# Transportation Land Development Environmental Services



Six Bedford Farms Drive, Suite 607 Bedford, New Hampshire 03110-6532

Telephone 603 644-0888

Fax 603 644-2385 www.vhb.com

Memorandum To: Paul Vlasich

Mimi Becker Deb Loiselle Date: October 31, 2013

Project No.: 52151.00

From: Peter J. Walker Re: Public Comments and Responses

Director, Environmental Services June 2013 Draft Feasibility Study

Attached is the final summary of all public comments received on the June 2013 Draft of the *Great Dam Removal Feasibility and Impact Analysis*.

These comments were compiled by Mimi Becker and came from a variety of sources including emails, online comments and written letters. We received more than 50 individual comments from a total of 20 different parties. The attached document provides a response to each comment received. Several comments prompted clarifications or updated analyses which were included in the final report. (The changes made to the report are highlighted in gray shading in the final report document.)

### Comments of Sean McDermott 3 Spruce Street, Exeter, NH

Dr. Becker,

My name is Sean McDermott. I live at 3 Spruce Street in Exeter. I have been following the study process and read select portions of the draft Exeter River dam removal feasibility study (June 2013). Below are my comments on the alternatives. My interests are principally the long term costs.

1. The scope of alternatives is quite good, particularly with the inclusion of full removal. Too often the removal is left out and engineered solutions are targeted. Unfortunately engineered alternatives, as covered in the draft, come with long term costs.

<u>Response</u>: The committee appreciates this comment, and agrees that the number and type of alternatives examined in this report is quite extensive. The cost estimates provided in Chapter 2 do address long term costs associated with each alternative.

2. Long term costs for engineered and no action alternatives are appropriately considered. Dam removal by nature would have no cost or minimal expenses over the 30 year window. That said, the summaries of costs are limited to known operations and maintenance. The unexpected costs, which by nature are difficult to capture, are not included. Specifically, what is the cost of partially or fully replacing the Obermeyer weir and flashboard system if alternative H is selected? In the event of failure, how rapidly can the structure be repaired? If the Town is unable to rapidly replace or replace the Obermeyer weir, what is the cost to upstream infrastructure that the Town may be required to cover? Such a failure could happen at any time. Although dam removal (option B) and the modification with Obermeyer weir (option H) are comparable in cost with similar environmental benefits, an understanding of the risk for failure should be part of the discussion.

<u>Response</u>: The cost analysis did consider "Life Cycle Costs" which attempt to estimate the costs associated with some of the factors cited in this comment. Specifically, Section 2.11.2 of the report did discuss the total costs of each alternative not only for operation and maintenance, but also included the likely costs for capitol replacement, including the potential for replacement of the Obermeyer flashboards and weir. (See the summary in Table 2.11-2.)

Some of the items cited in the comment are risk factors (e.g., effects of a failure), which cannot be precisely quantified. With proper maintenance, the likelihood of a failure of the Obermeyer system is very low. The length of time required to repair or replace a failed system component would of course vary depending on the actual component and mode of failure. In general, though, repair of any failure requiring replacement of the inflatable bladder would take weeks to months to complete. While this risk cannot be precisely quantified, it is not unreasonable to consider this factor in choosing a final alternative.

3. Long term costs of fish passage currently, presumably, covered by the state of New Hampshire. It was not clear if this cost was included in the analysis. Although an indirect cost, maintaining the dam requires an expenditure of time and resources to maintain and operate the fishway. There is no guarantee that state funds will be available to staff the fishway. Likewise, there is no guarantee that the Exeter River will remain a state priority for passing anadromous fish over the next 30 years. Only full dam removal (option B) is unaffected by this consideration. This factor should be part of the consideration for choosing an alternative.

### Comments of Sean McDermott 3 Spruce Street, Exeter, NH

<u>Response</u>: The current annual operation and maintenance costs for the Exeter River fish ladder at Great Dam, owned and operated by the NH Fish and Game Department, is \$12,554/year. This includes personnel costs for monitoring and maintenance, equipment to maintain an operational fishway, and repairs. This would translate to a minimum cost of \$376,620 over 30 years.

4. Full dam removal (option B) is projected to be the second most expensive option. Dam modification (option H) is a close third with similar water quality, fish passage and habitat benefits. However, compared to all the alternatives, dam removal comes with closure. No major future action related to the dam will be needed. No flood concerns associated with the dam; no structural failure; no insurance issues; no maintenance or operations. Additionally, removal of the dam eliminates the need for specialized training of town staff, which over 30 years may require repetition with staffing changes. All of this has implications for future costs to the Town and should be considered in the decision process.

#### Response: So noted.

5. Partial removal of the dam (option F) requires a new fish ladder. In addition to the long term costs of operations and maintenance, there is the risk that it won't attract fish. Hopefully the design considerations vetted the need for a training wall similar to the current structure. This would increase the overall cost.

In addition, lowering the head height by four feet may make a rock ramp viable. While a rock ramp would eliminate some O&M requirements and provide volitional fish passage year round, the long term performance of these structures are not fully vetted.

<u>Response</u>: We are confident that the new fish ladder can be designed to attract fish. The current concept would located the fish ladder entrance at river right where there is additional flow due to the low level gate – which could be modified to improve attraction flow. The entrance would also be set at the base of the dam unlike the current fish ladder; there is therefore no need for a training wall. The flow from the fish ladder entrance and the auxiliary flow provided by the low level outlet should adequately attract the migrating fish.

A rock ramp could be considered in lieu of a fish ladder, but it would likely be more expensive. Successful rock ramps are generally less than 5% slope, so an eight foot high dam (i.e. the existing downstream dam height minus the 4 foot breach proposed under Alternative F – Partial Removal) would require a ramp approximately 400 feet long. That would require a great deal of material, placement of which could be quite expensive and involve potential design issues.

6. Final selection of an alternative should not be simple cost (although see the next comment). If we as a Town intend to take on a large project, we should aspire to the broadest range of benefits. Stabilizing in place (Option G) does nothing for the Town except meet a narrow regulatory standard (not to belittle the requirement). We gain nothing for recreation, water quality or migratory fish, and next to nothing for flood mitigation. A great deal of money would be spent for a single goal. Dam removal (option B), and partial removal have similar potential benefits across a broad range of interests: fish passage, water quality, flood mitigation, etc. Although more expensive, more would be completed for improving the natural resources and the quality of life in Exeter.

