



Submitted  
10/16/19  
Susie O'Keefe

### "Natural Resources" Comments

My name is Susie O'Keefe. I am representing Upstream Watch. I hold a Master's degree with distinction in Environmental Studies from Oxford University. I am an independent researcher and writer, and Research Associate and visiting teacher at the College of the Atlantic.

I want to open by giving a very brief background to the extinction crisis before us as this relates directly to decisions the town makes concerning all of its natural resources.

As some of you may know the UN recently released a report confirming that at least

- 1,000,000 species threatened with extinction. This does not include all the terrestrial and water species who are dwindling, and struggling to survive.

Specifically concerning birds, an Audubon report released this summer shows 3 billion birds representing hundreds of species have perished over the past 50 years as a result of loss of habitat, pesticides, light pollution and other effects of climate change. (Please note that loss of habitat is considered a "climate impact" and is also one of the 4 reasons for extinction - habitat loss, direct killing, pollution (this includes pesticides, chemicals, light and plastics) and direct climate destruction.

View the urgency of this situation, and that the Little River forest, riverine habitat and 17 wetlands is designated as tidal Water/Wading Bird Habitat (TWWH), which is a class of habitats recognized as a **Significant Wildlife Habitat** under Maine's Natural Resources Protection Act, we are requesting that the ecological impact of the eradication of this ecosystem be fully understood, and alternative scenarios, including the restoration of the river for fish passage, be thoroughly explored. We are urging the Planning Board and the Belfast citizens to acknowledge that the elimination of this forest and wetland habitat has significant ecological, social, economic and intergenerational impacts. Belfast is a destination for tourists who come in search of natural beauty and abundance, the town has a healthy lobstering community, Little River boasts a mature forest that is sequestering very large quantities of

carbon, providing habitat for wildlife, and well being for community members and visitors. And, with a little effort we could have an abundance of migratory fish returns as we have seen throughout restored rivers and streams in this state and others.

To fully and accurately assess the ecological impacts of the elimination of this State designated Significant Wildlife Habitat a four season, project-specific study of avian, bat, amphibian and macroinvertebrate habitat use and presence, needs to take place. In addition, these studies should be conducted by an independent, unbiased entity. At present either E-bird (an online resource) or a <sup>July</sup>one-time site visit (<sup>Dec/Nov</sup>winter) are the only ecological inventories that were conducted, and these were conducted by the interested party.

This study must include, but not limited to:

- field studies of bird use within the tidal areas
- migration, breeding season or over-wintering activities
- how the proposed changes in the estuary and intertidal areas will impact migratory birds, including the federally listed and migratory Red Knot who does migrate in the area.
- surveys of dam spaces holding hibernating bats, specifically the federally threatened northern long-eared bat
- macroinvertebrate losses due to stream eradication
- surveys - including surveys during migration and in the winter- of the wildlife using the large linkages to the Little River delta
- Ecological impact of breaking connectivity with both salt-water habitat and the contiguous upland forest habitat need to be determined. The connection of large, diverse habitat blocks is indispensable to wildlife abundance and health. It is equivalent to you having say your kitchen, living room or bedroom eliminated from your house.

The presence of the below species, and their abundance, needs to be determined.

<u>Status</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Location</u>
SE, FT	Northern long-eared bat	Myotis septentrionalis	Forest, Edge
SE	Little brown bat	Myotis lucifugus	Forest, Edge
SC	Hoary bat	Lasiurus cinereus	Forest, Edge
ST	Eastern small-footed bat	Myotis leibii	Forest, Edge

