February 9, 2021

Memorandum to: Members of Belfast City Council
Belfast City Manager
Members of the Belfast Community

From: Jon Beal, Chair
Belfast Climate Crisis Committee (CCC)
Ernie Cooper, Board President
Belfast Bay Watershed Coalition (BBWC)

Re: **Report Concerning CCC's Community Outreach Meeting on the Future of the Little River**

1. THE OCCASION

On January 25, 2021, the City of Belfast Climate Crisis Committee [CCC] and Belfast Bay Watershed Coalition [BBWC] hosted a community outreach meeting on the future of the Little River[1]. The purpose of the meeting was to consider the future of the Little River in the context of the climate crisis and the Maine Climate Action Plan[2]. Our speakers were the undersigned representatives of CCC and BBWC, Tom King of BBWC, Jack Shaida of Coastal Mountains Land Trust (CMLT) and Nate Gray of the Maine Department of Marine Resources (DMR).

2. THE CONTEXT

In December 2020, the Governor and Maine Climate Council issued the Maine Climate Action Plan, a plan to comprehensively address how the state can both mitigate and adapt to climate change. The CCC has responded by fostering public discussion about various aspects of the plan as they may apply locally.

A key strategy of the plan has to do with coastal and marine areas, clearly relevant to Belfast. The plan states:

> *Along the coast, protecting and restoring coastal and marine ecosystems benefits biodiversity, protects our communities from the impacts of climate change, and stores carbon. Sand dunes and beaches, seagrasses, and tidal salt marshes act as natural*

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[1] One ground rule we asked participants to respect was that they stay on the subject of this meeting. The meeting was about the future of the Little River and issues that need to be addressed whether or not Nordic Aquafarms builds its proposed facility. The participants uniformly respected that limitation.
The meeting was held on Zoom and can be found on the CCC's YouTube channel.

[2] See *https://www.maine.gov/future/sites/maine.gov.future/files/inline-files/MaineWontWait_December2020.pdf*

barriers to waves. Protecting floodplains, wetlands, and streams helps to reduce flooding damages.
Maine should ensure a network of biologically and geographically diverse lands, which are well connected, to allow plants and animals to move across the landscape to find the places they need to thrive as these habitats change over time."(p. 77)

The Climate Crisis Committee considers that restoring wetlands and associated coastal ecosystems of the Little River watershed could be one way to further these aspects of the State plan. Associated benefits could include increased carbon capture, increased biodiversity, improved ecological health, and new recreational opportunities.

3. BACKGROUND

The Little River borders Belfast and Northport, rising in the hills of Belmont and emptying into Belfast Bay. For over 100 years, free flow of the river has been impeded by 2 dams owned by the Belfast Water District, which presently create the upper and lower impoundments. Originally, the dams were built as reservoirs, and were required by the Water District, in order to supply drinking water to the City. However, beginning in the 1950s, the Water District has relied on wells for its water supply, and it has not used the water from the Little River as a water supply since the 1980s.

At recent planning board hearings, Belfast Water District [BWD] has suggested that since it is not using either the upper or lower impoundment as a source for city water, it may not be able to justify using rate-payer funds to maintain the dams, and that it may not be interested in continuing to own the dams.

The issue of the future of the river has now emerged as a subject for public discussion for several reasons. Most immediately, the plan by Nordic Aquafarms to build a salmon farm would result in destruction of wetlands and habitat adjacent to the river. Also, that project includes the right of Nordic to purchase the lower dam, so the question of what will happen to that dam and the river have become matters for public discussion.

Moreover, it has become clear that the upper dam is in poor condition, and that condition should not be ignored, especially as Nordic's proposed visitors center [the old pumphouse] is situated next to the lower dam, and if the upper dam were to collapse, flooding of that building and U.S. Route One could result in personal injury.

The Maine Bureau of Environmental Protection approved Nordic's permit application in November 2020, and the City issued building permits to Nordic last month. For purpose of the public meeting and discussion, we accepted as a given that Nordic has been granted these permissions to proceed. However, whether or not Nordic proceeds with its project, the future of the Little River needs to be addressed.