### Comments of Sean McDermott 3 Spruce Street, Exeter, NH

#### Response: So noted.

7. Whatever option is selected, the availability of outside funding should be a top criteria. If state or federal funds are available for specific options but not others, the Town voters should be informed. Such funding could make otherwise expensive options palatable to local tax payers.

<u>Response</u>: The report has been updated to include a discussion of potential grant funding opportunities. Please see Section 2.11 of the final report.

The draft report appears to address the social, economic and environmental concerns surrounding this project. Long term costs, outside funding sources and a broad spectrum of benefits should inform the decision process for advancing a preferred alternative. Thank you

### Comments of Allen Lampert Franklin Street, Exeter, NH

I own property on Franklin Street and have worked and next to the river for 40 years. Having have suffered the effects of flooding and the negative economic impact, I feel removal will be the best long term course of action.

Allen Lampert

### Comments of Tom Oxnard Greenleaf Drive, Exeter, NH

Hi, I am writing in response to the article, and for public response to the Great Dam. I would vote to take the dam down, because of the huge financial losses and misery created by regular floods. I hope these financial costs have been factored in.

Tom Oxnard, Greenleaf Dr, Exeter

# Comments of Dan Jones 181 Kingston Road, Exeter, NH

Dear Dr. Larsen Becker:

I have read with some interest the Executive Summary of the Committee Report with its attachments. My comments would be:

1. The fish ladder was rebuilt around 2010, not the earlier date mentioned in the introduction.

<u>Response</u>: The date in the report refers to the original installation of the fish ladder, which occurred in the late 1960s; the date cited in the report is therefore correct.

2. There is no discussion of the effect of the "Great Bridge" on the flooding upstream of the existing dam. In the "Mother's Day Flood," the flow could not pass under the bridge, while, of course, there was full flow over the dam below.

<u>Response</u>: The full text of the report and its appendices has a very detailed discussion of the river hydraulics, including the restriction presented by the Great Bridge. The hydraulic analysis considers this effect, so all of the numbers in the report are accurate, as are the findings outlined in the Executive Summary.

3. There is no discussion of the lack of management or the failure of the town to open the existing gate in advance of potential flooding. The dam suffered from creative neglect for many years under the prior town administration. I believe that it has since been the practice to open the gate and draw the impoundment down in anticipation of severe storms, with a reduction in flooding. Is an upgrade of the existing gate, or an exploration of the possibility of using the mill penstock in these cases included in the Stabilization option? Could the gate be enlarged?

Response: These issues are addressed in detail in the full technical report. We examined both upgrading the gate and using the penstock in great detail in this and previous studies. We found that increasing the size of the gates <u>does not</u> provide adequate hydraulic capacity (i.e., would not pass the 50 year flow) and therefore would not eliminate the safety concerns and would not meet dam safety rules. Similarly, using the penstock would not provide adequate hydraulic capacity, and faces other constraints as well. However, reconfiguring and increasing the size of the gates is included in several of the alternatives, most notably Alternative H – Dam Modification.

4. The report seems to treat the existing wetlands and wildlife habitat along the rivers as some sort of recent creation. They have been in existence since the original construction. Except for the white oak swamp I see very little concern in that direction.

<u>Response</u>: Certainly, the river valley contained extensive wetlands and wildlife habitat prior to the construction of a dam on the Exeter River; these wetlands and wildlife habitats will continue to exist if the dam is removed. However, those natural systems have adapted to the increased water levels and more frequent flooding produced by the dam. Natural community changes, including a potential loss of wetlands as discussed in the report, is a concern to many in the community as well as to the natural

# Comments of Dan Jones 181 Kingston Road, Exeter, NH

resource agencies. It is appropriate to consider this effect in making a final decision about the fate of the dam.

5. The report describes the drop in water level upstream. I do not see an analysis of the gradual drop in ground water level and the effect on the surrounding area. We all know that the developers who are pushing for the removal anticipate that their land along the river will become less restricted.

Response: The effect of dam removal on groundwater levels in discussed in several sections of the technical report, most notably in the context of water supplies (Section 3.7.3) and wetlands and other natural resources (Section 3.11). If the dam removal alternative is selected and the dam is removed, it some areas along the river may eventually transition to upland, but these would tend to be areas located away from the river itself and not directly adjacent. Existing state and local regulations would apply to these lands accordingly. Tim Drew, NH DES, can provide more information about state regulations regarding shoreland areas and wetlands: timothy.drew@des.nh.gov.

6. Has there been a survey done of the extent of the flowage rights owned by the town?

<u>Response</u>: The Town is not aware of any survey of flowage rights. Such a survey is not considered a requirement before a decision can be made on which alternative to select.

7. I own much of the Exeter frontage on the Pickpocket mill pond. Is the State going to push for its removal too? I would gain several acres of dry land.

<u>Response</u>: The State does not have a preference regarding the alternative which a dam owner selects, as long as it meets Dam Safety Regulations. Dam removal is one means to achieving safety standards. The Pickpocket Dam is owned by the Town of Exeter and is currently under a Letter of Deficiency. It is the responsibility of the town, as the dam owner, to address the noted deficiencies and their choice to as to how they will comply with Dam Safety Regulations.

8. Has the committee looked at the mess that other dam removals have caused?

<u>Response</u>: The committee has received several public comments at the three public meetings that were held for this project regarding the outcome of other New Hampshire dam removal projects. As a result, public presentations of New Hampshire dam removal projects will be prepared and presented. The commenter is encouraged to attend the future public presentation to receive factual information and participate in discussions.

9. I believe that stabilization and improvement and management of the existing gates is the best way to preserve Exeter's heritage.

<u>Response</u>: These issues are addressed in detail in the full technical report. We examined both upgrading the gate and using the penstock in great detail in this and previous studies. We found that increasing the size of the gates <u>does not</u> provide adequate hydraulic capacity (i.e., would not pass the 50 year flow) and therefore would not eliminate the safety concerns and would not meet dam safety rules. Similarly, using the penstock would not provide adequate hydraulic capacity, and faces other

# Comments of Dan Jones 181 Kingston Road, Exeter, NH

constraints as well. However, reconfiguring and increasing the size of the gates is included in several of the alternatives, most notably Alternative H – Dam Modification.

10. Although Exeter may not have a specific figure added to the appraisal for river frontage, it does affect the market value which is the basis for the value placed on the parcel.

<u>Response</u>: The Town will continue its current property assessment process. The tax assessor does not assess riverfront property any differently than other property and the market dictates the value of property.