SC	Eastern red bat	<i>Lasiurus borealis</i>	Forest, Edge
SC	Big brown bat	<i>Eptesicus fuscus</i>	Forest, Edge
SC	Semipalmated plover	<i>Charadrius semipalmatus</i>	Intertidal
SGCN	Semipalmated sandpiper	<i>Calidris pusilla</i>	Intertidal
SGCN	Long-tailed duck	<i>Clangula hyemalis</i>	Intertidal, Pelagic
SGCN	Least sandpiper	<i>Calidris minutilla</i>	Intertidal
SC	Lesser yellowlegs	<i>Tringa flavipes</i>	Intertidal
SC	Greater Scaup	<i>Aythya marila</i>	Intertidal, Pelagic
SGCN	Common Eider	<i>Somateria mollissima</i>	Intertidal, Pelagic
SC	White-throated Sparrow	<i>Zonotrichia albicollis</i>	Edge, PRF
SC	Veery	<i>Catharus fuscescens</i>	Forest, LRH
SC	Tree Swallow	<i>Tachycineta bicolor</i>	Edge, Open field, PRF, LRT
SGCN	Purple Finch	<i>Haemorhous purpureus</i>	Edge, Forest, PRF
SGCN	Northern Parula	<i>Parula Americana</i>	Edge, Forest, PRF, LRH
SC	Eastern Wood-Pewee	<i>Contopus virens</i>	Forest, LRH
SC	Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	Forest, Edge, PRF, LRH
SGCN	Bobolink	<i>Dolichonyx oryzivorus</i>	Open field, PRF
SGCN	Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	Forest, LRH
SGCN	Black-throated Green Warbler	<i>Warbler Dendroica</i>	Forest LRH
SC	Barn Swallow	<i>Hirundo rustica</i>	Forest, PRF
SC	Black-and-white Warbler	<i>Mniotilta varia</i>	Forest, LRH
SC	American Redstart	<i>Setophaga ruticilla</i>	Forest, LRH

\*LRH = Little River hiking trail, PRF = Preston Road fields, SGCN- species of greatest conservation need

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Additional Concerns:

1. NRPA Jurisdiction that currently exist in the application as “yes, no, maybe” are not defined enough for stream determination.
2. The drainage features D1, D2, D3, D4, D6, and D7 need to be documented with photographs and onsite truthing and study.
3. Site specific methods and results concerning section 2.2.3 Vernal pools, is inadequate. Site specific methods and results need to be provided.

Endangered Atlantic Salmon

The Penobscot River has seen 1170 return so far this year. This is a monumental jump and due to the elimination of the Great Works dam. It demonstrates the incredible resilience of natural systems and wildlife to rebound when given half a chance. These wild salmon are passing through the Penobscot Bay. It is imperative that:

1. Studies be conducted concerning threats to the federally endangered Atlantic salmon that are (a) in the area, and (b) that could use the Little River for spawning if ladders are provided or dams removed.
2. The ways in which planned discharge, and un-intended discharge of contaminants listed in the application, might impact the federally listed Atlantic salmon, and other anadromous fish, birds and other wildlife that may come to the mouth of the Little River, and the discharge area, need to be assessed.
3. Toxicology of Penobscot Bay was not mentioned. Mercury, per- and polyfluoroalkyl substances known as PFAS, PCB and dioxins are all present, and all contaminants are recorded as elevated in sediments and wildlife within the area. Pipeline construction remobilization of sediment and potential contaminants need to be fully evaluated, and remediation plans in the case of disturbance need to be required.



Submitted  
10/16/19 Heaving  
Susan O'Keefe

Wetlands Comments Submitted By Susie O'Keefe, Board of Directors,  
Upstream Watch

As most of us probably know, Wetlands are extremely important ecologically. They provide water storage, flood conveyance, groundwater recharge and discharge, shoreline erosion control, and water quality improvement. Seeing that 17 wetlands will be impacted, 10 freshwater wetlands permanently eliminated, a full assessment of the above listed impacts must be done, especially considering the severe ecological crisis underway, and the fact that wetlands also store very large amounts of carbon.