4. THE DAMS

The Upper Dam

The upper dam is over 100 years old and has some serious issues. The Army Corps of Engineers' National Inventory of Dams lists it as having been completed in 1910 and lists its hazard potential as significant.

A July 2018 Wright Pierce Engineers report gave as its assessment summary:

> Prior inspections have concluded that
>
> 1. Significant concerns re integrity of concrete comprising main spillway structure
> 2. likely structural instability, in the form of low resistance to sliding and overturning of the dam
>
> Recommendation: Given condition of dam, and fact it is nearing end of useful life, removing the entire dam should be strongly considered.

The Lower Dam

The original lower dam was built near end of 19th Century.

The top 3 feet of original dam blew out in 1943, inundating Route One. The dam was rebuilt that year in its present form.

The July 2018 Engineers report does not identify imminent hazards, but identifies potential areas of concern: the stability of the left bank retaining wall, and the need to consider repairs to flow chamber/vault and left bank retaining wall, and install lower level drain.

5. RELATIONSHIP TO NORDIC AQUAFARMS PROJECT

The Nordic Aquafarm project does not involve any aspect of the upper dam.

Nordic has an option to buy the lower dam in connection with the proposed fish farm, and its decision as to whether to exercise that option may be affected by community decisions regarding the future of the river.

Nordic's original plan was to use the impoundment behind the lower dam as a backup water source for the fish farm, in the event of shortfall from the wells it plans to use as its primary water source. This implied that the lower dam would stay in place.

However, at recent planning board hearings, Nordic has indicated that although it has the option to buy the lower dam, for use as a backup water source, it could instead use free-flowing water from the river. Nordic might therefore not need to preserve the lower dam if it builds the fish farm.

So it seems that these impoundments are not needed by BWD, and maybe not by Nordic.

One of the conditions of November 2020 approval, by Maine Bureau of Environmental Protection, of Nordic's plan is imposition of a wetland mitigation fee of up to $760,000, payable by Nordic to the State. Belfast can apply to that State fund for money to be directed to wetland restoration/increase along Little River corridor, along with increased carbon sequestration and restoration of coastal ecosystem.

6. INPUT FROM BBWC AND CMLT

Ernie Cooper of Belfast Bay Watershed Coalition described the BBWC's mission and activities, and the long history of BBWC's maintenance of trails around the upper and lower impoundments. BBWC owns an easement along the section of the Little River connecting the impoundments, and its members have for years built and maintained trails, signs and other appropriate improvements which enhance the accessibility and recreational use of this area.

Jack Shaida of Coastal Mountains Land Trust (CMLT) described the mission and activities of that land trust throughout the mid-coast region. He indicated that CMLT is interested in participating in preservation and restoration of the Little River and other rivers in the mid-coast region.

Both BBWC and CMLT, along with other Belfast community members, have advocated restoration of the Little River for the past several years, and hope to advance that project in partnership with the City and the Belfast community.

At this time, no restoration designs have been developed: it appears a general decision should be made about what to do with the River, after which feasibility studies could be made, with cost estimates, depending on what the community hopes to see done.

7. INPUT FROM THE COMMUNITY

There were a total of around 45 community members who participated in the January 25 program. During and after the program, we asked participants for their ideas or comments about the future of the Little River.

Many expressed thoughts which we did not slot into one of the categories listed below; the reader may read the actual responses in Appendix A.

Our summary[3] of those responses is as follows:

12 expressed support for removing one or both dams;

4 expressed support for keeping both dams;

4 expressed support for increasing carbon sequestration, wildlife diversity, etc.;

3 expressed support for maintaining access for recreation;

2 expressed support for restoring the free flow of the river;

4 expressed support for restoring fish passage in the river with fish ladders.

After the program, we asked participants whether they would like to be an active participant, as we identify a group of people interested in advancing this project.

13 want to actively participate;

4 did not want to actively participate but want to be kept advised of future action.