11. I do appreciate the amount of work done on this study. Unfortunately, my illness over the past year has kept me from getting too involved. I have previously served on both the Planning Board and as chairman of the Z.B.A. for five years. I was also on the Sounding Board which wrote a soil type based master plan, long since buried, in the 1970's. The town does have maps which delineate the soil types, and probably those areas saturated by the mill pond.

<u>Response</u>: The Exeter River Study Committee acknowledges and appreciates this comment. The commenter is encouraged to participate in future public discussions regarding the selection of an alternative.

Thank you for your attention,

Dan Jones 181 Kingston Rd.

### Comments of Carl and Sharon Anderson Exeter, NH

Good morning Ms. Larsen.

My wife Sharon and I have lived in Exeter for more than 40yrs and have enjoyed the beauty and harshness of the Exeter River. To us the total removal of the dam is the most practical and cost effective way of dealing with all the present and future potential unknowns if the dam remains.

Respectfully yours, Carl and Sharon Anderson

### Comments of Bonnie Flythe Exeter, NH

Hello,

I have read the reports on the town site about the Great Dam and now think that the town should remove it. This would apparently be the most sound (sic) ecological move and would improve the quality of the water.

I am not persuaded that it has sufficient historical importance to preserve it. With the dam removed residents would be restoring the river to its condition when the earliest residence lived here. It would be interesting to know what Native American archaeological sites existed along the banks, but that is unfortunately not possible. It does not seem to me that removing the dam will seriously harm the picturesque nature of the downtown area. From so many angles, Exeter is very attractive and at least part of that is the result of some relatively natural areas along the river bank.

Thank you for considering what I have to say. Bonnie Flythe

# Comments of Jeff Bouvier 1 Hillside Avenue, Exeter, NH

Dr. Larsen Becker,

My feedback for the Great Dam is to go with Option G, stabilize the existing dam. First and foremost, it is by far the cheapest option and should be the obvious choice based on cost. Cost should always be the primary driving force when it comes to spending of the tax payers dollars. Second for me is to leave Exeter as it is. A dam has been there for over 350 years and it should remain there. It is what made Exeter, Exeter. Without the river and the dam, Exeter would be a dramatically different town.

Sincerely, Jeff Bouvier 1 Hillside Ave. Exeter, NH

<u>Response</u>: The Exeter River Study Committee acknowledges and appreciates this comment. The commenter is encouraged to participate in future public discussions regarding the selection of an alternative. Please note that cost estimates have been updated in the final report in response to public comments and additional information. Additionally, a discussion of potential grant funding opportunities for the project has been added to the report.

# Comments of Philip Conlon Crawford Avenue, Exeter, NH

We live on Crawford Ave in the Court St area which sees significant flooding. After reading the report summary on the town's website, it seemed that as a taxpayer with no impact from the river as a homeowner, the decision to anchor the existing dam would be the most cost effective approach. One of the questions at the end of the report asked about grants for dam removal. The answer was somewhat ambiguous talking about modification not removal. We have a vested interest on this topic and strongly support the removal of the dam due to flooding problems. We received heavy damage to our home during the mother's day flood, and have been forced to leave several other times during heavy rain storms. When this topic of dam removal was first brought to our attention a few years ago, there were conversations of federal money for dam removal, not modification. The last article in the Exeter News letter detailed the costs on the front page of the newspaper showing the least expensive project being anchoring the current dam. I'm not sure if this is misleading the public if public money is available, since most voters would vote for the cheapest alternative. There are many other positive features to restoring this river to its original beauty as many river projects are doing so throughout the country. However, the bottom line of our viewpoint is it would be nice to feel a bit more secure when heavy rain storms are predicted.

Philip Conlon

<u>Response</u>: The Exeter River Study Committee acknowledges and appreciates this comment. The commenter is encouraged to participate in future public discussions regarding the selection of an alternative. Please note that cost estimates have been updated in the final report in response to public comments and additional information. Additionally, a discussion of potential grant funding opportunities for the project has been added to the report.

### Great Dam Removal Feasibility and Impact Analysis-Final Draft Report

#### **Comments:**

Brian Griset August 13, 2013 26 Cullen Way, Exeter, NH 03833

(603) 772-0978 Email: grisetandsons@comcast.net

Please accept the following comments on the final draft report and Executive Summary. As you are aware I have been involved in this project from the beginning on both the W&S Committee and River Advisory Committee as well as a private citizen and consultant. There are multiple areas of concern which are unaddressed or reflect inaccurate information.

<u>Response</u>: The Committee appreciates the detailed comments provided by Mr. Griset and acknowledges that some clarifications and additional information would benefit the report, as is the case for all draft reports of this nature. However, we respectfully contend that this comment overstates the issue. Additional responses to specific items are provided below, and the report has been updated in response to some of Mr. Griset's comments.

I would like to ask one question before I proceed. Is it the intension of the Committee and Consultants to actually update and correct the Final Report itself, rather than just adding "comments and answers" as a separate handout?

<u>Response</u>: The ERSC has issued responses to each of the comments received. Additionally, the final technical report has been updated as needed in response to public comments received on the June 2013 Draft Report.

#### Issues:

### Methodology:

*There is no consistency to the methodology or scope of work assigned to each alternative. As examples:* 

#### Dam Removal option:

Governmental Impacts: Positive

The report looks more globally and includes potential NEGATIVE infrastructure impacts (the 4 direct intakes into the river).

However, there is no evaluation or quantification of the POSITIVE impacts and the cost savings directly resulting from the reduction in flooding and lowering of the overall water table. We currently have multiple completed and ongoing studies covering some of these issues.

### Example 1:

I/I, Inflow and Infiltration has been a hot topic as demonstrated by the CSO discussions, Wastewater Treatment capacity and operating expense discussions and the current Jady Hill project. There has already been a second I/I project identified, Westside Dr. Sump pump usage for underwater basements has been discussed at length and a town wide solution has not been developed. On multiple occasions, in multiple forums, I have raised the issue and premise that the lowering of the water table should result in some change in the volume of water being discharged by sump pumps or I/I into the sewer lines which would lower total operating costs for its treatment. Further, any reduction in volume would allow for less capital expenditures to reduce this problem. Not even a mention of the potential cost savings is included in the Dam report. These costs savings from reduced operating and diminished future capital projects impacting W&S users are not quantified or even mentioned in the report or Executive Summary. An "estimated" credit should be established for these items, both O&M and capital cost.

