvement Association, and the Town of Nottingham officials as to how you plan to address the impact of the plan on the following:

- Property damage and loss mitigation for docks, decks, boathouses, sheds, retaining walls and the like;
- Potential for flood damage and loss mitigation of such for houses and surrounding structures adjacent to the lake;
- The inability for homeowners to effect proper maintenance on docks and shoreline structures due to the higher fall/winter water level;
- The effect on property values and the tax base of the town from the above points;

- Weed and algae growth and drift, including the potential for increased growth of invasive milfoil and harmful levels of cyanobacteria resulting from higher water temperatures;
- Potential danger to loon habitat and nesting patterns;
- Potential harm to great blue herons nesting and feeding, as well as other birds, amphibian species and mammals that depend on a healthy Pawtuckaway Lake for survival;
- Potential harm to fish, particularly those who spawn in shallow pools;
- Effect of the inevitable increase in phosphorous and other sediments from propellers churning up the lake bottom if the shallow areas are made even more shallow;
- Danger to boaters and people towed by boats from rocks that protrude where they had not previously;
- Danger caused by "winter releases" making the ice unstable for those using the lake for winter recreation (ice fishing, cross-country skiing, show shoeing, snowmobiling, etc.); and
- Effect of drought periods on the lake if the summer level is lower than current summer level

The 7 foot drawdown has been working for decades. People have built their homes and surrounding structures on the basis of a 7 foot drawdown for winter. Changes you make to the lake level affect much more than what you are trying to accomplish downstream of that. Please review and heed the comments made my many of my fellow lake residents before undertaking ANY plan such as what you are proposing. They said it much better than I could have (especially Edward and Elizabeth Kotowski and John Decker—please review their comments in particular), as they have lived here a lot longer than I have. I have only been here since March of 2012, and even I can see that the proposed plan is fraught with problems.

Please consider Pawtuckaway Lake for what it is; a true treasure for the State of NH. It belongs to all of us, it enhances our state's recreation and beauty in ways too many to enumerate in a correspondence of this type. I believe DES is looking at the lake simply as an "impoundment" of water, when in fact it means so much more than that. Please open your eyes and see Pawtuckaway for what it is. Spend some time here studying the delicate ecosystem of the Lake and the symbiotic relationship that the Lake's residents have with that ecosystem. This is our home. Please do not ruin our home.

Respectfully submitted,

47 Lakeview Drive
Nottingham, NH 03290
603-244-5027

Dear Mr. Finemore,

It has just come to my attention that someone wishes to change the Pawtuckaway lake draw down from seven feet to four feet.

I have been coming here for over 50 years and have lived here for over 20 years. If this happens, many people including me will have their docks damaged by ice. Who is the state would be responsible for repairs? There does not seem to be a good reason for changing things that have worked for many years.

I strongly object to a change.

Sincerely

Gladys Whitten

DES DAM BUREAU