Perhaps most importantly, wetlands provide habitat vital to wildlife, including many rare and endangered species. In addition, according to the Federal Environmental Protection Agency's Office of Wetlands, more than one third of the United States' threatened and endangered species live only in wetlands, and nearly half use wetlands at some point in their lives. Therefore, Upstream is requesting that a full, four-season evaluation of these wetlands, and the species they support either permanently, or seasonally, must be completed by an independent party.

Initial figures of wetland elimination submitted were 144,000 square feet (this amounts to 3 ½ football fields of wetlands). According to the DEP's most recent response 190,389 square feet (over 4 football fields) of freshwater wetlands alone will be eliminated and will require \$704,439.00 worth of compensation. In the application the figure of \$491,652 was given for both coastal and freshwater. Upstream is grateful that DEP pointed out that these calculations need to be redone as coastal and freshwater wetlands are significantly different ecosystems, and hence come under different regulations.

Upstream agrees with the DEP that Nordic must develop a macroinvertebrate sampling methodology that will be implemented as part of baseline before the project is approved, and post-restoration monitoring and reporting in Stream 9, if approved. Monitoring results

should be both qualitative and quantitative in nature, as the DEP requires, with a focus on species diversity and abundance.

As David Moreno-Mateos, Wetlands specialist at University of California, Berkeley, states it is important to recognize that once you degrade a wetland, it doesn't recover its normal assemblage of plants or its rich stores of organic soil carbon." "Even after 100 years, the restored wetland is still different from what was there before, and it may never recover."

In addition many of us may not know that "wetlands accumulate a lot of carbon, so when you dry up a wetland for agricultural use or to build houses, you are just pouring this carbon into the atmosphere," he said. "If we keep degrading or destroying wetlands, for example through the use of mitigation banks, it is going to take centuries to recover the carbon we are losing." Also, wetlands tend to recover most slowly if they are in cold regions, if they are small, or if they are disconnected from the ebb and flood of tides or river flows." The Little River wetlands meet all of these criteria.

#### Additional Concerns

In the application serious discrepancies concerning restoration planting in the impact compensation plan call for clarification, and bring into question the accuracy of the plans. For example, supplemental plantings are proposed in the riparian area of Stream 8, but this riparian area is *already* established with existing vegetation, including several species of trees, shrubs, grasses, and groundcover. As DEP points out, clearly, other methods of stream compensation need to be proposed.

We agree with DEP in that additional information is needed concerning:

1. wetlands of special significance present on the site;
2. the proposed impact to these wetlands,
3. clarification of why any impacts are reasonable
4. clarification of why no practicable alternative less damaging to the environment exists, or is proposed.

#### Coastal Wetlands and Pipes

The staging of the pipes will be enormous. As the DEP points out, information concerning where this will happen, and how depositing the pipes into the coastal wetland and the outlets of Streams 8 and 9c without disturbing salt marsh vegetation is not described, and must be clearly outlined.

The methods proposed for the seawater access system has now been changed by Nordic to above the seabed. However, as DEP points out, the elevation of the pipes was not given, nor any information concerning grading and filling any depressions along the pipeline route.

Any areas of seabed that are to be filled and/or graded, require alternatives analysis, minimization strategies, and compensation proposals. And, any potential disturbance of existing pollutants must be monitored for, and mitigation plans must be in place in the event that disturbances take place of these pollutants. These pollutants include mercury, per-and polyfluoroalkyl substances known as PFAS, PCB and dioxins.

#### The Goose River

In the Bureau of Land Resources letter assessing the project proposal, Environmental Engineer, Kermen Gungor writes that “in section 15 the applicant states the existing municipal well should be brought online to support the increase water use, as this should have the effect of distributing (the in- take) across a longer reach of the river-aquifer system in the vicinity of the pumped wells. Flows and flow measurement locations, however, were not submitted. Most importantly, as it is acknowledged that the flow of the Goose River aquifer system will be impacted, an ecological assessment on the potential impacts on that river, its wildlife, flow rates and potential well level impacts must be completed by the applicant before project approval.