Response: The commenter raises a reasonable point, but there is currently no accurate way to estimate these costs, so their inclusion in the cost estimate would be potentially misleading. The cost estimates as presented make a very significant effort to include all potential direct and indirect cost items in a balanced way so that the public will have a comprehensive view of the relative costs of each alternative. It is certainly appropriate to consider factors other than those included in the cost estimates when making a final decision on the best alternative. This potential benefit has been identified and discussed in a qualitative manner in the final report in a new section entitled "Other Potential Related Costs and Benefits."

#### Example 2:

Currently the Town, or taxpayers, expend funds from property taxes to maintain and operate the dam. Licensing fees, repair and maintenance costs, utilities and personnel costs are budgeted annually. These costs should be also quantified for the same time frame (30 years) used for future O & M future expenses for the other options and listed as a credit for the Dam removal option in determining total cost.

Response: The costs estimates already address the relative differences between the alternatives for operations and maintenance (O&M) costs. O&M costs are appropriately reflected in the cost estimates for the "build" alternatives. To include them as a credit for dam removal would essentially count them twice, which would not be appropriate.

#### Example 3:

Another example is reduced road maintenance costs due to frost heaving. Most of our roads were laid out prior to the 1960's when the dam alterations began raising and restricting water flow and the operation of the mill water source began to be reduced and discontinued. As a result, road bed elevations were constructed based upon that periods water table and frost parameters. Presently, low lying roads like Court St. and Powder Mill Rd. suffer extreme frost heaving resulting in higher maintenance costs and shorter life expectancies. An estimate should be requested from the Highway Superintendent and included as a credit.

Response: Again, quantifying these types of indirect costs is extremely difficult, if not impossible, and is therefore not standard practice. The cost estimates as presented made a very significant effort to include all potential direct and indirect cost items in a balanced way so that the public would have a comprehensive view of the relative costs of each alternative. However, this potential benefit has been identified and discussed in a qualitative manner in the final report in a new section entitled "Other Potential Related Costs and Benefits."

#### Example 4:

I won't even go into the funds spent by this town for emergency management, past emergency responses, overtime, etc. but a general review and presentation of town wide annual cost savings should be included in the report showing the offset to any projected expenses.

Response: Available information on Federal Emergency Management Agency (FEMA) insurance claims and grants in Exeter was gathered and included the in the report. Based on additional discussions with the town in response to this comment, it was determined that there would be no accurate way to quantify the potential savings to the Town from decreased emergency operations if the dam were to be removed, and the Town expects these savings to be relatively small. However, it may be appropriate to consider this potential benefit if the dam were to be removed (Alternative B) or Modified (Alternative H). Therefore, this potential benefit has been identified and discussed in a qualitative manner in the final report in a new section entitled "Other Potential Related Costs and Benefits."

Private Property Owner Impacts: Positive

#### Example 1:

Currently FEMA is conducting studies to update FEMA flood maps based upon new rainfall information. It should be noted this data is based upon prior rainfall data, not projected future data related to Climate Change.

When making these updates the modeling will be based upon the rainfall data and <u>existing</u> infrastructure and topography. The projected net result is that the new FEMA mapping will incorporate an even greater geographic area in Exeter.

Since all property transfers now require flood zone certifications for transfer and mortgage purposes, we will see numerous new Exeter homeowners now required to purchase flood insurance. A current rate quote from last week for a \$250,000 home with a \$1,000 deductible in the 100 year flood plain is \$458. A home in a 50 year flood plain will be even higher and will affect many homes currently paying a premium based upon the 100 year event.

With the dam removal option, immediately upon removal the Town of Exeter can request updating of the FEMA mapping to reflect the diminishing affects and geographic area of flooding. This would result in immediate cost savings to present and future home buyers and sellers.

Response: Until new maps are available, any estimate would be speculative, but again, it is appropriate to consider this as an ancillary benefit of certain alternatives including Alternative B – Dam Removal. This potential benefit therefore has been identified in the final report in a new section entitled "Other Potential Related Costs and Benefits."

#### Example 2:

With a lowered water table back to natural conditions multiple areas in Town will see a reduction in moisture and water seepage into basements. This will likely lead the availability for use of these basements and the resulting drop in humidity will reduce cases of mold. Mold can be a significant health hazard to humans and can devalue a property for resale.

<u>Response</u>: Again, quantifying these types of indirect costs is extremely difficult, if not impossible, and is therefore not standard practice. The cost estimates as presented made a very significant effort to include all potential direct and indirect cost items in a balanced way so that the public would have a comprehensive view of the relative costs of each alternative.

#### Costs: Net Costs Required

Finally, on multiple occasions I have communicated the availability of grant funds for dam removal from multiple government and private sources. The executive summary of the report makes no mention of this. The full report, on page 84 of 274 has a one sentence disclaimer added at the end of their comparison chart simply stating government grant money is available. No source data, no amounts or limits, no reference list of agencies or private organizations. In 10 minutes on Google today I found a list of 20 programs and organizations, specifically for a dam removal project here in NH in 2007.

<u>Response</u>: In response to this and other comments received on the draft report, the consultant has developed a discussion of potential grant funding opportunities for the dam removal alternative as well as other build alternatives. This discussion was presented to the town in a memorandum from VHB to the Town dated September 24, 2013 and is summarized in Section 2.11 of the revised final report.

The report, and especially the Executive Summary and Tables, should reflect all cost savings, cost impacts, grant funding available and the resulting "net costs" for each alternative, including interest expenses of the bond.

As example, Alternative F has an initial cost of \$1.3 Million with no available grant funding. A 10 year, with equal annual principal bond payments of \$130,000 per year would incur total interest payments of \$214,500.

Whereas, if dam removal and all related impacts, after all grant funding had a principal balance of \$500,000 under the same terms, the interest impact would be \$83,500, a differential of \$131,000 in interest expense.

If the report is purporting to reflect a 30 year look out period for impacts, this factor should be included in the tables for all alternatives.

<u>Response</u>: The Town and consultant believes that the including financing costs is not necessary to allow the public to make an informed decision on the various alternatives. Inclusion of bond cost is unlikely to change the costs of the various alternatives relative to one another.

#### Differing Methodology:

The methodology used in costing out impacts differs from that used in computing cost figures for the "Remain in Place" additional items.

