

EXECUTIVE SUMMARY

The purpose of this Draft Study Report (DSR) is to summarize baseline data at the Bar Mills Hydroelectric Project on geology and soils, water quality and quantity, fish and aquatics, wildlife and botanical resources, recreation, land use, aesthetics, and historical structures. Brookfield White Pine Hydro (BWPH) is proposing (proposed action) to surrender the Federal Energy Regulatory Commission (FERC) license at Bar Mills Hydroelectric Project on the Saco River, between Hollis and Buxton, Maine.

Information contained in this DSR will be used to inform development of a Decommissioning Plan in early 2026 which will provide additional details on decommissioning, including details on the removal of specific project features and proposed mitigation measures.

In response to public and agency comments received during study planning, this DSR provides information regarding both a partial and full spillway removal as possible alternatives to satisfy current license requirements for upstream and downstream migratory fish passage. Partial spillway removal refers to removal of the western half of the dam from the canal gates to the log sluice located in the middle of the dam. Full spillway removal refers to the removal of the entire spillway structure from the canal headgates to the old Fibre Mill foundation. Both alternatives include removal of the canal spillway adjacent to the headgate structure and construction of a flow diversion weir to a height that inflows will be excluded from the canal with the exception of extreme high flow events that would likely occur one to two times per year. BWPH does not intend to dredge or otherwise disturb sediments in the canal and if acceptable under MDEP and USACE permitting, fill portions of the canal with spillway demolition materials.

BWPH worked with the Towns to form a Decommissioning Committee (Committee) to review an initial draft of the DSR and to discuss issues of concern regarding decommissioning. A summary of the Committee process and discussions are provided in Appendix A of the DSR. BWPH will continue to work with Committee members and Town representatives to identify and evaluate post-removal fire suppression options, wells that could potentially be affected by lower water levels and alternative public access sites for flatwater boating opportunities. FERC processes applications to surrender licensed hydropower projects to ensure that safety and environmental concerns are addressed before allowing a project to be removed from federal jurisdiction. Results presented in this DSR, along with an Environmental Assessment (EA) that will be performed by FERC,

aid in the determination of conditions of an order approving license surrender. Below is an overview of the findings in this report.

Sediments - Subbottom profiling and probe interpretations below the water surface at and in the reach immediately upstream of the dam determined that little sediment exists and that preconstruction removal of sediments is likely unnecessary. A shoreline erosion study suggests sandy banks would quickly adjust to the new water elevation and revegetate rapidly. The presence of a cobble and bedrock dominated riverbed in the upper reach and downstream of the Bar Mills Dam indicates that the channel bed is relatively stable and the river will settle back into its historical, pre-dam channel form. Though BWPH has no plans to disturb the former Rogers Fibre Mill property, the DSR also examines sediments at and in the vicinity of the former mill for contaminants.

Water Quality - The Saco River at the Bar Mills Project is classified as Class A waters. The study report includes hydrology figures, water quality data, and provides a summary of water supply wells and dry hydrant information relevant to the proposed action.

Migratory Fish Passage - Modeling of the zone of passage for migratory fish species at the breached dam indicates that a partial breach or full removal of the spillway will provide similar depth and velocities relative to fish passage. It is recognized that under low river flow conditions water depth may be limiting to fish passing upstream, however, BWPH will have no control of water levels post-decommissioning.

Wetlands - Of the 20 wetlands investigated, 13 are expected to have no substantive change. The remaining seven wetlands are anticipated to remain hydric or saturated. While wetland area may change, either increasing or decreasing in area, the overall quality of wetlands is expected to remain the same, or in some cases, improve. Restoring the more natural hydrologic conditions supports the physical, chemical, and biological processes characteristic of higher quality wetlands. Following dam breach or full spillway removal, shoreline monitoring may be necessary for invasive botanical species.

Recreation - Monitoring conducted in 2023 at the Bar Mills impoundment boat launch and in 2024 at all the Bar Mills recreation sites found relatively low levels of recreational use. However, high water levels at the time of the surveys in 2023 may have impacted use levels. Water Levels – The largest impact to water levels will occur in the reach between the existing dam and the old railroad crossing located approximately 2,200 feet upstream where there is a bedrock ledge that will serve as a hydraulic control post-dam removal. Water levels in this reach are expected to be approximately 6 feet lower after dam

removal. Water levels upstream of the hydraulic control are anticipated to be reduced by approximately 2.5 feet. Based upon water level modeling, it is anticipated that the area between the hydraulic control and the existing dam will largely return to a riverine reach, following the historic main channel through the area currently occupied by the western portion of the spillway.

Historic Resources - BWPH will consult with Maine Historic Preservation Commission to develop any potential recommendations for protective or mitigative measures that may be necessary to address effects on the eight historical resources eligible for listing on the National Register of Historic Places, as applicable.

In summary, the DSR provides BWPH, regulating agencies, and the public, a collection of field and desktop data relative to the proposed surrender and decommissioning of the Bar Mills Project. The data and information herein will aid in the effects analysis and decision-making process for protection, mitigation and enhancement measures for the proposed actions that will be contained in the License Surrender Application and Decommissioning Plan.