Maine Department of Environmental Protection

Study Request

Lowell Tannery Hydropower Project (FERC No. 4202)

**Aquatic Habitat Cross-Section Flow Study**

1. **Describe the goals and objectives of each study proposal and the information to the obtained.**

Assessment of aquatic habitat downstream of the Lowell Tannery dam is required to determine whether current in-stream flow releases meet Maine habitat and aquatic life criteria. An aquatic habitat cross-section flow study measures depth, velocity, and wetted width along established transects at various discharges to determine flows where at least 75% of the stream cross-sectional area has enough water to provide sufficient habitat for fish and other aquatic organisms. Data will be evaluated to determine if the downstream waters provide sufficient quantity of water to maintain riverine aquatic habitat in the bypass and tailrace reaches.

1. **If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.**

The resource management goal is to ensure attainment of Maine Water Quality Standards pursuant to the provisions of the *Water Classification Program*, 38 M.R.S. Sections 464-468 and to certify attainment of such, with any necessary conditions, under Section 401 of the Federal Water Pollution Control Act (a.k.a. Clean Water Act).

1. **If the requestor is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.**

Requestor is a resource agency.

1. **Describe existing information concerning the subject of the study proposal, and the need for additional information.**

The Passadumkeag River downstream of the Lowell Tannery dam must meet Maine habitat and aquatic life criteria. Agency file review indicates data is insufficient in the tailrace reach of the Lowell Tannery Project to assess attainment of these criteria. The PAD does not indicate that a study of this nature is planned for the project.

1. **Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.**

Data collected will be used to evaluate aquatic habitat in the Passadumkeag River downstream of the Lowell Tannery dam. Information will be used to evaluate whether the project meets Maine habitat and aquatic life criteria and will inform the water quality certification process.

1. **Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate filed season(s) and duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.**

The DEP Sampling Protocol for Hydropower Studies (June 2018) was established by Department staff and has been used successfully throughout the State by the DEP and others. A copy of the Department protocol is attached to the PAD comment letter.

1. **Describe considerations of level of effort and cost, as applicable, and why proposed alternative studies would not be sufficient to meet the stated information needs.**

A cross-section flow study measures depth, velocity, and wetted width along established transects in the bypass and tailrace reaches at various discharges to determine flows where at least 75% of the stream cross-sectional area has enough water to provide sufficient habitat for fish and other aquatic organisms. This type of study can typically be accomplished in one or two days. Costs are considered reasonable given that this study is required for Maine water quality certification and is routinely completed at hydropower projects being relicensed in the State. No alternatives to this study are proposed.