The full report gives estimate ranges for the 4 intake modifications. As an example, River Intake is listed at \$750,000 to \$1,000,000 and the Mill intake at \$250,000 to \$500,000. All for projects combined have a range of \$1,225,000 to \$2,000,000. The combined cost number added to the Dam Removal option is \$1,747,950 in the report. I have attempted to run a methodology, average, median, etc. to explain this number. I can't determine one. The number used is equal to 87% of the high estimate and 108% of the averaged cost.

Response: The calculation of this figure is in the draft report was detailed in Appendix H, Page H-6, in the sheet entitled "mitigation costs." Note that this cost was updated as a result of this and other comments on the draft report. The revised cost to the Town for retrofitting public water intake structures (i.e., the Exeter River Pump Station and the dry hydrant at Founder's Park) is now estimated to be approximately \$392,408. (See Table H-10 of the final report.) Additionally, the cost to retrofit private intakes (i.e., the Exeter Mills intake at the penstock and the Phillips Exeter Academy intake) is estimated to be approximately \$813,000. (See Table H-11 of the final report.)

I then compared the numbers and methodology for "the Remain in Place" only additional item, "water quality". In the full page report the range given was \$250,000 to \$1,000,000. The number used in the report is \$550,000. In this case the number is only 55% of the high estimate and is not even the average but 88% of the average. This disparity in methodology I cannot explain as it inflates the costs for "Removal" but diminishes the costs for "Remain in Place". A consistent methodology should be used.

<u>Response</u>: The costs for retrofitting water intake structures are completely separate from the cost to address water quality issues. Thus, the methods used to arrive at the cost for these two items differ appropriately so that they will properly reflect the separate considerations involved in each issue.

#### For the Stabilize Option G and Modification Option H

In addition to the methodology issue I just stated above, I find it disturbing that even additional cost items stated as probable costs in the full report are not cost estimated out or even mentioned in the Executive Summary or in the presentation. As an example, on the "stabilize option" they state that additional costs are highly probable for abutment modification to prevent over-topping. No investigation, no analysis, no mention in the Executive Report tables.

The last minute proposal for "Stabilize in Place" has been inadequately explored for total costs. Yet it is included in the report as if it has been studied to the same degree as the other options. Clearly, the average person will not be able to nor want to read a 274 page report plus the appendixes. In the Executive Summary, at the least a disclaimer should be included on this alternative stating that potential addition costs may occur from yet to be determined factors not considered by the Report.

<u>Response</u>: The cost estimates for each alternative, including Alternative G – Stabilize in Place, were completed with the same level of detail and are in compliance with the appropriate engineering standard of care.

From what I could determine for these two alternatives the existing and current expenses incurred by the town are not being adding into the calculation of O&M costs for determining the final 30 year cost. Not only should those costs be reflected as a credit on the "Removal Alternative", they should reflect as an expense on this and all other options.

<u>Response</u>: As discussed in our response to a previous comment, the costs estimates already address the differences among the alternatives relative to operations and maintenance (O&M) costs. See Tables 2.11-2 and 2.11-3 of the report, as well as the additional details provided in Appendix H. O&M costs are appropriately reflected in the cost estimates for the "build" alternatives. To include them as a credit for dam removal would essentially count them twice, which would be inappropriate.

#### Water Intake Assumptions:

#### Mill:

The report inaccurately states that the Mills has a deeded right (ownership) to the penstock. That is incorrect. The deed is silent on the ownership of the penstock but does transfer the land (Founder's Park and Library) to the Town. The only stated right reserved for the Mills is the right to access water for <u>fire protection</u>. The only obligation within the deed for the Town was that it could not do modifications which would deny the mill this "fire protection". I believe I even brought this up before the River Committee way back when it became an issue.

Updating these comments based upon a statement by Selectmen Don Clement, the Town recently found that there is another agreement which may grant additional rights to the Mill for air conditioning and irrigation. If this is so, then insuring their intake may be required.

<u>Response</u>: The Town will continue to work with Exeter Mills to address concerns relative to water supply and potential impacts to their intake. This comment references certain legal rights which are still under review by the Town's attorneys.

The numbers/estimate for adjusting the Mill intake state they are estimated on the high side due to the unavailability of engineering information. I have provided you with the contact information for Gene Lambert, past engineer for the Mills who is familiar with the present design of both the Mill intake and the dry hydrant. Updated estimates should be reflected in the report and Executive Summary.

Response: The draft report relied on an analysis presented in the Town's study of water supply alternatives developed by Weston and Sampson in 2010, as well as additional information provided by Exeter Mills to Weston and Sampson in 2011 and 2012. In response to this comment, VHB contacted Mr. Lambert, who graciously provided some additional information which has been taken into consideration in reviewing the estimate for the mill intake retrofit. This supplemental information helped to confirm that the earlier opinion of cost for retrofitting the mill intake was appropriate.

Based upon review of the granite formation underlying the dam, it is apparent that the northern end of the outcrop is 1 foot lower than the remainder of the out crop. In addition, directly upstream of this area is a depression in the granite formation of sufficient depth to install an intake by extending the 8 inch ductile iron pipe to this location.

To insure adequate and additional availability of water for the mill and raise the lowest static level of the impoundment, I would suggest raising this 10-15 foot lower area of the granite outcrop by one foot to match the elevation of the remaining bedrock formation. It could be done in a way to simulate the natural granite formation and blend in for esthetics. This should not add much to the cost of the intake extension and would possibly eliminate any need to jack hammer or blast as recommended for other options.

<u>Response</u>: The approach suggested by Mr. Griset may prove to be a feasible in addressing the mill intake retrofit. A final design for any necessary intake retrofit would be undertaken once the community selects an alternative to pursue, whether it is dam removal or another alternative.

#### PEA:

For the dam removal option the report's methodology includes costs that the Town is potentially not legally liable for. As previously stated, the PEA property was originally owned by Gilman, one of the original mill owners and one of the partners who formed the Exeter Manufacturing Company and Exeter Water Company. In the incorporation documents for both you will see that all riparian and flowage rights were transferred to the owner of the dam.

The fact that PEA chose to install a dug well for irrigation verses a river intake reinforces that they are aware they have no legal rights to rely upon the river for watering purposes.

<u>Response</u>: This comment references certain legal rights which are still under review by the Town's attorneys. However, in response to this comment and informal feedback from the Academy, the cost for retrofitting the PEA withdrawal has been removed from the direct costs to the Town but is still presented in the study in a new section of Chapter 2 entitled, "Other Potential Related Costs and Benefits."