8. CONCLUSIONS:

Our review of community input suggests the following:

a. There is substantial public interest in restoring the Little River ecologically and recreationally. Many people either currently support dam removal, or would be willing to consider it.
b. Maintaining access to the trails and recreational opportunities along the Little River are important goals for most people.
c. Retaining the Upper Reservoir and/or the Lower Reservoir were not identified by many as important goals.
d. Some people felt that fish ladders should be considered.
e. Many people wanted more information about methods and costs of restoration, in order to have a better idea of the choices to be made.
f. At least 13 members of the community expressed eagerness to participate in further action to advance the project.

[3] Our summary of necessity reflects some interpretation of the responses, as most people did not express simple preferences, but rather expressed concerns and visions. Some people's responses fell into 2 or more categories.

9. NEXT STEPS:

The Belfast Climate Crisis Committee, in collaboration with Belfast Bay Watershed Coalition and Coastal Mountains Land Trust, will develop a proposal for the Belfast community to move forward on planning for the future of the Little River.

Respectfully submitted:

Jon Beal, Chair
Belfast Climate Crisis Committee

Ernie Cooper. Board President
Belfast Bay Watershed Coalition

APPENDIX A

During and after the 1/25/21 program, we asked participants for their ideas or comments about the future of the Little River. Participants submitted them by email, chat, and live on zoom.

Chat messages during the meeting:

18:09:02 From Alan Cohen : How does removing forest cover for any industrial operation in the watershed contribute to carbon loss and defeat carbon capture? What inventory of city and county trees has been done, and what incentives are given to residents to plan more trees?
18:09:58 From Amy Grant : "Upstream Watch (UW) is pleased that the Belfast Climate Crisis Committee is reaching out and hosting a public forum on the Little River and the dams on this river. As a grass roots organization, UW shares its values with many in our local community, First Nations Communities, and other conservation groups. These groups value preserving and restoring rivers and see the collective value these activities aid to a healthy environment and certainly to the climate crisis. UW has hired dam experts, fish experts, naturalists, and engineers to study the Little River and related estuaries. We gladly offer this information to the Belfast Climate Crisis Committee, if this committee is interested in our participation. Going forward, the Little River is only one of many rivers in our area that desire attention, and is a good starting point in this discussion. www.UPSTREAMWATCH.org "
18:10:25 From Alan Cohen : What dollar amount of ecotourism and fishing tourism contrbute to total tourist dollars?
18:13:14 From Joanna Evans : Do we have a sense of what it would cost to remove the upper dam--and who would pay for it? Would that fall to Belfast, or are there state funds available for such projects?
18:13:24 From Alan Cohen : What dollar value has been given to the ecological services the wetlands contribute to the well being of our human and wild community? Can resources be be made available to actually quantify those ecological services?
18:16:44 From Nancy : Does a wetland restoration mean removal of the bordering tall pines ?
18:32:17 From Anne Saggese : Ecotourism is a very large percentage of tourist dollars in the state. I could find out exact numbers tomorrow.
18:32:19 From Ellie Daniels : Has anyone in your organizations spoken with Dwayne Shaw of the Downeast Salmon Federation about dam removal and funding. He has spoken about federal grant money being available.
18:34:43 From Jo & Geir : Geir: What entity / entities are willing / able to underwrite the project and cover the risks associated with ownership of / removal of the dams?
18:36:36 From Jo & Geir : Jo: From a severe weather/climate risk perspective, what estimates do we have for HOW at risk the upper dam in particular is, and how at risk the lower dam would be in the event of an upper dam failure?

18:38:05 From Jeffrey : Do we know how much of the lower reservoir would remain if the dam was removed?
18:38:15 From Dave Sprague : The MidCoast Conservation group that spearheaded the Sheepscot Dam removal and have a program underway can provide a lot of information on costs as well as methodology for not only complete dam removal but also creating natural fishways. I can help with connections if desired. Holly Faubel
18:41:31 From Ellie Daniels : Haven't we now seen multiple examples of prolific return of multiple species to any river following dam removal? It has been described as the beginning of a return to biodiversity in our coastal waters.
18:44:20 From Dave Sprague : Being a member of Trout Unlimited I can say that good brook trout habitat is high on their list for help with fish habitat restoration and can help with contacts if desired. Holly Faubel
18:45:44 From Greg : Would the Belfast Water District be willing to donate land or sell at a discount for conservation?

