

# WINSTON & STRAWN LLP

35 WEST WACKER DRIVE  
CHICAGO, ILLINOIS 60601-9703

43 RUE DU RHONE  
1204 GENEVA, SWITZERLAND

99 GRESHAM STREET  
LONDON EC2V 7NG

1700 K STREET, N.W.  
WASHINGTON, D.C. 20006-3817

(202) 282-5000

FACSIMILE (202) 282-5100

www.winston.com

333 SOUTH GRAND AVENUE  
LOS ANGELES, CALIFORNIA 90071-1543

200 PARK AVENUE  
NEW YORK, NEW YORK 10166-4193

25 AVENUE MARCEAU  
75116 PARIS, FRANCE

101 CALIFORNIA STREET  
SAN FRANCISCO, CALIFORNIA 94111-5894

KRISTINA NYGAARD  
(202) 282-5828  
knygaard@winston.com

February 20, 2009

## VIA ELECTRONIC FILING

Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

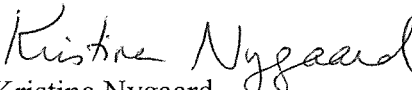
**RE: Penobscot River Restoration Trust's Reply to January 21, 2009  
Additional Information Request on License Surrender Applications  
for Project Nos. 2403-056 (Veazie), 2721-020 (Howland), and 2312-019  
(Great Works)**

Dear Ms. Bose:

Enclosed herewith is the reply of the Penobscot River Restoration Trust to the Additional Information Request issued on January 21, 2009, by the Federal Energy Regulatory Commission's Division of Hydropower Administration and Compliance.

Should you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

  
Kristina Nygaard

ATTORNEY FOR THE PENOBSCOT RIVER  
RESTORATION TRUST

Enclosures

DC:589999.1

**Penobscot River Restoration Trust's Reply to January 21, 2009 Additional Information Request Regarding License Surrender Applications for Project Nos. 2403-056 (Veazie), 2721-020 (Howland), and 2312-019 (Great Works)**

The Additional Information Requests (AIRs) are set forth below in bold, each followed by the Trust's response.

**General**

**AIR #1. The preliminary design reports included as appendix B to your Exhibit E - Environmental Report (ER) include an independent construction sequence for each project. Please provide the sequence and timeline for all three projects as they relate to each other and why such a construction sequence was chosen.**

During pre-application consultation with state and federal fisheries agencies, only two significant concerns about the sequence of the two dam removals and construction of the Howland Bypass were identified: (1) that the existing fishway and trapping facility at Veazie Dam not be removed or made inoperable prior to construction of the new fish lift and trapping facility at the Milford Dam, because a collection facility at the lowermost dam on the Penobscot River is essential for collection of Atlantic salmon broodstock for hatchery programs that support Penobscot River salmon restoration efforts; and (2) that the Great Works Dam, which is not suitable for collection of broodstock, be removed before the Veazie Dam is removed, so that migratory fish will have unimpeded access to habitat below Milford Dam and, for those fish that historically migrated above Milford, to the new fish lift and trapping facility at the Milford Dam.

The schedule for the construction of the Milford fish lift and trapping facility is established in FERC's April 18, 2005 Order modifying the Milford license (111 FERC ¶ 62,061). The order states (*id.* at 64,101, new Article 408):

*Within 6 months of the effective date of the transfer of the licenses for the Veazie (no. 2710), Great Works (no. 2312), and Howland (no. 2721) Projects pursuant to the terms of the Lower Penobscot River Multiparty Settlement Agreement, the licensee shall file, for Commission approval, detailed design drawings for the "state of the art" upstream anadromous fish passage facilities specified in Attachment A to that Agreement. This filing shall include but not be limited to: (1) the location and design specifications of the passage facilities; (2) a schedule for installing the facilities within 18 months of a Commission order approving the design drawings; and (3) procedures for operating and maintaining the facilities.*

Because the Veazie Dam may not be removed until the Milford fish passage facilities are constructed, we anticipate that it will be a minimum of two years after closing before the Veazie Dam can be removed. The Great Works Dam will be removed during the previous year. Based on similar projects in Maine, we anticipate a summer and early fall window for in-river construction.

There is somewhat less certainty about the sequencing of construction of the Howland Dam bypass channel. The Maine Department of Transportation is preparing to replace a bridge in Howland that is immediately upstream of the dam. They propose to issue a design/build contract

in October of 2009, and anticipate approximately 20 months of work. Until the design is complete and the construction schedule is more certain, the Trust does not know whether it will be feasible for construction of the Howland bypass to occur simultaneously with the bridge project, or whether construction activities will need to wait until after the bridge project is completed.

Other constraints that will govern when construction may begin include the dates of regulatory approvals, any permit conditions that limit the construction window, and water conditions.

With these factors in mind, the Trust has prepared the following sequence for permit approval and dam removals. This represents a schedule the Trust believes to be realistic but allows for some unexpected delays. Our hope would be that permitting, funding, and logistical concerns can be addressed more rapidly, so that we will be able to fulfill the vision of the parties to the MPA and realize the projects substantial ecological benefits earlier.

- November 2008. State and federal permit applications filed. Review and processing.
- Fall 2009. Anticipated receipt of state and federal permits. Upon receipt of final permits, Trust will take ownership of the projects.
- May 2010 (6 months after Trust takes ownership). Deadline for PPL to file plans and a schedule for Milford upstream fish lift.
- November 2011 (18 months after approval of fishway designs). Deadline for Milford fish lift to be operational.
- Summer, 2011. Great Works dam removal.

- Summer, 2012 (After Milford fish lift is operational). Veazie dam removal.
- 2010-2012 (Depending on coordination with bridge replacement). Howland dam bypass channel construction.

**AIR #2. In section 3.3 of your ER, you describe the Action Alternative to remove the Howland dam. You state that this is not the preferred alternative because it does not meet the requirements of the Lower Penobscot River Multiparty Agreement (SA). Please provide additional information about the ecological, economic or cultural reasons as to why dam removal is not your preferred alternative.**

The Trust and other Conservation Interests (conservation organizations who are members of the Trust, state and federal agencies who are party to the MPA, and PIN) initially had intended to negotiate with PPL and interested stakeholders a settlement agreement for the removal of the Veazie, Great Works, and Howland dams, in order to restore habitat and improve fish passage. All stakeholders agreed that: (1) the dams nearest the ocean needed to be removed, in order to restore habitat and access to habitat for species such as sturgeon that cannot use fishways; and (2) that unobstructed and undelayed upstream and downstream passage to high quality habitat in the Piscataquis River watershed was essential for Atlantic salmon, alewives, blueback herring, shad, and eels. However, dam removal was not deemed to be necessary at the Howland Dam, if equivalent passage **of native diadromous species** could be achieved by other means.

During the course of negotiations strong local opposition arose to removal of the Howland dam, which had begun the relicensing process around 1998. Residents expressed a desire that the impoundment remain, maintaining that removing the impoundment would have adverse impacts

on the social and recreational benefits it provides, including flat water boating, fishing, and snowmobiling.

To determine whether this concern could be addressed without undermining the conservation value of project, the Conservation Interests agreed to investigate the possibility that a bypass channel could provide fish passage similar to what would be provided by dam removal. Before the MPA was finalized, the Conservation Interests completed an assessment of the bypass and determined that it had promise, but needed additional evaluation. As a result, the MPA identified the bypass as the preferred option if it was feasible, and required a more rigorous evaluation of its feasibility. If the bypass was determined not to be feasible, the Trust would be required to seek permits for dam removal. The Trust and Conservation Interests considered the bypass a negotiated solution that would allow the Howland dam to remain, and the fisheries agencies ultimately determined that a fish bypass channel could provide safe, timely and adequate fish passage. This provision was accordingly incorporated into the Multiparty Settlement Agreement, whose terms bind the signatories. The Trust presented the concept to the town of Howland in several public meetings, and the town indicated its support for the bypass by voting in June 2008 to grant an easement to the Trust to allow construction of the bypass across town-owned land.