### Comment/My Biggest issues:

While on the W&S Committee from 2005-2008, during those 4 years we implemented a strategic plan and encouraged DPW to institute those processes. It is clear that both the DPW and the Town Manager are not doing so.

Using the "\$800,000" river intake item as the example: I went and read the specific section of the Weston & Sampson 2010 report. I had already done a cursory review of the whole report previously. The report is supposed to be a strategic plan for our water needs. It essentially continues what the old W&S Committee started, a transition to a 100% groundwater source system to reduce costs and avoid catastrophic failures.

The approved groundwater plant was designed to be expandable to add additional sources after Gilman, Stadium and Lary Lane wells were online. These 3 could be permitted faster than other new sources that had been located. The 2010 report included a provisions, actually two, that allowed for an interim solution if the dam was removed prior to permitting of the new sources. The first, a \$100,000 aeration system for the reservoir to allow year round withdrawals from the water works pond. Second was supposed to be a \$65,000 extension to the intake pipe based upon our recommendation at that time. Instead, a \$750,000 to \$1,000,000 total restructuring of the intake system at the pump-house is being proposed.

If we are intending to remove surface water infrastructure from our system and go to a total groundwater system, and, the 2010 report estimates bringing a new well online will cost \$1,000,000, why would we expend \$1,000,000 (or even \$800,000) retrofitting and upgrading a surface pump station when a \$100,000 or \$60,000 temporary "solution" is available?

Response: As discussed in response to comments above, the cost of addressing the retrofit of the Exeter River Pump Station as a result of partial or full dam removal has been updated in the final report. The original estimate presented in the June draft report was \$948,500. The revised report now carries a cost for this item of \$338,208. See Section 2.11 and Appendix H of the revised final report. This reduction was appropriate for two reasons: 1) The Town had already completed some of the work included in the estimate included in the draft report, and 2) Some of the costs included in the original estimate related to work needed regardless of the fate of the dam. The revised cost estimate is considered a reasonable amount for planning purposes and is more directly tied to the partial or full dam removal alternatives.

In essence, nobody is coordinating the game plan and explaining it to both the public or the consultants. No one is looking for the synergies to save the taxpayers and the ratepayers money. Nobody is looking at the total ramifications of each and every decision and how they impact the other decisions.

Right now the citizens are going to be facing the costs and decisions on projects 99% of the Town is unaware of. Here's a list of those items current issues being studied or planned for:

#### Mandatory

Flooding liabilities
Dam deficiencies
Section 401 Water Quality (dead river) and BMPs
Inflow/Infiltration
CSO's
New Sewer Treatment Plant

Additional Provisions of Federal Sewer Permit

"Climate Adaptation Plan for Exeter" (additional flooding levels above those in Dam Report, forecast not even being considered by Dam report)

Infrastructure demands to deal with Climate Change Plan.

Interconnection Agreement with Stratham

Stormwater Separation, groundwater, non-source point pollution

Start Paying for Groundwater Treatment Plant

Start developing and permitting 2 additional wells. additional

Waterline Improvements specifically for Ground Water Treatment Plant NOT disclosed to public but required prior to putting GWTP on-line.

Sewer line improvements and replacement schedule

Undersized and failing Bridges- Court St., Linden St., String Bridge.

#### Wish List of Someone

Epping Road Corridor Gateway improvements
Portsmouth Ave Gateway improvements
Downtown TIFF
Downtown "Redevelopment"
Parking Garage
2nd Fire Station
Upgraded Communications system
Facilities Plan

Schools????? Conservation land Raynes Farm- again!

**Summary:** Unless the Report is corrected, or people start speaking out and start looking into this by asking their own questions, the Selectmen might make the wrong choices for the warrant article and then it will be up to just the citizens to figure this out. In reviewing the draft report recently released, I have a few, no, many concerns.

First, the report adds \$1.74 Million to the actual \$784,000 cost of dam removal specifically for "intake adjustments". Four are listed in the executive summary. First the river pump station at \$800K-\$1.0M. This is not for an extension of the intake pipe. They have proposed building a totally new intake consisting of a dry well in the river bank at a depth below the riverbed with a metal screen built into the side of the riverbank. A lot more expensive than our less than \$60K modification of the pipe as a temporary measure until the groundwater sources could be brought on-line.

Second constructing a new dug well for PEA's athletic field irrigation at up to \$250K which is not even our responsibility. PEA has no riparian rights to the river or is the Town required to maintain any level of water for their benefit. These water rights were stripped off by the original owners back in 1828. That is why PEA constructed a well instead of a river withdrawal in the first place. Third, the issue of the Mill's water right withdrawal is back. The engineers use a number between \$250K-\$500K claiming they do not know how the withdrawal is accomplished as there are no engineering drawings. Not only did I inform

the committee on more than one occasion that Gene Lambert was the engineer at the time and had knowledge, I spoke with the Mill property manager and he stated he knew how it was constructed. Finally, they have added up to \$250K for changing the intake for a dry hydrant in Founders Park once again claiming they have no knowledge of the actual intake.

In general, the report uses O&M expenditures to add some costs to some options but is silent on the costs and impact cost savings currently being expended in maintaining the dam. Even existing O&M savings by dam removal are ignored. Methodology for assumptions between the various options listed is not consistent and results in inflated costs for dam removal and understated or non stated additional costs for the other items.

#### Response: Please see our responses to similar comments above.

Finally, years ago when we first discussed this I gave the River Study Committee a list of federal, state and public/private institutions that gave grants for dam removal efforts. The Executive Summary is silent on this fact. At the meeting this issue was raised and the consultant and town engineer admitted to 50% funding availability. The day after in 10 minutes on-line I found a source listing, I believe, 16 organizations that participated in a 2007 NH dam removal project providing grant money totaling 92% of the costs, \$40K was required from the dam owner.

<u>Response</u>: The Executive Summary and Chapter 2 of the final report have been updated with a discussion of grant funding opportunities.

#### Recommendation:

The benefits to Dam Removal, regardless of the real costs, far outweigh keeping it in place.

Environmentally it corrects all of the damage to the ecosystem that has occurred since 1968. It will bring back natural wildlife patterns, ranging from deer, to fish to birds and insects.

It corrects and reduces flooding and the resulting costs, not just now but in the future times based upon the Climate Change projections. We are planning for the future and that should not be forgotten.

It not only saves both taxpayers and Water and Sewer users current expenses, it but reduces future increases and the building of un-need additional infrastructure.