Oral statements during meeting:

Sid Block:	lower reservoir is used for skating, skiing, canoeing, boating, is also a wildlife habitat: beaver, mink, eagles Trails are primary use, enhanced by reservoir Returning salmon to spawn would be good
[also]	I am not personally opposed to dam removal, just wanted to point out value of recreational use Long term: feel dam should come down and river restored
Jack Shaida:	Sheepscot River dam removal maybe $500,000 Lots of state and federal grants and other money available
Nate Gray, DMR:	fish ladders very expensive to build and to maintain carbon sequestration is much greater without impoundments rainbow smelt restoration could occur: still strong population in this area tom cod [frost fish] also possible restoration
Tom King, BBWC:	salmon are unlikely to spawn in the Little River, but brook trout, black croppie, chain pickerel, pumpkinseed, chubs, eels would be likely to populate it. Maine is last stronghold for brook trout. Strong interest in supporting the restoration of sea-run brook trout. Reservoirs have poor oxygen levels due to stratification Substantial funding available for brook trout restoration

	Dan removal helps greatly with fish restoration
Jack Shaida	CMLT has discussed placing some of the land under conservation easements, would be great to accomplish Awaiting Nordic developments
	CMLT has been discussing easement/donation with water district since before Nordic
Ernie Cooper	City wants trail protected BBWC has hand-shake deals with City and Water District Confident will continue with maintaining the trail
Others:	ecotourism very substantial contributor to Maine economy

Email: before, during and after meeting:

Before the 1/25/21 meeting, we received several emails from members of the community:

To John Beal, Ernie Cooper & other hosts:
Thank you for offering this opportunity to discuss the long-term future of the Little River. Here are some questions that I would like discussed.
1. How much will it cost to remove each of the dams, how would removal be done, and where does the money come to pay for removal?
2. Are there prior dam removal projects that you believe are roughly comparable to what might be undertaken on the Little River? What lessons can we learn from them?
3. If one of the purposes of removal -- or alternatively, the integration of some sort of fish passage facility into any dam restoration plan -- is to encourage the return of native species that used to spawn up the river, what do we know about the state of the river *upstream* from the Upper Reservoir? Could returning fish reach their original spawning grounds or are there other obstacles for them to overcome?
4. Will the Committee and Belfast Bay Watershed Coalition urge the City Council, Belfast Water District, and the Northport Village Corporation to aggressively pursue … restoration?
5. What are your thoughts about placing all of the land along the river into conservation easement as a means of protecting the long-term benefits of any improvements to the river or the reservoirs?
Andy Stevenson

Thank you for the opportunity to ask a question (and this is a general question about business interests and not meant to address anyone's specific concerns about Nordic):

I have the following question to ask:

Removal of the dams would allow the return of salmon to the river to spawn (which is a good thing), but would removal of the dams not also allow the use of the river by and for business interests?

Thank you,
Sid Block

I can add some personal observations about the current recreational uses of the lower reservoirs.
Sid Block

My apologies but I will not be able to participate on this Zoom meeting. However since our property abuts the Little River, and we see people very often parked on the road and hiking the trail, as we do, I would think that removing the dams would reduce the delight of walking in the woods and being next to water. If the dams were removed I would expect that there would be some serious differences in a stream flow during parts of the year. Often the water is raging over the upper and lower dams and sometimes, only coming out the pipes below.

I have a good friend who did a lot of work on alewife runs. It would be most appropriate to consider combining the establishment of runs at both the upper and lower dams with the reconstruction of each of those dams. This would obviously not be a cheap endeavor but it would keep the trail as the mix of woods and water, establish a new place for the alewives to run, and greatly extend the life of the two dams which really are a great part of the history of Belfast. These three things might allow for finding grant funds related to fish runs, and sustaining historical waterways.

If there is any compilation of comments from the meeting, I would greatly appreciate seeing them.