**AIR #3. In section 2.2 (in the footnote on page 2-5) and in section 5.5.2.2 of your ER, you state that your hydrologic model assumes that the energy enhancements proposed at the Orono and Stillwater Projects under phase 4 of the SA will be undertaken and that the proposed flow allocations between the Penobscot River and the Stillwater Branch will be implemented. Our environmental analysis will only consider the impacts of the actions proposed in your surrender application. We are concerned that the results of this hydrologic model may have been used to determine impacts to: 1) mussels and fish due to stranding from dewatered impoundments; 2) wetlands due to the dewatering of the impoundments; 3) fish passage due to potential impediments during low flow conditions; 4) wildlife habitat; 5) water quantity and quality; and 6) many other areas. Please provide information about the results of the hydrologic model when considering only the decommissioning of the Veazie, Howland and Great Works Projects, the removal of the**

**dams at Veazie and Great Works, and the lowering of the impoundment and construction of the nature-like fish bypass at Howland.**

The proposed reallocations of flow between the Penobscot River mainstem and the Stillwater Branch under the Settlement Agreement *only affect the Great Works Project and the reach downstream to the confluence with the Stillwater*. The Howland Project is on a tributary to the Penobscot River well north of the diversion. And the Stillwater Branch, to which flow diversions would be reallocated, discharges back to the Penobscot River above the Veazie Project, just upstream of the head of the Veazie impoundment.

In addition, the reallocation of diversions to the Stillwater Branch proposed under the Settlement Agreement will affect neither high flows nor very low flows at the Great Works Project. As Table 5-39 shows, for Penobscot River flows <3,800 cubic feet per second (cfs) the diversions must comply with the existing minimum flow requirements. Flows greater than approximately 15,000 cfs, which are less than the April and May mean flows (the annual spring high flow period is generally April-May), are also not affected by the reallocation schedule. The proposed reallocation will only affect flows between 3,800 cfs and 15,000 cfs. Furthermore, when flows are between 3,800 cfs and 5,446 cfs during May 1-October 31, which includes the annual low flow period, the existing flow allocations will remain in force, and diversions must comply with the existing minimum flow requirements.

Because our model reflects *proposed* allocations of flow at the diversion structure, we believe that it presents conservative estimates for the analyses FERC staff expressed concern about:

- 1) mussels and fish due to stranding from a dewatered impoundment;
- 2) wetlands due to the dewatering of the impoundment;

- 3) fish passage due to potential impediments during low flow conditions;
- 4) wildlife habitat; and
- 5) water quantity and quality.

Most of these analyses concern low flows, for which the proposed allocation presents the lowest estimate and therefore a worst-case scenario. For example, the wetland analysis is done using the August median flow. The estimate for this quantile was calculated by assuming 60% of the Penobscot River's flow is routed to the Great Works reach and 40% is diverted to the Stillwater Branch. If we instead used the existing allocation, we would route 70% to the Great Works reach and 30% to the Stillwater Branch. For analyses where high flows are concerned, there is no difference between the two scenarios.

When flow conditions do permit a greater allocation to the Stillwater Branch (>3800 cfs and <5,446 cfs from May 1-October 31 and >5446 cfs and <15,000 cfs year round), it is only 10% greater than the present allocation.

## Geology, Soils and Sediments

**AIR #1. Section 5.2.1 of your ER includes the results of analyses performed on sediment samples for organic and inorganic compounds taken from the Great Works and Veazie impoundments. The results were compared to the NOAA guidelines for sediment quality. You state that two sediment samples were taken in the Veazie impoundment and three samples in the Great Works impoundment. With regard to the samples taken from Great Works, tables 5-5 and 5-6 in the ER only present the results of the analysis on two samples. Please provide the results of the third sediment sample (PR-GW-D) taken from the Great Works Project.**

Figure 5-2 indeed shows a third sample, PR-GW-D, taken from the Great Works impoundment. However, as noted on ER pages 5-7 and 5-21, only two samples were sent to the laboratory for chemical analyses. Text on page 5-8 presents the rationale:

*In general, fine textured soils with high percentages of organics and clay/silt tend to have the highest levels of contaminants and heavy metals because they have the exchange sites to hold the pollutants. Sands and gravels are generally much cleaner because the pollutants generally pass through them without being adsorbed. The Trust's sediment sampling purposefully examined fine sediment areas, even though they are not representative of the impoundment, because they represent a worst case in terms of contamination.*

The decision to sample only fine-grained sediment (sediments smaller than sand size—i.e., <0.0625 mm diameter) was made in consultation with Maine Department of Environmental Protection ME DEP staff who recommended such targeted sampling for their review. Since this recommendation comported with common practice for selecting areas to sample sediments for contaminant analyses, we specifically instructed our sediment sampling subcontractor, CR Environmental, to sample only areas meeting this size fraction criterion. Text on page 13 of their report (Appendix E-9) describes their charge, why sample PR-GW-D was collected, and what was done with it:

*CR collected two sediment samples from each of the Veazie and Great Works impoundments. These four samples were submitted for chemical and geotechnical analysis. Sample locations were selected based on a review of side scan sonar and ground truthing data by CR, Kleinschmidt, PRRT and NOAA representatives. The scope*

*of work for the project specified that samples should only be collected from sediments with a grain size “smaller than sand (0.0625 mm),” however, the survey data demonstrated the complete absence of distinct patches of fines in the channel of either reach. Based on consultation with representatives from Kleinschmidt, PRRT and NOAA locations in shallow water along the banks were selected where fine sands and silts were visible. Descriptions of these samples are provided in Section 4.6 and on Table 4.6-1. A fifth sample, PR-GW-D, was collected from the Great Works impoundment in order to document substrate conditions at a location of potential interest selected based on preliminary review of side scan sonar data. This sample was analyzed for geotechnical parameters only.*

**AIR #2. In Section 5.2.1 of your ER, you indicate that you estimate 60 to 90 percent of the potentially mobile sediment fraction present in the Veazie impoundment is located within an area of fine materials along the western shoreline. Figure 5-1 depicts the locations of the two samples taken from the Veazie impoundment; no samples were taken from the sediment deposit indicated on page 5-12 of the ER. Please provide an explanation as to why a sample was not taken from the sand deposit along the west shore of the impoundment and your plans for assessing the organic and chemical constituents of this sand deposit.**

As noted above, we did not sample areas of sand-size sediment (>0.0625 mm dia) for the reasons stated on ER page 5-8:

*In general, fine textured soils with high percentages of organics and clay/silt tend to have the highest levels of contaminants and heavy metals because they have the exchange sites to hold the pollutants. Sands and gravels are generally much cleaner because the pollutants generally pass through them without being adsorbed. The Trust’s sediment*

*sampling purposefully examined fine sediment areas, even though they are not representative of the impoundment, because they represent a worst case in terms of contamination.*

The decision to sample only fine-grained sediment (sediments smaller than sand size—i.e., <0.0625 mm diameter) was made in consultation with MEDEP staff experts who recommended such targeted sampling for their review. Since this recommendation comported with common practice for selecting areas to sample sediments for contaminant analyses, we specifically instructed our sediment sampling subcontractor to sample only areas meeting this size fraction criterion.

We do not have plans to assess the organic and chemical constituents of this sand deposit, because we think it is unlikely to bear such constituents at levels of concern, given its physical characteristics AND because we think mobilization of this material is unlikely. As noted on ER page 5-12, this deposit will be exposed above the water surface quickly upon removal and will therefore be unlikely to be subject to tractive forces of a strength or duration necessary to mobilize a substantial volume.

**AIR #3. In section 5.2.1 you report that numerous organic constituents and several chemical constituents exceeded the sediment quality guidelines in both the Veazie and Great Works impoundments; however, you do not indicate your plans for ensuring that sediments that contain potentially harmful constituents are not mobilized as a result of the proposed action. Please provide a description of the specific control measures and methods you plan to implement to ensure that these sediments are not mobilized.**

Sediment samples were compared to NOAA's Effects Range Low (ERL) and Effects Range Median (ERM) guidelines, which give thresholds for effects to aquatic species. It is stated in Section 5.2.1.1 and 5.2.1.2 of the ER that within the Veazie impoundment, Silver was the single

constituent above the ERL. In the Great Works impoundment, Nickel was above the ERL, and Silver was above the ERM. Chemical analysis data is provided in Tables 5-2, 5-3, 5-5, and 5-6 of the ER.