And most importantly, it protects the future lives and property of the many of Exeter's citizens who have been put at risk and suffered damages again and again in the past.

### Comments of Mary E. Bourgault Franklin Street, Exeter, NH

Hello - I want to comment on the dam. After reading the executive report, I favor Alternative H. I do not want to see the dam removed, nor lowered, etc. As a resident of Franklin St., it is in my interest to have the river level above the dam stay as it is. As a native of Exeter, I also think the cultural/historical aspects of the dam and its surroundings are the very core of the town's unique identity, and it is worth the cost to preserve it.

Thank you. Mary E. Bourgault

### Comments of Allan W. Corey, CPA 3 Kathleen Drive, Exeter, NH

Ms. Becker,

I would like to see the dam removed. If left standing in whole or part, it would only continue to cost tax payers money without purpose.

Sincerely,

Allan W. Corey, CPA 3 Kathleen Drive Exeter, NH 03833

# Comments of Alice Hill 1 Bell Avenue, Exeter, NH

My name is Alice Hill and I live at 1 Bell Ave. here in Exeter. Our home is right across the street by the little Exeter River. My husband and I are urging you to remove the Great Dam, keeping the spill way. Through all the ups AND down times of the river we feel there will be plenty of water and ice in the winter for recreational activities.

Thank you for your attention.

Alice Hill 1 Bell Ave., Exeter, NH

# Comments of Atty. Mark Beliveau on Behalf of Exeter Investment Company, Inc. Donald Robie, President

Hi Mimi,

On behalf of my client, Exeter Investment Company, Inc., Donald Robie President, attached are comments, questions and proposed edits to the draft report. As you know, Exeter Investment Company is the owner of 4 String Bridge, also known as Kimball Island. You, the committee and consultants have worked long and hard and have done an outstanding job and deserve high praise for your efforts. Please let me know if you have any questions. Thank you.

Mark

*Note: Comments are attached separately to this document as they are on the accompanying text.* 

<u>Response</u>: The Exeter River Study Committee acknowledges and appreciates this comment. The commenter is encouraged to participate in future public discussions regarding the selection of an alternative. Several changes and additions have been made to the final report in response to the specific comments offered by Atty. Beliveau.

### Comments of Timothy Miller Exeter, NH

Comments Per The Seacoast Online Article Request;

My family and I would like to see the dam stay in place and be fixed to be brought up to standards.

Exeter Riverfront Residents 17+ Years

-The Millers (Timothy)

### Comments of John Richards

Dear Dr. Becker,

I have read Sean McDermott's comments and agree with them

Sent from my iPhone [John Richards]

# Comments of Carol Gasses Juniper Ridge Road, Exeter, NH

Mimi,

Per the article below, having been a resident of Exeter since 2007 and living along the Exeter River as a riparian (Juniper Ridge Road), I would like to see the dam returned to its primitive state. While people consider the dam historic, the fish (now needing to be stocked in my own lifetime) and the natural flow of the river came before any and all the dams in the Seacoast. I've walked the Juniper Ridge trail and have been both disappointed and shocked by the lack of knowledge of being a positive custodian of a riverfront property. I've witnessed the chemical covered lawns lacking any weeds and drastic erosion caused by excessive clearing and mowing! With that said, I believe strongly it is up to the community to come together to restore the once pristine environment in town that supported the aquatic life that we can only imagine in Alaska today. Every day holds the possibility of a pristine, historic Exeter riverfront restoration.

Working in the marketing profession for most of my professional life, I believe the audience will need a visual of what the removal of the dam will look like. Let's change the conversation from one of loss to one of historic restoration. I suggest a social media education blitz including images and mocked photos depicting a phased approach to riverfront restoration - and the less costly option in terms of funding! Instead of wording the dam removal as a perceived "loss" with the wording "dam removal" standing alone, I like the idea of calling the project Exeter Riverfront Restoration project -dam removal. Or, another catchy phrase that expresses a positive outcome and not the loss of something familiar. As they say in the world of sales, it is often safer to be complacent, than to make a decision. Images and a positive frame around the message, will allow residents to visualize the process and journey of our changing river waterfront whereby they can make the right decision.

On a much needed economic note, I believe the footprint of the summer activities within the community will then expand to include the riverfront in town near the surrounding businesses not isolated to the park.

Thanks!
Carol Gasses
channelbizgrowth@yahoo.com
Channel Biz Growth
603.778.7929
603.312.1256 (cell)

<u>Response</u>: The Exeter River Study Committee acknowledges and appreciates this comment. The commenter is encouraged to participate in future public discussions regarding the selection of an alternative.

Jeff McMenemy
newsletter@seacoastonline.com
August 13, 2013 2:00 AM
EXETER — The co-chair of the town's River Study Committee's working group is urging
residents to e-mail the committee their comments about what they want to see done with

# Comments of Carol Gasses Juniper Ridge Road, Exeter, NH

the town's Great Dam.

Mimi Larsen Becker, a co-chair of the working group and an University of New Hampshire professor, said the group has only received about 10 to 12 comments about the dam, which is located in the Exeter River in the center of the downtown.

"That's not very many," Becker said. "If people really are concerned it's important to understand we don't have an option to do nothing. We're currently in violation of safety standards and we are going to be held accountable."

Anyone with comments or feedback must e-mail them to Becker at mimilarsenbecker@comcast.net no later than Wednesday or comments may be mailed to the Town Manager's Office.

Asked why she believes the group hasn't received more comments, Becker said, "It's summer-time. Unfortunately our deadline is the 30th of September and we have to have the final report completed by then with all public comments and input."

The final report will also include updated cost estimates for the various options of how to deal with the dam, according to Becker, who said Sunday "additional figures have been obtained which will make the cost information much more specific and explicit."

She urged people to read the executive summary of the Great Dam Removal Impact Study, which is available online at exeternh.gov/sites/default/files/fileattachments/executive\_summary.pdf

The state Department of Environmental Services issued a letter of deficiency in July 2000 stating Great Dam does not meet safety standards, which require low hazard dams to "withstand a 50-year storm event without overtopping the abutments," according to the executive summary.

The alternatives range from spending a total of \$2.5 million for dam removal, \$983,000 for stabilizing the dam in place, \$3.5 million for partial removal or \$1.7 million for dam modification, which would include installing an inflatable gate system.

Becker said the most realistic solutions she sees are complete dam removal or stabilizing the dam in place.