Thanks much.....Gef Flimlin

Has the Penobscot Indian Nation been consulted with requesting input or suggestions? A historical review from their centuries of knowledge, culture, tradition could be very helpful. Contact the Natural Resources Fish and Game members through the link below.

https://www.penobscotnation.org/departments/natural-resources/natural-resources-fish-and-game-commitee

Steve Byers

* * * *

After the meeting, we sent an email to all zoom participants, asking:

1. Do you want to be part of the continuing discussion we are developing? If not, just hit "reply" and say NO, and we will remove you from this message list.
2. Let us know if you have other ideas or comments about the future of the Little River, after hearing the presentations and the thoughts of those participating.
3. As we develop a group of people interested in advancing this project, do you want to be an active participant?

Email submissions included:

I'm interested in participating as this goes forward. I've volunteered on Little River trail maintenance for 5 years and enjoyed canoeing on both reservoirs, but I think that dam removal is the right decision in the long run. I'm active with both Belfast Bay Watershed and Coastal Mountain Land Trust.
Thanks for taking on this project.
Dave Bond

Thank you for hosting this conversation. I learned a lot, and I sense there was a lot of knowledge in "the room" that could be shared if the forum was more open to dialogue instead of "chat". This is an opportunity for everyone involved to come together in a positive direction, with some agreed upon ground rules that could be established and adopted by the group as a whole. I believe we all share common goals.
Yes. As a member of The Friends of Harriet L. Hartley Conservation Area, I am very interested in restoring and protecting the Little River and maximizing the carbon sequestration capacity of the intertidal and wetland areas.
Again, thank you. I am very interested in seeing where this goes.
Ellie Daniels

2. I missed the meeting but would wonder if anyone talked about communications with the Penobscot Indian Nation?
3. Yes, interested in advancing the project, sign me up.
Steve Byers

Jon, thanks for the update, the District obviously has an interest in this, but we are not in a position to entertain any other ideas for the future of the Little River reservoirs until the fate of NAF is learned. So for now I would say I don't need to participate in the group.
Thanks for reaching out.
Keith Pooler

I was interested in knowing about it.
I have no extra time.
But would like to continue knowing what is going on.
Thank you.
Leslie Miller

A well-run meeting with good information from several people. I suggest that you talk about hosting a follow-up session -- maybe more than one -- to continue building the public dialogue.
Much appreciated; my thanks to everyone who made it possible!
Sincerely,
Andy Stevenson

2. I will send you any thoughts in a day or two
3. Please do mark me down as being an "active participant"
…
Thanks,
Holly Faubel

Greetings. Unfortunately I was not able to attend much of the meeting, but my understanding is that there was to be no discussion of Nordic Aquafarms, and I don't understand why. I believe this is without question the biggest climate issue facing Belfast at this time, and thus it makes absolutely no sense whatsoever to not discuss it. This borders on some type of willful ignorance - it's completely ignoring the 800-pound gorilla in the room - and it makes me wonder what the point is in having this group and these meetings if the most important issue of all is going to be willfully ignored.
Lawrence Reichard

Yes, keep me in the loop about little river. I will participate and help out as able.
Thanks for your work,
Joanne Moesswilde

Thank you John,
Question 2 No
Question 3 Yes,
Stay safe,
Sid Block

Hello Jon & company:
See my answers below and thank you again for holding what I hope will be the first of many community-oriented discussions of how to restore the sustainability of our coastal environment and economy.
1.Yes, I would like to be included on the list for future notices.
2. I urge the committee to expand its perspective and consider all of the watersheds that flow through Belfast, Northport, and the immediate countryside. We are past the point of treating each watershed as a separate case. It is the interconnections, differences, and similarities that often generate the unintended consequences that spring up when you look at development or restoration case by case.
3. Well, not at this time. My energies are devoted to stopping the Nordic fish factory proposal and protecting the conservation easement granted to the Friends of Harriet L. Hartley Conservation Area. Once that controversy is settled, I will see what is worth doing next. As I said in my answer to Question 2, an initiative limited to the Little River alone is too limited so if that is "the project," I feel it is too narrowly defined...but still worth talking about.
Andy Stevenson