As the dams are run-of-river structures, and their impoundments are highly dynamic, sediment moves through the impoundments on a regular basis during the spring freshet and other flood events. As a result, the impoundments contain very small quantities of mobile sediments. Accordingly, minimal amounts of sediment are expected to migrate downstream as a result of the removal of the Veazie and Great Works dams.

The Veazie and Great Works impoundments have very small fractions of potentially mobile sediments. Bed substrate is primarily cobble, boulder, and bedrock (95% in the Veazie impoundment and 97% in the Great Works impoundment). The sediments that are most likely to mobilize are primarily along the river banks, and in the large sand deposit on the west bank upstream of Veazie Dam. In addition, the construction sequence has been developed to minimize downstream migration of sediments from the impoundments during and following dam removal.

The construction sequence is similar for both the Veazie and Great Works Dams. The impoundments will be gradually drawn down using the existing powerhouse structures. The impoundments are currently drawn down annually at Great Works during replacement of the flashboards damaged after the heavy spring flows. This initial drawdown would be accomplished in less than a day. After completing the initial drawdown, the contractor will build

the cofferdam/access road along the back side of the dam. While the access road is being built, the impoundment will remain at the initial drawdown level. Following completion of the access road, the dam is ready to be breached, completing the final drawdown of the impoundments. The phased drawdown will allow for dewatering and consolidation of the upper bank zone sediments to be well underway when the lower bank zone sediments are exposed.

After drawdown of the impoundments, potentially mobile sediments, comprised of the sand and gravel deposition associated with the low-velocity littoral zones through the impoundments, will be isolated from the flow. Vegetation will take root within these exposed sediments during the first growing season. As vegetation continues to establish, very little movement of soils from the exposed bank areas can be expected.

**AIR #4. On pages 5 and 6 of your preliminary design report for the Howland bypass channel, you discuss the results of your subsurface investigations of the soils to be excavated to construct the bypass channel. You report that chemical analysis of soil samples indicate that the material is suitable for disposal at a state-owned landfill, but exceed the Maine Beneficial Reuse criteria predominately for arsenic. Please provide a description of all the chemical constituents in the soil to be excavated that were found to exceed the Maine Beneficial Reuse criteria. In addition, please describe your plans to reuse any or all of the excavated material as fill, the disposition of any material that would not be reused on site and, if appropriate, the status of your consultation with the Maine Department of Environmental Protection in regard to the reuse of the excavated material.**

The subsurface investigation included the collection of 49 soil samples from 29 boring locations. Of these samples, 42 were determined to contain concentrations of Arsenic above the Beneficial Reuse criteria of 5.375 mg/kg. In addition to Arsenic, Lead was determined to exceed the criteria in 4 samples collected from 4 different boring locations. Two boring locations were determined to contain concentrations of polyaromatic hydrocarbons (benzo(a)anthracene and dibenzo(a,h)anthracene) greater than the applicable reuse criteria. A data table with the results of

the chemical analyses performed as part of the subsurface investigation is included as Attachment 1.

A portion of the property is currently undergoing voluntary remediation in consultation with the ME DEP. It is anticipated that a portion of the excavated material may be suitable for use as cover material in the areas of the site that require remediation. Of the 66,000 cubic yards of material to be excavated during the construction of the bypass channel, approximately 14,000 cubic yards are bedrock. It is further anticipated that the bedrock does not contain concentrations of arsenic, lead or polycyclic aromatic hydrocarbons. It is the removed rock that would most likely be suitable for on-site reuse. Another option may include the on-site placement of material that does not otherwise meet the reuse criteria and the subsequent covering of that material with surplus rock or other imported clean fill. The balance of material excavated as part of the bypass channel construction will be transported for off-site disposal at an approved location in accordance with all ME DEP requirements. Reuse of all excavated material will be done in consultation with ME DEP.

**AIR #5. The description of your plans to draw down the impoundments does not provide specific draw-down rates or a schedule. While specific details may not be known now, please provide as much specific detail of the draw-down rates as possible.**

The sequence of construction and the rates of water drawdown are directly related. It is anticipated that construction will begin in early summer, with the powerhouses and gates used to partially drawdown the impoundments about eight feet. Water levels will then be held, as mussel surveys and relocations occur, and the contractor installs temporary access road and cofferdams prior to the dam breach.

After about four weeks, and when the initial mussel relocations are done, the contractor will drawdown the impoundment as low as possible, and begin dam removal with the initial breach in the far side from the construction access point. The breach allows a full drawdown of the impoundment and removal of the dam.

## Water Resources

**AIR #1. In section 3.2.2 of your ER, you state that the Trust is currently in negotiations with the Red Shield Mill owners concerning the engineering requirements of the replacement water intake system. Please provide an update as to what discussions have taken place with the mill owners regarding this issue and a schedule for when the final determination of the Trust's obligations to the mill will be made.**

The Trust and the Red Shield mill owners have been working together on the design and engineering of a system to provide process and fire-protection water for the mill following dam removal. This work began prior to the recent Red Shield bankruptcy proceeding. Since emerging from bankruptcy, engineers for the Trust and Red Shield have met and are currently working on finalizing the design plan. With regard to the Trust's obligations, the Trust has informed Red Shield that the Trust is not obligated to pay the cost of replacing the mill's water intake system, but is proceeding in collaboration with the mill to identify a resolution of this matter that is satisfactory to all parties. The Trust is hopeful that the parties will finalize an agreement on this matter soon.

**AIR #2. In section 4.2 of your ER, you mention that you intended to request a Water Quality Certificate from the Maine Department of Environmental Protection concurrently with the filing of your surrender application. Please provide one of the following for each project: 1) a copy of the water quality certification; 2) a copy of the request for**

**certification, including proof of the date on which the certifying agency received the request; or 3) evidence of waiver of water quality certification.**

By electronic letter dated February 13, 2009, Maine DEP notified the Trust that it is waiving Clean Water Act (CWA) Section 401 Water Quality Certification for the FERC surrender proceedings and will instead be issuing such certification in conjunction with issuance of the U.S. Army Corps of Engineers' dredge and fill permit under CWA Section 404. A copy of the February 13, 2009 DEP letter is attached as Attachment 2.

**AIR #3. In section 5.5.2 of the ER, you describe the aquifers that exist near the project areas. At the Veazie and Howland projects you included information about expected impacts the proposed action would have on groundwater levels in these aquifers. However, this information was not provided for the aquifer adjacent to the Great Works Project. Please provide further information stating what, if any changes would be expected to occur to groundwater levels and flows within the aquifer at Great Works and describe the geological conditions which you used to reach this conclusion. Similarly, please provide information regarding residential and commercial withdrawals and uses of groundwater in the immediate vicinity of the three projects, especially in the areas of the aquifers described in section 5.5.2 of the ER.**

As noted in the text on page 5-166, the shape and position of the aquifer shown in Figure 5-23 *“indicates that it may have been an old side channel, or formed by deposition after a large flood. Currently, the Old Town Mill, including several buildings and impervious surfaces, lies on top of this mapped aquifer. It is likely that this aquifer has had significant volumes of fill placed on top of it due to the construction of the Mill.”* Since this is presumably an alluvial aquifer hydraulically connected with the river, it is expected that aquifer head on the upstream end may be lowered along with impoundment lowering. However, any lowering will not substantially affect riparian habitats dependent upon groundwater levels because the land use atop this aquifer is industrial and already highly altered. Furthermore, this aquifer contains no known public

supply wells, private wells, or industrial wells to be affected. Finally, any lowering would simply be a return to pre-impoundment water levels in this alluvial aquifer.