She doesn't believe the option to modify the dam would win the support of selectmen and town residents, who will ultimately make the decision.

"It's not very attractive to have that in the middle of the downtown," she said. But she emphasized that even when the committee completes its final report, it will not make any recommendations.

# Comments of Carol Gasses Juniper Ridge Road, Exeter, NH

"We are not going to take a position. That's a job for the selectmen and people of Exeter," she said. "They are the deciders. They are going to have to pay for it and live with the results."

She also stressed that many of the options have other repercussions besides financial ones.

"If we leave the dam in, how are we going to deal with the water quality?" She asked.

The executive summary states that stabilizing the dam in place "would not mitigate flooding damage nor would it improve water quality in the river or provide enhanced fish passage."

But the report states that dam removal, partial removal and dam modification would "substantially" reduce the amount of flooding.

Totally removing the dam would also "alter the recreational experience on the river, but opportunities would still be plentiful, the report states.

And, unlike the option to stabilize the dam in place, there is likely federal or state money available to help pay for total dam removal, Becker said.

"Either people want to see it gone and the river made back into its natural state, although it will never be what it was 360 years ago, or they want it to stay," she said.

She also noted if people ask questions through their public comments, the committee will seek to answer those questions and include its response in the final report.

She acknowledged some people may have been put off because the report is "fat and technical," but said "it is in pretty plain English."

"If people do their homework, I think that for the most part the essential facts are there," she said. "I don't know of another study since I've lived here that's been subjected to the same kind of scrutiny."

# Comments of John Mueller John C. Mueller Norwood Group

Hi Mimi,

My wife and I own 8+ acres on the river, ¼ mile downstream from the Pickpocket Dam. We are in favor of removal of the great dam. A restoration of the river flows, now that the dam is no longer supplying power, is an appropriate course of action. At the recent meeting, the sources of funding for the removal were discussed. Before the project is placed on the ballot, I would like to have greater clarity on the alternative sources of funding so that the pricetag is not seen as something that must be born entirely by the local taxpayer. If the options and alternatives about funding sources is not clarified, then the voters will most likely vote against the removal, as it is an expensive proposition.

Sincerely, John Mueller John C. Mueller Norwood Group

<u>Response</u>: The Exeter River Study Committee acknowledges and appreciates this comment. The commenter is encouraged to participate in future public discussions regarding the selection of an alternative. Please also note that the final report has been updated with a discussion of funding opportunities for the dam removal and other alternatives as well.

### Comments of Merkle/Clement/Olney 11 Water Street, Exeter, NH

Comment received of Xeroxed Notes via US Mail --originally submitted to Select board Chair, Don Clement and forwarded to Mimi Becker.

Great Dam Modification 8/5/13 11 Water Street: Merkle/Clement/Olney

Recent Studies of Great Dam seem to favor removal but:

- *Fishladder seems to work, but not optimally*
- 100 yr flood overflow to Founders Park exceeds dam height by 12", little damage downstream to tidal basin; little damage except @ Gr Bridge, L&L (Loaf & Ladle?)
- F.E.M.A. regs, depending on [word not decipherable] prevent constr. on empty lot.
- Width, seasonal flows, impoundment will be altered visually and practically by dam removal
- Structures near dam will be jeopardized by removal: foundations, footings exposed; hydraulic pressure increased
- Ownership of water rights by mill, Town (water & f.d.), PEA complicate cost
- 2. Overtopping by more than 12" during flood event is threshold trigger. Possible solutions:
  - 1. Remove Dam
  - 2. Open emergency draw down prior to flood
  - 3. Provide a surface, relief by-pass@ Founders Park
  - 4. Provide rapid dam ht reduction @ flood (bladder)
  - 5. Reduce Dam Height
- C. How flood mandate is satisfied has other implications for the future of downtown. Removing dam may not be best alternative for other town needs. Making small target changes may be preferable to bold modifications:
  - Unforeseen negative consequences: fire ponds, water ownership, wetlands drainage, low dry season flow, vegetation growth in former impoundments, foundation damage
  - Visual, historic, symbolic significance of river in downtown will be affected.
  - *How can this be quantified, assessed?*
  - Best solution may be least costly, but long term benefits may trump initial costs anyway.
- D. SOLUTIONS Define before/after data collection (increasing in magnitude)
  - 1. Retain existing dam with some repairs
    - *Modify fishladder for better operation retain it*
    - Keep current dam height, but limit freebd to 12" above rim
    - *Operate emergency sluices*

### Comments of Merkle/Clement/Olney 11 Water Street, Exeter, NH

- o Automate emergency sluices
- o Emergency overflow @ Founders Park
- o Announce goal of 12" overflow max
- 2. Above, plus modify existing sluices
- 3. Above, plus install bladder release
- 4. Lowe dam 24", anchor dam, alter ladder
- 5. Remove Great Dam, leave Lower dam, buy back water rights, fund foundation damage
- 6. Remove Great & Lower Dams (all costs in #5 plus)
  - additional destruction costs
  - additional vegetation maintenance
  - additional silt scouring
  - additional foundation damage
  - NO impoundment except Tidal Basin

E. F.E.M.A. problems for development of empty lot. 100 yr flood line incorrect. Jurisdiction line in dam impoundment.

### Comments of Brad Rice

I do hope they remove it and return the natural flow of the river. It will not be effected (sic) by drought as the damn (sic) only holds back a limited distance of the river closest to the damn (sic). The damn (sic) is not needed anymore. It will also help with flood zone in and around the Exeter area during the spring time snow melt and heavy rains. Nothing but good.

Submitted by Brad Rice via the Town of Exeter's Facebook page.

### Comments of Kris Vaughan and Eileen Cusick 348 Water Street, Exeter, NH

### Greetings Mimi!

Thanks to you and the committee for the great work on the river/dam impact study and report! We REALLY appreciate the summary - very clear and concise! It would be nice to have a "perfect" solution! But overall we both think that removal wins out.

- 1) Unless the dam is removed, it will continue as an expense and environmental concern forever.
- 2) Despite some loss of wetland and swamp oak habitat, the overall environmental and flood protection advantages seem to favor removal.
- 3) Financially, the possibility of grant money for removal and the fact that it is only a one-time expense makes removal a sensible plan.
- 4) We've seen the effects of dam removal on the Kennebec River in Maine, and it has been a real success story!
- 5) The "H" option would be very expensive over time, and esthetic considerations may be a concern (are there models to look at)?

Hope all is well with you -- summer flies by too quickly!