Jon,
I want to be an active participant.
Ernie

Dear Jon,
Thank you for your work and all you are doing to keep the community informed and involved.
I will be following the discussions, but I am not able to be an active participant at this time.
After listening to the meeting, My husband, Michael, and I wonder about the feasibility and advisability of removing the upper dam but keeping the lower dam and adding a fish ladder to it. We realize this might be a very expensive option.
All the best,
Joanna Evans

Thanks for the discussion… please keep it going. There are a lot of complex issues.. https://www.google.com/maps/place/Belfast,+ME+04915/@44.3730325,-69.0611054,6611m/data=!3m1!1e3!4m5!3m4!1s0x4cae6e4333c6d6dd:0x9fa33eef25c291d3!8m2!3d44.4259092!4d-69.0064234 there's a lot of forest out there in which this is a dot. I'm more interested in the dams and the question of resolving do they say? Do we remove? Do we keep one and lower the other? Since the upper dam seems the biggest immediate problem… maybe tackle that one first? Keep me posted.
Mike Hurley

I would like to be an active participant. I honestly fear that any city involvement with the little river is not a good thing for the little river and is really a way of further promotion of the industrial zone that they have made of the area.
John krueger

Yes, to #1- thank you!
2. I'm not really able to say one way or the other given that certain parties might question my motivation, but I can tell you my husband's experience growing up next to the river and my general observations. He said he has wonderful memories of ice fishing the lower reservoir as a kid and as a family we had fantastic days spending time out there catching & releasing pickerel. I remember one day we spent a whole day making a snow fort on the ice (lot of snow that winter). He would hate to see the dam removed.
When I walked on the trail this past week, I saw folks out there walking, or ice skating. Given the circumstances of this pandemic, it certainly has offered another opportunity for folks to get outside. I know lots of folks would hate to see those options disappear.
3. We want to leave the participation to the folks in our community and look forward to being available for conversation if it's requested/
Best regards,
Jacki
Jacqueline Cassida

Hello BCCC, I attended the meeting about the little river dams removal and I'm on the list to join the process.
I have spoken with Steve Knapp who was an environmental engineer involved in evaluating the little river dams several years ago. I asked him about my question of involving the Penobscot Indian Nation. He said that usually towns or organizations will create a proposal for what they plan to do with a dam removal and then send it to the Penobscot Indian Nation. In the past they have received letters of support from the Nation which can help validate the process in efforts to inform city council or the town or other groups of interest.
I propose that the BCCC include this step in the process of guiding the city council in next steps.
Thank you
Steve Byers

#1 Yes
#2 No additional comments
#3 Yes, Jeff would like to consider it.
Brenda & Jeff

Jon: First let me say thank you for organizing the discussion last week on the future of the Little River. I would like to volunteer to work on this initiative as it goes forward. By way of background, I thought I would make you aware of a parallel but more general initiative that the Belfast Bay Watershed Coalition has undertaken. A number of Pen Bay Stewards from the class of 2019 started to discuss a Watershed level assessment for the entire watershed that feeds Belfast Bay. We had gotten to the point of developing a strategic focus with targeted actions prior to the pandemic (see attached). But in the course of 2020 we lost our energy….
Greg Biddinger

RE: Dam Removal on Little River

Dear Climate Crisis Committee;

Like so many, I wish I had time to research all the facts of the case, but essentially what I understand is that there is a large industrial development project that has been variously approved for construction above the dam and reservoir infrastructure which has triggered consideration about the condition of the dams, as it is the case that the dams are too old to stay as-is and either need to be repurposed or taken down. The former option may be more expensive initially, but perhaps is a more honed-in solution to impending climate chaos where fresh water resources continue to be in limited supply, and thereby increase in value. The latter option may have more curb appeal to the larger environmental movement working to restore fresh water resources to their pre-colonial free-flowing condition and thereby restore the habitat for riparian species that may be currently struggling to (or have already been eliminated) survive in their 'traditional' way. Both options have merit and reason to pause and consider which would be best for which populations of people and non-people in our community.