A GIS dataset of public water supply wells in Maine shows that there are no public supply wells proximal to the Howland or Great Works impoundments (<http://megis.maine.gov/>). There are two public supply wells within a mile upstream of the Veazie Dam and within a half mile of the river (see Figure W1 attached). According to information from the Maine Department of Health and Human Services Drinking Water Program, Public Water System ID (PWS ID) 3600201, owned by the Greystone Trailer Park, is offline because the park is closed. This well is approximately 40 feet deep in a mapped sand and gravel aquifer (EA Figure 5-22). PWS ID 6711101 is a drilled well approximately 130' deep. This well is shown in the Drinking Water Program's records to be an active, Non-Community Water system (transient). Its depth relative to the land surface indicates that it draws water from an elevation below the proposed water surface elevation of the adjacent Penobscot River.

Information on private wells in Maine is much harder to obtain. Private wells in Maine are not regulated and the only data available for these wells are furnished voluntarily by well drillers. The Maine Geological Survey (MGS) maintains a database of the reported wells. We requested information on the private wells in their database in the project areas. We defined the project areas as one half mile on either side of each impoundment as follows:

- Veazie Dam to the upper end of Ayers Island
  
- Great Works Dam to the upper end of French Island
  
- Howland Dam to the Howland/Maxfield line (above Lowell Island)

The wells found in the database within these geographic bounds are shown on Attachment 3. The limited well data available for each well are shown in the attached tables. It is important to emphasize that these are the *minimum* number of private wells in the project areas since private well owners are not regulated and are not required to report any information about their wells to MGS.

A qualitative examination of these private wells, using land surface elevation data from the USGS maps and the MGS records for well depth, suggests that all wells shown are drawing water at elevations below the proposed water surface elevations of the river at the respective project sites—in many cases much below. A river's water surface elevation is an approximation of the head of an aquifer in hydraulic connection with the river. It is worth noting that we do not know to what extent a given private well at these sites is drawing from an aquifer in hydraulic connection with the river. The well depths for many of these wells, and the fact that all MGS records denote that they are drilled in bedrock, suggest that they are drawing from aquifers that are not in hydraulic connection with the river—further indicating an unlikelihood that they will be adversely affected by the project.

## **Fisheries and Aquatic Resources**

**AIR #1. In section 5.5.3 of your ER, you discuss the maintenance of fish passage at the Veazie, Great Works and Howland projects during construction. You further discuss the option to time the sequence of decommissioning these projects such that the Milford (FERC No. 2403) fish lift and trapping facility is completed along with the removal of the Great Works dam prior to removing the Veazie dam. Please provide additional information as to when the Milford fish lift is expected to be complete.**

As discussed in our response to General AIR #1, above, we anticipate the Milford fish lift and trapping facility will be operational about 2 years after the Trust takes ownership of the Veazie, Great Works, and Howland projects.

**AIR #2. In section 3.5 of your ER, you mention that you plan to keep operating the existing fish passage at the Veazie, Great Works and Howland Projects as long as possible until decommission is complete and that you will also maintain a zone of passage during construction. Further, in section 5.5.3, you describe the location of areas in the drawn-down Veazie and Great Works impoundments that might inhibit fish passage during low flows, but do not explain where the expected zones of passage are located. Please provide a map and description of the location of the expected zones of passage for each project and how you will monitor their effectiveness.**

In Section 5.5.3 of the ER, locations are identified that may inhibit fish passage following removal of the Great Works Dam. This is meant to describe zones of passage during construction activities. However, the identified locations are associated with post dam removal conditions, rather than indicative of conditions during construction activities. No similar locations are described for the Veazie Dam.

During summer low flows following removal of the Great Works Dam, HEC-RAS hydraulic modeling predicts velocities at, or in excess of, six feet per second at two locations upstream of the Great Works Dam; immediately upstream of the dam, and around French Island. Six feet per second was provided by the US Fish and Wildlife Service as the threshold velocity that would impair upstream migration of adult anadromous fish. However, these velocity limitations identified in Section 5.5.3 of the ER are for low summer flow conditions. The primary upstream migration for the target species occurs between May and July, with a smaller secondary run in the fall. Thus, the potentially high velocities predicted for during the low flow summer months will not inhibit the upstream migration activities of anadromous fish.

During construction, zones of passage will be provided through the breached sections of the Veazie and Great Works Dams. The Great Works Dam will be removed first. This will allow for fish to be trapped at the Veazie Dam, and transported upstream of the Great Works Dam while the breach at Great Works Dam is being widened to provide the depth and velocity conditions necessary for upstream migration. After the Great Works Dam breach has been sufficiently widened, trapping activities at Veazie could be halted, and use of the Veazie fishway resumed. The window of no-passage at Great Works during the removal is expected to be approximately three weeks long, from the start of the drawdown until the breach is fully developed, assuming that access roads and coffer dams are previously initiated. This time could be longer if the mussel relocation effort takes longer to complete. In any case, the ability to trap fish at the Veazie Dam and transport them around the Great Works Dam site will minimize any impacts on migrating fish.

During removal of the Veazie Dam, the fishway will be operational until the initial drawdown of the impoundment for construction. During this time, upstream migration past the Veazie Dam will be limited. Once the Veazie dam has been fully breached from the east bank, velocities and flow depths through the breach will be conducive to fish passage, i.e. less than six feet per second and greater than one foot, respectively. The window of non-passage at Veazie Dam during the removal is also expected to be approximately three to four weeks long, from the start of the drawdown until the breach is fully developed, but is also contingent upon the mussel relocation effort.

Graphic depictions showing predicted zones of passage through the breach at each dam during removal are included as Attachments 4 and 5.

**AIR #3. In section 5.5.3 of your ER, you indicate that the mouths of tributary streams entering the Veazie and Great Works impoundments may have built-up sediment deposits that may impede the flow of water and passage of fish between these tributaries and the Penobscot River. Further you propose to monitor these areas after the impoundments have been drawn down and to take remedial measures to remove the barriers. Please provide information about how you plan to monitor these areas and the specific actions you would take to correct any impediments to flow and fish passage. Additionally, please describe how you would dispose of any removed sediments.**

Three stream confluences with alluvial deposits, primarily composed of sands, were identified within the Veazie impoundment within the project impact area. No stream confluences were identified in the Great Works impoundment.

Confluence #1 is located on the west bank of the Penobscot River, 3,200 feet upstream of the Veazie Dam. This confluence is located where Main Street encroaches on the river. Main Street is a residential road. USGS topographic mapping indicates the presence of a local drainage swale, potentially from a stormwater detention feature for the nearby residential neighborhoods. The confluence is not with a tributary that would provide viable habitat for migrating fish species. This confluence does not provide upstream habitat. No remedial measures for fish passage are necessary at this confluence.

Confluences #2 and #3 are located on the west bank, 11,200 feet upstream of the Veazie Dam. The confluences are located waterward of the railroad embankment. The Penobscot Valley Country Club is on the landward side of the embankment. The confluences do not appear to be

associated with a tributary, as identified from USGS topographic mapping. Although it is believed to be unlikely that these hold any significant habitat, further assessment of these confluences will be made in consultation with the Maine Departments of Marine Resources and Inland Fisheries and Wildlife, the US Fish and Wildlife Service, and NOAA Fisheries to determine the potential for upstream migration and the value of upstream habitat to migratory fish. If it is determined that access is a problem, and that maintaining access is desirable, the Trust will consult with the fisheries agencies to determine appropriate remedial actions. Given the small size of these tributaries, it is likely that any necessary measures could be accomplished with hand tools.

**AIR #4.** In section 5.5.3 of your ER, you report that you have surveyed the location of mussels at the Veazie and Great Works projects and have identified numerous mussels in the areas that will be dewatered under the proposed action. You mention that you will attempt to reduce impacts to mussels and fish that might be stranded due to the drawdown of the impoundments by drawing down these impoundments gradually and possibly manually relocating these animals. If gradual drawdown is not sufficient and manual relocation is necessary, please describe your fish and mussel relocation plan and how you will determine when this is necessary.