How does one decide?

Here's where my mind goes: as a mostly-white community of relatively well-resourced people in midcoast Maine, my understanding of what we are experiencing and have dubbed the climate crisis is shorthand for an acknowledgement that humans have altered the state of affairs in the natural world to the extent that human evolution, as well as much of the living/breathing natural world, is in jeopardy. Further, and what most environmentalists have yet to really wake up to, the climate crisis is a direct result of the white colonial project in North America. It is from the standpoint of the capitalist, opportunity-seeking people, that the natural world has been fragmented and ravaged, in search of 'profit.' In so doing, many many people and non-people have been impacted negatively. Cultures and traditional knowledge and song, wisdom and language and basic human evolutionary success are some of the things that we are erasing as we continue to participate in the economically-fueled 'development' patterns of The West that have fueled the climate crisis and will persist in 'developing' countries unless a change of thinking, and of heart, are practiced.

This means that we, as environmentalists, or at least folks interested in doing what's right for the Earth, cannot divorce ourselves from the people, unto which the decisions that have supported the emergence of our modern life-ways, have been impacted. Even more concisely: in my opinion, all environmental decisions must include structured benefits for the people in our community who are the most vulnerable. This means that when we talk about what the right and best decision about Little River is, we would be wise to consider who the people in our community are that are (and have been) most vulnerable to the damages caused by [capitalism/development/progress/choose your adventure on phrasing here]. There are a few houseless people in Belfast, many more with food and housing insecurity. The list of vulnerable populations in our community is long, and needs to be developed if this strategy is to be adopted in the Little River case, but it would be worth it.

What we gain from this type of thinking is a way of linking decision-making about multiple problems at once. We then are able to recognize that no problems are, in fact, siloed from the rest. And, when we put our most pressing environmental problems into consideration alongside solutions for our most pressing human-community my belief is that we can come up with something more creative, and hopefully something expressly more pertinent to both challenges that need to be solved than anything that could emerge from looking at either as a separate issue.

So, about the Little River dam restoration or removal consideration: how about creating a list of the communities within the region who are most vulnerable and also inventorying the known environmental impact of both keeping or removing the dams, and then hosting a restorative justice circle to engage in ways to look at this challenge? My guess is there will be patterns that emerge that will aid in making a decision about the dam project more relevant to other pieces of the community. If nothing else, the Climate Crisis Committee will have taken initial steps to build a process for itself that acknowledges that in order to repair damage in our environments, we must also include the healing and support of the people in our community who are most vulnerable. Ultimately, the work of getting to know how we can **all** heal our corner of the Earth will come from us **all** working toward getting to know how we can heal ourselves and those who have the most obstacles to overcome in order to feel supported and included in what comes next.

My vote: let's take a shot at doing the much bigger work of linking environmental right-action with human community right-action. The two are inextricably interconnected and if we treat them as such, we can start to build in the direction of a future that we are all included in, and where our natural world and wild places are protected and healing, because we did so for ourselves as a community.

This is exciting work, I appreciate the opportunity to get my thoughts on paper and your time in considering them. Thank you.
Amelia Tracy

Jon,
The concern or really question I have is what is left if the Little River Reservoir returns to a fairly narrow stream bed of 25' or so. What happens to all the acreage currently under water? I assume that quite a bit of muck has settled on the bottom. How long before those many acres are traversable? Won't they be an eyesore for some time? The current pond is quite beautiful from both sides and home to at least one large beaver "home". Wouldn't most people prefer a walk or hike alongside a pretty pond than alongside acres of muck with a smallish stream in the middle that may not be accessible without rubber boots?
Regards, Ken Schweikert

Great job with the meeting on Monday. As you can tell from my discussion on Monday I am in favor of both dams being removed.
The benefits are huge in creating a free flowing river again. The reforestation of the once flooded area, the restoration of wetlands, recreating of tide zone (where were the head of tide be), the flushing of nutrients in the bay, the return of diadromous fisheries and establishing a river freshwater fisheries. These are just a few benefits.
Tom King

Thank you Jon for chairing the informative initial zoom meeting about the Little River's future.
Some of my opinions and input:
Please do obtain the Penobscot Nation's input re: Little River planning.
I am in favor of removing both dams. Failing that, removal of the Upper Dam (? which may be less expensive than repairing it?).
I oppose ANY industrialization of the Little River area.
The Little River empties into Belfast Bay at a small cove, at which, according to Joseph Williamson's Belfast history, was the site of considerable Native American fishing. Nowadays

this cove is almost completely dry at low tide, and only achieves about a 2-3 foot water height at high tide from the mouth of the Little River outwards about 100-150 yards. The bottom seems mostly sand or mud. Some questions arise as a result: what would the impact of releasing presumably more water on the Bay? Are there water contaminants to be concerned about? Would the cove area need to be dredged to encourage the fish populations to enter/leave the river? More, but I will stop here.
Over about the past year, as coordinator of the Penobscot Bay Stewards Bay Water Quality Program, we have taken water quality samples at two locations near the mouth of the Little River. We hope to continue doing so, so that a solid baseline of water quality data exists. These data are in the possession of John Tipping and may be of some value to your committee as you go forward…
I would be pleased to elaborate on any of the above points and to provide further input as Little River planning unfolds.
Thank you,
Leo Shea

To John Beal, the Climate Crisis Committee, and the Belfast City Council,

….About possible dam removal on Little River:
I usually would support re-wilding for free-flowing water and aquatic species diversity. But I believe that the timing is wrong to change Little River back to free-flow right now.
I live on two streams which flow into Little River (one has two branches – hence my "3 Streams Farm"). 5 years of the last 6 have been drought years in Belfast; stream beds at our farm have been dry stony paths with tiny pools that then disappear. In the first few drought years, many small brook trout dried or were eaten from the pools. The ones that made it into my farm pond at the head of the back stream died in drought-year 3, when the pond became too low and too warm. With current trends, in our lifetimes we may see Little River dry, with freshwater life taking refuge in the reservoirs.
This series of drought years has noticeably damaged fungal populations in our woodland and soil. Related pasture winter-kill was noticed and discussed by Waldo County Cooperative Extension. A friend who made his living exporting wild Maine mushrooms for the last 20 years has narrowed to just chaga. Now when it does rain, the soil does not hold water the way it used to; resilience to subsequent droughts is reduced. I was at Peter Bane's 2019 climate presentation at the Soil and Nutrition Conference (Bionutrient Assoc., Southbridge, MA); Peter (Director, Permaculture Institute of North America) says this loss of soil water-holding capacity is so widespread that it is causing a measurable contribution to sea level rise. He recommends citizen action to increase water retention infrastructure, to use in tending soils.

Another issue is the time-frame of wildlife adjustment. I especially appreciated Sid's comments last night about current ecological value of wild ecosystem residents who have adjusted for 100 years to using Little River and the reservoir areas in their current state. I am a tree person (professional orchard pruning since 1983; leaf fodder studies and higher woodland pruning for livestock since 2010). In a normal temperate climate, tree canopies take about 30 years to close over soil. With current rain cycle disruption, in Glen Larrabee's and other woodlands heavily harvested in 2013 and '14, between my farm on Back Belmont Rd. and Rt. 3, there remain dry soil patches devoid of any plant growth, now in years 7 and 8. If drained, the reservoir areas may take longer than usual to recover to forest, or if the climate disruption worsens, we may not see them recover.
Multiple disruptions of the small green corridor around Little River are happening in a short time-frame. What used to be Jane Holmes' hay field is suddenly fenced and under a huge black solar array, and the Nordic Aquafarms site has already undergone tree harvest. Both these changes contribute to reduction in moisture, and reduction of habitat.
If the City decides that the dams must go, can there be a very gradually planned reduction in water level, say over 30 years' time?
The Governor's climate plan is commendable, and free-flowing waterways and wetlands are important. Yet right now our local ecosystem's ability to respond to, and recover from change is too fragile.
Respectfully, Shana Hanson