Any fish and mussel relocation plans will be developed in consultation with the Maine Department of Inland Fish and Wildlife (MDIFW) as part of the Incidental Take Permit (ITP) application process. The Trust will provide the Commission with a copy of such plans as they become available. We intend to begin consultation with MDIFW in early March and will finalize an ITP as soon as possible.

**AIR #5.** In section 5.5.3 of your ER, you mention that the proposed bypass at the Howland Project may allow upstream access to non-native fish such as northern pike and black crappie. You discuss that the resource agencies did not think that trapping and sorting was feasible at the proposed Howland bypass and that additional measures may be

**proposed elsewhere in the watershed. Please describe what these proposed measures are and if the Trust would have any role in implementing these measures.**

Under the Multi Party Agreement (MPA), the Trust was required to seek a “prior determination” by the U.S. Fish and Wildlife Service, the Maine Departments of Inland Fisheries and Wildlife and Marine Resources, the Maine Atlantic Salmon Commission, and the Penobscot Indian Nation that the proposed bypass “will provide safe, timely, and effective fish passage sufficient to allow the fisheries management goals and objectives of the Resource Agencies and PIN to be met.”

During the design process, in consultation with the fisheries agencies, the Trust developed an “Outline for Preliminary Design of Proposed Howland Fish Bypass” (Attachment 6, Appendix B), which describes the information needed by the agencies to make their “prior determination.”

At the request of several agencies, this included the following:

*The preliminary design will also evaluate the feasibility and costs (including operating costs) of incorporating provisions for trapping/sorting/counting of fish using the bypass. This includes measures to exclude upstream migration of northern pike and black crappie, both of which do not now exist above the Howland Dam, and are considered by Maine Department of Inland Fisheries and Wildlife to be undesirable, non-native invasive species. Under the terms of the Settlement Agreement, the resource agencies are responsible for management activities such as trapping/sorting/trucking.*

To fulfill that requirement, Milone and MacBroom, the Trust’s design consultant, sub-contracted with Stantec to complete an evaluation of the feasibility and potential costs of incorporating a

trap and sort facility into the bypass channel. Stantec's final report is attached. (Attachment 6: Trapping/Sorting/Counting Facility Proposed Bypass Channel Howland Dam, Howland, Maine. May 20, 2008.) In addition to completing the report, Stantec also participated with the Trust in a meeting attended by representatives of the US Fish and Wildlife Service, NOAA Fisheries, Maine Department of Marine Resources, Maine Department of Inland Fisheries and Wildlife, and the Penobscot Indian Nation on March 24, 2008 to discuss the feasibility of trapping and sorting. A handout summarizing Stantec's evaluation was distributed at the meeting and is included as Attachment 7. The handout summarizes information presented in more detail in the May 20 report.

As a result of Stantec's work and consultation with the agencies, the Trust determined that a trapping and sorting facility at the Howland Bypass could be designed and constructed, at an additional construction cost of \$250,000 to \$500,000, and with annual maintenance and operations costs of \$75,000 to \$300,000. The maintenance and operations costs would be largely driven by the number of returning alewives—the most abundant species anticipated. In consultation with the state and federal fisheries agencies, the Trust, as well as the state and federal fisheries agencies who had been consulted on this matter, determined that installing a trapping and sorting facility in the bypass channel would not be feasible, because:

- (1) A trap and sort facility would require design changes to the proposed bypass channel that would likely reduce its effectiveness in passing target species, which, under the terms of the MPA, would make the bypass channel “not feasible” and require the Trust to seek dam removal.

- (2) It was unlikely that the facility could be 100% effective in preventing undesirable species, including northern pike, from passing the Howland Dam, because of uncertainty about the swimming capacity of northern pike and concerns that required manual sorting would be subject to error due the large number of fish that would need to be handled. In addition, a trap and sort facility would do nothing to address what is probably the most potential vector for pike introduction into the Piscataquis—illegal introductions. The presence of multiple dams in the Androscoggin, Kennebec, and Sebasticook watersheds has not prevented introduction of pike into multiple waters there;
- (3) The proposed trap and sort facility would have negative impacts on target species, including migratory delays, required handling of all fish passed, potential injuries to fish that attempted to leap the barrier, crowding, and the need for a separate eel passage facility;
- (4) Annual maintenance and operations costs would be prohibitive, particularly as the number of returning alewives increased.

As a result of the discussion at the March 24 meeting, the Trust submitted Preliminary Design Plans for the Howland Bypass that did not include a trap and sort facility for the agencies review, and requested a letter from each agency containing its “prior determination” that the proposed bypass channel would meet each agency’s needs. The Trust received a letter on June 17, 2008 from NOAA Fisheries, and on June 18, 2008 from the Penobscot Nation, the U.S. Fish and Wildlife Service, and the State of Maine (on behalf of the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Marine Resources, and the Maine Atlantic Salmon

Commission). All state and federal agencies concurred in the design of the bypass—which did not include a trap and sort facility. These letters included as Attachment 8.

The letter from the State of Maine stated:

*The State resource agencies do have concerns about the impact of invasive fish species such as northern pike that are found in the lower reaches of the Penobscot. The agencies have agreed not to require a trap-and-sort facility at the proposed Howland Bypass, however ongoing strategic and operational planning may identify the need for additional upstream barriers to prevent the spread of invasive fish species into native salmonid habitat.*

The State is currently developing an “Operational Plan for the Restoration of Diadromous Fishes to the Penobscot River”. One element of that plan will be a more detailed assessment of the risk that pike or other non-native species may pose to agency goals for diadromous fish restoration and for freshwater fisheries management. A public draft of the Operational Plan is expected to be completed in March. If the state determines that any additional barriers or other measures are necessary, it is likely that those measures will be identified by the state in the draft Operational Plan. We will forward a copy of the draft Operational Plan to FERC when we receive it.

**AIR #6. In your mussel survey report included with your application, you state that there was insufficient time to survey for mussels in the tailrace of the Great Works Project. Please provide more information about whether you plan to survey this area at a later date and how you will provide this information to the Commission. If you do not plan to survey this area, please explain why.**

At this time the Trust does not plan to survey for mussels in the tailrace of the Great Works Project. Based on their widespread distribution elsewhere, the Trust assumes that mussels are present in the tailrace and will develop appropriate measures for relocation in consultation with the MDIFW as part of the application for an ITP. The Trust has consulted with MDIFW, who have indicated that they do not believe additional data collection is necessary before development of an ITP. The Trust will provide the Commission with a copy of such plans as they become available.

**AIR #7. In your mussel survey report, you state that you surveyed for submerged aquatic vegetation (SAV) and found that there is little suitable habitat for SAV at the Veazie and Great Works projects due to the majority of the substrate being bedrock with steep slopes. However, you report that you did find some SAV at these projects, but did not include them on the survey maps. Please provide a map or describe the location of any SAV and whether you expect it to be impacted by the proposed action.**

Although Normandeau did note the presence or absence of aquatic vegetation, this was not a major focus of the study, and locations of SAV were not mapped. However, Normandeau's observations indicate that there is very little SAV within the Veazie and Great Works impoundments. As noted in the October 2007 Normandeau Mussel Survey Report, "almost no vegetation" was found at the Veazie Project, and "very little vegetation was observed" at the Great Works Project. A review of Normandeau's handwritten data sheets from Appendix B of the report indicates that vegetation was identified in the Great Works impoundment in areas GW-1 and GW-2, shown on Appendix D Figure 1, Sheet 2. These areas are expected to be dewatered after removal. In the Veazie impoundment, an "algae mat" was identified in area VZ-28, shown on Appendix C Figure 1, Sheet 1. This area is also expected to be dewatered.

Given the very limited SAV observed, the Trust anticipates that any loss of SAV will be minimal. It is also likely that any losses will be offset when SAV becomes established in new areas. The reduction in water levels within the impoundments is expected to bring much of the river bottom that is not now shallow enough for SAV growth into the photic zone.

## **Botanical Resources**

**AIR #1. In section 5.5.4 of your ER, you state that supplemental monitoring and control for invasive species will be employed for three years following the proposed action at the Veazie, Great Works and Howland Projects. Please provide specific details regarding what invasive species you intend to monitor, the monitoring methods that you intend to use, and the frequency of monitoring. In addition, please specify what control methods will be employed to prevent the introduction of new invasive species in the proposed action areas due to construction activities.**

See attached monitoring plan, Attachment 9.

**AIR #2. In section 5.5.4 of your ER, you state that native species will be planted to prevent areas from being dominated by invasive species. Please clarify timeframes of when you intend to conduct such plantings following dam removal.**

Native species will be planted following drawdown activities at the Veazie and Great Works Dams. Initial plantings will be conducted in the fall, immediately following construction activities. This treatment will consist of raking and clearing debris from newly exposed riverbank, with subsequent application of a restoration seed mix. A secondary planting will be conducted in the spring, at the start of the growing season. The secondary planting effort will include additional seeding in selected areas, and installation of supplemental native herbaceous

and shrub-like species. These plantings will be located in selected 200 to 500 square-foot pocket areas along the river banks.

**AIR #3. In your wetlands survey, you provide maps of the location of wetlands in the action areas and point out areas that are expected to be dewatered by the proposed action. Figure 2 shows the existing wetland conditions at the Veazie impoundment and figure 4 shows the expected features at Veazie impoundment after dam removal pointing out where the wetlands and the dewatered areas overlap. Please explain why figure 4 displays more existing and modified National Wetlands Inventory wetlands than figure 2.**

See attached cover letter and revised Figures 2 and 4 from Stantec Consulting Services— Attachment 10.

## **Wildlife**

**AIR #1. In section 5.2.5 of your ER you identify the location of sensitive wildlife habitat but do not explain how construction activities at Veazie and Great Works Projects might impact these areas, specifically, the northern section of Ayers Island. Please describe whether you expect these areas to be impacted by construction activities.**

These habitat areas on Ayers Island are approximately 5 miles upstream of construction activities, with little or no water level change projected in the post-removal condition. In addition, no mapped habitat areas exist in areas where construction activities will occur or in areas with significant changes in water levels post-dam removal. Accordingly, the Trust has concluded that construction activities will not impact these sensitive habitat areas.

**AIR #2. In section 5.2.5 of your ER, you identify the location of bald eagle nests at the Veazie and Great Works Projects but do not explain how construction activities might impact these nests. Please provide information about any construction activities proposed near these nests and whether you expect them to be impacted during construction activities and measure you propose to take to reduce such impacts.**

None of the bald eagle nesting sites that have been identified are located in areas where construction may occur. With regard to the Veazie Project, as noted in Sections 5.2.5.1 and 5.2.6.3 of the ER, two bald eagle nests are located more than 1 mile south of the Veazie Dam on the eastern shoreline of the Penobscot River, while another has been identified on the right (west) bank of the Penobscot River, approximately 2.5 miles upstream from Veazie Dam south of Ayers Island.

With regard to the Great Works Project, Section 5.2.5.2 of the ER notes that a bald eagle nest site has been identified on the west bank of the Penobscot River, approximately 1 mile downstream from Great Works Dam.

Given the distance between the nest areas and the proposed construction, the Trust has concluded that construction activities will not impact bald eagle nests at the Great Works and Veazie Projects and therefore the Trust does not propose taking any action with regard to these sites.

**AIR #3. In section 5.2.5 of your ER you identify the location of important waterfowl and wading bird habitat at the Howland Project but do not explain how construction activities might impact these areas. Please provide information about how you expect that these areas would be impacted during construction activities.**

As noted in Section 5.2.6 of the ER, waterfowl and wading bird habitat has been identified for the Piscataquis River adjacent to Lowell Island at the upstream limit of the Howland Project impoundment and on the Penobscot River just downstream of the Howland Dam. A Map depicting the location of waterfowl and wading bird habitat at the Howland Project is contained in the ER as Figure 5-18.

Lowell Island is approximately 5 miles upstream from the Howland dam. Given this distance, the Trust has concluded that construction activities will not have any impact on waterfowl and wading bird habitat near Lowell Island. Further, the Trust has concluded that construction activities will only result in short-term, indirect effects on the habitat immediately downstream of the Howland dam, due to noise and other temporary disturbances. The Trust has concluded that construction activities will not result in any significant long-term effects on this downstream habitat.

### **Rare, Threatened and Endangered Species**

**AIR #1. In section 5.5.6 of your ER you mention that shortnose sturgeon are currently negatively impacted by coal tar deposits located just downstream of the Veazie Dam. Please describe the location of these coal tar deposits and whether you expect them to be disturbed by the proposed action.**

The coal tar deposits are located in a roughly 10-acre area at Dunnett's Cove, along the Bangor waterfront redevelopment area and approximately 3 miles below Veazie Dam. The Trust does not anticipate that the proposed action will have any effect on the coal tar deposits because hydraulic model results, which extended downstream to the Bangor Dam site, indicate no change in water surface elevations or water velocities downstream of the Veazie Dam. Furthermore, no appreciable sediment releases are expected with these dam removals. The coal tar deposit is located in a tidal section of the river. The remains of the breached Bangor Dam, a significant hydraulic feature, are between the Veazie Dam and Dunnett's Cove.

## Cultural Resources

**AIR #1.** In developing the application, you assessed the eligibility of the Veazie and Great Works projects for listing in the National Register of Historic Places (National Register). Sections 5.2.7.1 and 5.2.7.2 of the ER indicate that the State Historic Preservation Officer (SHPO) determined that the projects are not eligible for listing in the National Register, and reference a June 22, 2007 letter from the SHPO, but this letter is not included in your consultation record. Please provide a copy of this letter and any additional correspondence relating to the eligibility determination of any projects' resources.

A copy of the letter is included as Attachment 11 to this response.

**AIR #2.** Your application makes several references to a draft Memorandum of Agreement (MOA) that you have developed with the SHPO and the Penobscot Indian Nation (Penobscot Nation); however, a copy of the draft MOA is not included. In order for us to ensure that the MOA conforms to the Commission's regulations and satisfies its obligations under the National Historic Preservation Act, please provide a copy of the draft MOA.

The MOA is still under development and is not available at this time. The Trust, in coordination with NOAA, intends to initiate consultation with SHPO and the Penobscot Nation's THPO to finalize the MOU in March, and will notify the Commission of any meetings to facilitate their involvement. The Trust will also provide the Commission with a copy of the draft MOA once one is available.

**AIR #3.** The Preliminary Design Report for the Veazie Project indicates that you plan to remove the existing aerial cableway that runs across the river parallel to the Veazie Dam. The design report indicates that the SHPO and Penobscot Nation have requested that the concrete anchors on the east and west banks for the aerial cableway system remain in place, but does not discuss the historical significance of the anchors or your plans for their disposition. Please provide a description of the significance of the anchors and your plans for their ultimate disposition, and copies of any correspondence with the SHPO regarding these features.

The Trust needs a short period of additional time to prepare the submittal of its response to this question under separate cover and with a request that the response be accorded privileged treatment and placed in the Commission's non-public files.

**AIR #4.** Section 5.2.7.3 of your ER references an erosion monitoring plan that you developed early in 2008, in consultation with the SHPO, to determine whether project-related erosion is affecting National Register eligible sites along the Howland impoundment. This plan was not developed in consultation with the Commission, but would assist the Commission staff in analyzing the effects of your proposal. Please provide a copy of this plan, including any correspondence with the SHPO regarding the plan, and a description of the circumstances that led to the development of the plan.

This plan was developed by PPL Maine in consultation with the SHPO. PPL has provided us with a copy of the plan and related correspondence, attached as Attachment 12.

**AIR #5.** Your application provides an overview of the historic and cultural resources present at the projects. However, the Commission is responsible for analyzing the effects of the proposal on all resources present at the project. Please provide a list and descriptions of all historic and cultural resources present at the project and copies of any inventories completed to catalogue and document the projects' historic and cultural resources. For each resource you should provide a description of the significance of the resource, your assessment of the effects your proposal would have on each resource, and any other pertinent information. If available, please provide maps identifying and depicting the location of each resource in relation to the project boundary and project features.

The Trust needs a short period of additional time to prepare the submittal of its response to this question under separate cover and with a request that the response be accorded privileged treatment and placed in the Commission's non-public files.

## **Recreation**

**AIR #1. Regarding the five recreation facilities described in section 5.1 of the Final Recreation Assessment (FRA), please provide the following information:**

- a. Details on current ownership of each facility and any plans for transfer of ownership (i.e., any agreements or agency consultations, completed or planned) should the surrender applications be approved;**
- b. Plans for any improvements to boat ramps and/or trails that may need to be extended, modified, or repaired (as outlined in Section 5.5.1 of the FRA), including when this would occur and the responsible party; and**
- c. Other provisions for future public recreational access once the surrender becomes effective.**

There are six recreation facilities on land that the Trust will acquire:

**Recreation Site 1:** Veazie Dam Hand Carry Boat Launch, Veazie

**Current Ownership:** PPL Maine, to transfer to Trust upon closing.

**Plans for Future Ownership:** No current plans to transfer ownership from the Trust.

**Potential Improvements:** None planned.

**Plans for Future Recreational Access After Surrender:** The Trust has no plans to change access to this site.

**Recreation Site 2:** Penobscot River Public Boat Launch, Eddington

**Current Ownership:** PPL Maine, to transfer to Trust upon closing.

**Plans for Future Ownership:** The Trust will transfer ownership of this site to the town of Eddington after license surrender is effective. The town will maintain the site for water and boat access to the Penobscot River.

**Potential Improvements:** The Trust will consult with the town of Eddington, the Maine Department of Inland Fisheries and Wildlife, and the Maine Department of Conservation to determine what improvements, if any, will be required at this site. It is anticipated that at least minor modifications to provide for carry-in boat access may be required. It is also possible that trailered boat access will remain desirable at this site. The Trust will work with the town and other parties to design any agreed-upon improvements as part of the final design process, and to implement them during or soon after dam removal.

**Plans for Future Recreational Access After Surrender:** The site will remain accessible under town ownership.

### **Recreation Site 3: Union Street Boat Launch, Orono**

**Current Ownership:** PPL Maine, to transfer to Trust upon closing.

**Plans for Future Ownership:** The Trust will transfer ownership of this site to the town of Orono after license surrender is effective. The town will maintain the site for water and boat access to the Penobscot River.

**Potential Improvements:** The Trust will consult with the town of Orono, the Maine Department of Inland Fisheries and Wildlife, and the Maine Department of Conservation to determine what improvements, if any, will be required at this site. It is anticipated that at least minor modifications to provide for carry-in boat access may be required. It is also possible that trailered boat access will remain desirable at this site. The Trust will work with the town and other parties to design any agreed-upon improvements as part of the final design process, and to implement them during or soon after dam removal.

**Plans for Future Recreational Access After Surrender:** The site will remain accessible under town ownership.

**Recreation Site 4:** Great Works Canoe Portage, Bradley

**Current Ownership:** PPL-Great Works, to transfer to Trust upon closing.

**Plans for Future Ownership:** No current plans to transfer ownership from the Trust.

**Potential Improvements:** None planned.

**Plans for Future Recreational Access After Surrender:** The Trust has no plans to change access to this site.

**Recreation Site 5:** Ballfield, Bradley

**Current Ownership:** PPL-Great Works, to transfer to Trust upon closing.

**Plans for Future Ownership:** No current plans to transfer ownership from the Trust. The town of Bradley has indicate some interest in potentially owning this property, and the Trust is open to discussing a transfer to the town.

**Potential Improvements:** None needed—this site is not affected by water level changes.

**Plans for Future Recreational Access After Surrender:** The Trust has no plans to change access to this site.

**Recreation Site 6:** Tailrace fishing access, Howland.

**Current Ownership:** PPL Maine, to transfer to Trust upon closing.

**Plans for Future Ownership:** No current plans to transfer ownership from the Trust.

**Potential Improvements:** None planned.

**Plans for Future Recreational Access After Surrender:** The Trust has no plans to change access to this site.

The Trust has also had discussions with the town of Howland regarding the Howland Boat Launch. This site is not on land that the Trust will own. However, changes in water levels that result from permanent removal of the flashboards may require extension of the existing launch. The Trust will consult with the town of Howland to determine whether any improvements are necessary. If they are determined to be necessary, the Trust may design an extension of the boat launch as part of its final design for the Howland Bypass, and may complete any work on the boat launch during construction of the Bypass.

**For any additional recreation facilities that may need to be built, as suggested in the FRA (i.e., non motorized boat access at the Veazie Project mentioned on p. 5- 37, and portage for flatwater boaters mentioned on p. 5-49), please indicate who would build, own and/or maintain such facilities.**

Although the Trust plans to maintain access to, and in some cases improve, existing recreational facilities (see above), we are not proposing to construct any new facilities. The consultant who

conducted the Recreation Assessment, Kleinschmidt Associates, noted two locations where new recreation facilities may be desirable.

The first is an additional boat access site on the Penobscot River within the area currently impounded by the Veazie Dam, between Union Street Boat Launch in Orono and the Penobscot River Public Boat Launch in Eddington (both of which the Trust is proposing to maintain, in cooperation with the towns of Orono and Eddington). While such a launch may be desirable, the Trust does not believe that it is necessary. In any case, it would need to be located on land that the Trust does not own, and will not acquire from PPL. Consequently, the Trust would be unable to construct a facility at this location.

The second site mentioned is a possible portage trail around Basin Mills Rips, a large whitewater rapid just above the head of the current Veazie impoundment, and just below the mouth of the Stillwater River. A portage trail around Basin Mills Rips may be desirable, but the Trust does not own, and will not acquire from PPL, any land on which such a trail could be located. There are already several formal and informal river access sites in this area, including the Union Street Boat Launch in Orono, which is located approximately one half mile downstream of Basin Mills Rips. There is also informal river access near the mouth of the Stillwater River, just above Basin Mills Rips.

**AIR #2. The FRA states that certain recreational opportunities (i.e., ice fishing and motorized boating) would be reduced or eliminated at certain projects. For each project, please estimate the number of recreation days per year that are spent among popular recreation activities (i.e., shore fishing, boat fishing, ice fishing, motorized boating, paddling, etc.), or provide some quantitative estimate of use.**

In general, recreational use of the Veazie, Great Works and Howland Projects is low in comparison to other projects on the Penobscot River and other regions of the state where recreation opportunities are more numerous (PPL Great Works, 2000). In total, the projects accounted for just over 1,500 recreation days in 2002<sup>1</sup>. The Veazie Project reported a total of 730 annual daytime recreation days in 2002 and no nighttime use. Use at the Great Works Project was negligible; a reported 24 total annual daytime recreation days and no nighttime use. The Howland Project reported an annual daytime total of 803 recreation days and no nighttime use.

Quantitative use estimates for popular recreation are not available for the three projects; however, fishing is reported to be the most popular recreational activity occurring at the three projects, as well as some recreational boating (PPL Great Works, LLC, 2000; Northrop, Devine and Tarbell, 1990; and Bangor Hydro, 1998). This would be expected given the availability of resources at the three projects and the amenities provided by the project recreation sites. Specifically, project sites are primarily boat launches that also provide shoreline and wade angling opportunities.

The most recent recreation participation survey of Maine residents was conducted in 1991/1992 for the 1993 Maine Statewide Comprehensive Outdoor Recreation Plan (2003). The updated 2003-2008 Maine SCORP continues to report the results of this survey as the best available information with respect to participation of residents in recreation activity. According to the survey, sightseeing, walking, and visiting a cultural/historic site were the three most popular activities. Pleasure boating ranked as the seventh most popular activity among Maine residents,

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<sup>1</sup> As reported in the FERC Form 80 Recreation Reports for 2002. FERC defines a recreation day as “each visit by a person to a development for recreational purposes during any portion of a 24-hour period.”

with 38.4 percent of respondents indicating some level of participation. Freshwater fishing ranked as the eighth most popular activity, with a participation rate of 38.3 percent among respondents. Flatwater canoeing reported a 30.9 percent participation rate and was ranked the eleventh most popular activity. While still a popular activity in the state, the number of fishing licenses issued between 1993 and 2001 actually declined by 6 percent for Maine residents; however, the number of pleasure boat registrations increased by approximately 13 percent over the same time frame (MDOC, 2003).

As discussed in the Multi-Project Environmental Assessment for the Veazie, Great Works and Howland Projects, the proposed action is expected to benefit the fishery, having residual benefits to angling opportunities and likely increasing participation in this activity at the projects. Shoreline and wade angling access will be generally unaffected; however, motorized boating access and opportunities will decrease. As such, a shift to angling from non-motorized watercraft is likely to result.

Pleasure boating on a motorized watercraft, while a popular activity in the state, is not undertaken at the Great Works Project, which lacks available access. Pleasure boating at the Veazie and Howland Projects is available, often in conjunction with angling. While pleasure boating opportunities at the Veazie Project are expected to decrease due to lack of suitable access and the transition to a riverine environment on the impoundment, the proposed action will not have an effect on access and opportunities at the Howland Project. Opportunities for non-motorized boating (flatwater canoeing and whitewater kayaking) will increase at the Veazie and Great Works Projects, as will expected participation in this activity.

## Land Use and Aesthetics

**AIR #1. To more clearly illustrate the existing use of the lands along and adjacent to the existing project boundary, please provide a map illustrating the land use classification of the shoreline areas at each project (e.g., recreational, residential, forested, commercial etc.).**

Two maps showing land use classifications at each project are included as Attachment 13 to this response.

**AIR #2. On page 5-234 and 5-235 of your ER, you note that the change of the surface elevation at the Veazie Project would "expose a number of piers and submerged structures from previous developments, which are known to exist below the reservoir surface." Please identify these structures (e.g., crib dam, dock etc.), their general location, and a clear description of the criteria and/or procedures you would use to determine the disposition of the above structures (e.g., removal).**

The submerged structures within the Veazie impoundment were primarily identified by CR Environmental in the course of collecting data for the Sediment Survey. (CR Environmental. 2008. Great Works and Veazie Dam Removal and Howland Bypass Channel Sediment Survey. Prepared for Kleinschmidt Associates, Pittsfield, ME March 2008. This report was provided as an Appendix to the Multi Project Environmental Assessment on CD #2.)

As noted in Table 5-1 of the Multi-Project Environmental Assessment, "man-made structures" make up 1.45% of the impoundment bottom. The location of these structures is shown in Figure 5-1 of the ED, and also in Figure 4.2-3 of CR's report. There appear to be two different types of structures, and the Trust is proposing to deal with them differently.

Immediately above the dam is a structure identified on Figure 4.2-3 as a "long linear structure", which is continuous with a cribwork that extends to the east bank of the river. This structure and

its proposed treatment during the removal are described in detail in Appendix B to the ED, Preliminary Design Report, Veazie Dam. It is the remnants of a 19<sup>th</sup> century dam which preceded the Veazie Dam. The structure is up to 20 feet high, and is currently submerged by 5-9 feet at normal summer water levels. The Trust proposes to remove the entire structure, and removal details are provided as part of the Preliminary Design Report. The Design Plans for the Veazie Dam Removal in Appendix B show the proposed removal of this structure in detail. As is noted in the Preliminary Design Report, removal of this structure is necessary to provide suitable water velocities for fish passage after the Veazie Dam is removed.

In addition to the submerged dam, there are also numerous old cribwork structures, which are believed to be the remnants of structures used during log drives on the Penobscot River. These structures are common in Maine's large and medium sized rivers, in both impounded and free-flowing river reaches, and they are generally constructed of log cribs held together with spikes and filled with boulders. The Trust does not propose to remove these structures, for two reasons. First, unlike the historic dam structure, hydraulic modeling does not suggest that the cribwork remnants will create hydraulic conditions that would preclude fish passage. In addition, with the exception of a few cribs located on PPL-owned property on the west shore, just upstream of the Veazie Dam, none of the cribs are owned by, or located on lands that are currently owned by, PPL. As such, ownership of these structures will not be passed to the Trust. Based on experience with similar structures at other dam removals in Maine (Edwards Dam removal, Sandy River dam removal, Fort Halifax dam removal), there is little reason to suspect these structures will cause any structural, safety, or other concerns.

**AIR #3. On page 5-232 of your ER, you state that the Trust will acquire all project lands associated with the Veazie, Great Works, and Howland Projects. You further clarify that the Trust does not intend to own these parcels in perpetuity, and would attempt to partner with other entities that would assume ownership and management activities once decommissioning is complete.**

**It is our understanding, however, that PPL Maine has only flowage rights over most of these lands. If this assumption is correct, please explain how the Trust plans to develop these partnerships, as the lands will not be owned in fee. If this is incorrect, please clarify the type of land ownership the Trust will attain at each project.**

For each of the three projects, PPL holds a combination of fee title to and flowage rights over project lands. These property interests will be conveyed to the Trust. In general, it is the Trust's intent to convey these same property interests to third (partnership) parties, which would thereby take over the management of such interests. The timing of such conveyances may be different for Howland, as discussed below.

With regard to Howland, the Trust will likely retain ownership of the dam and associated project lands owned in fee during the fifteen (15) year evaluation period for the fish bypass channel. For lands owned in fee at Veazie and Great Works, after the completion of all construction activities associated with dam removal, the Trust intends to convey its fee interest, including any submerged lands, to third parties, which may include conservation organizations, municipal or state agencies, or existing upland owners. A final determination of the disposition of these lands has not yet been made.

With regard to flowage rights, it is the Trust's intent to release all flowage rights associated with the project. Currently, the flowage rights have passed to PPL by deed from the prior owner,

Bangor Hydro Electric Company. At Howland, flowage rights will be retained, as with the fee parcels, during the 15-year evaluation period for the fish bypass. These rights will be released only in the event the fisheries resource agencies conclude, after the 15-year evaluation period, that the bypass is not providing safe, timely and adequate fish passage, and the Trust is, therefore, required to remove the Howland dam. For Veazie and Great Works, the flowage rights, like the fee lands, will be released to a third party, either a conservation group, municipal or state agency, or the upland property owners.

## Socio-Economics

**AIR #1. Section 5.5.11 of your ER includes information about the cost of labor involved in the project decommissioning and related activities, but more information regarding all costs of this undertaking would be required to fully review the application. Please provide information regarding the cost of labor, equipment, disposal, and other related activities to the best extent these costs can be given at this time. Please provide this information separately for each project.**

### Estimated Construction Costs - Veazie Dam Removal

• Site Preparation	\$ 250,000
• East Bank Dam and Fishway Removal	\$ 800,000
• West Bank Dam, Forebay, and Powerhouse B Removal	\$ 720,000
• West Bank Site Improvements	\$ 540,000
• Upstream Structure Removal	\$1,800,000
• Stabilization and Closeout	\$ 340,000
• Upstream Improvements/Bank Stabilization	\$ 250,000
• Contingency (@ 20%)	\$ 940,000

• **Total** **\$5,640,000**

Estimated Construction Costs - Great Works Dam Removal

• Site Preparation	\$ 270,000
• East Bank Fishway Removal	\$ 470,000
• East Bank Dam Removal	\$ 2,040,000
• West Bank Dam Removal	\$ 770,000
• Stabilization and Closeout	\$ 150,000
• Upstream Improvements/Bank Stabilization	\$ 150,000
• Contingency (@ 20%)	\$ 770,000
• <b>Total</b>	<b>\$4,620,000</b>

Estimated Construction Costs - Howland Bypass

• Site Preparation and Building Demolition	\$ 530,000
• Powerhouse Access Road	\$ 480,000
• Bypass Channel Crossing	\$ 720,000
• Bypass Channel Excavation	\$ 1,850,000
• Bypass Channel Completion	\$ 380,000
• Stabilization and Closeout	\$ 50,000
• Contingency (@ 20%)	\$ 800,000
• <b>Total</b>	<b>\$ 4,810,000</b>