

April 12, 2024

Melanie Loyzim
Commissioner
State of Maine
Department of Environmental Protection
DEP-Hydropower@maine.gov

RE: Green Lake WQC
DEP Application #L-020024-33-D-N
Green Lake Hydroelectric Project
(FERC Project No. 7189)

Dear Ms. Loyzim:

I am writing to register my interest and concern at the prospect of dam removal and/or enhanced fish passage on Green Lake, Ellsworth, Maine in response to FERC re-licensing. I oppose the conditions included in the draft Water Quality Certificate circulated on March 14, 2024, specifically conditions 3F-H, that would require the construction of upstream fish passage facilities in the future based on activities at the Ellsworth Dam.

I have spent time every summer on Green Lake for the past 60 years. I am now a shoreland owner and remain an avid fisherman on the lake. I have formal academic training as a limnologist and aquatic ecologist, with hundreds of publications on the drivers of spatial and temporal variability in the water quality of inland waters, including papers on the role that biota and climate change play in regulating nutrient cycling. In recognition of my research accomplishments, I have been elected a Fellow of both the American Association for the Advancement of Science and the American Geophysical Union. I worked for over thirty years as a Professor at the University of New Hampshire; I am currently a Research Professor at both the University of New Hampshire and Florida International University.

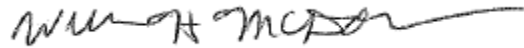
My first observation is that attempted “restoration” of conditions that occurred in a poorly understood and poorly documented past is a pipe dream. Instead, any management actions should be focused on projects that have a good chance of achieving a desired goal that is supported by sound data reflecting current conditions.

“Restoration” of fish habitat by creation of artificial fish passageway or by dam removal in a large, naturally occurring lake is difficult. For example, we cannot even be sure what the lake level was hundreds of years ago, given the likelihood that beaver dams played a role in controlling lake outflow. Nor do we know the condition (e.g. grain size) and slope of the Reed’s Brook channel prior to the various construction activities for the hydropower and fish hatchery. In addition, we now have new species in the lake, warmer lake waters, longer summer stratification that imperils hypolimnetic oxygen content, hypolimnetic discharge from the lake to

supply the fish hatchery, discharge from the lake by the hydropower operation, and potential introduction of new invasive species such as largemouth bass with any enhanced fish passage.

In my professional opinion, we should manage for the present. This means 1) maintaining lakeshore stability (water level) to minimize shoreline erosion and nutrient inputs 2) maintaining hypolimnetic volume in the face of climate change in order to achieve the oxygen levels needed for highly valued coldwater fish and to reduce internal phosphorus loading; 3) not requiring new fish passage without a thorough assessment of historic fish passage prior to dam construction. Any proposal for enhanced fish passage should only be considered in the context of current climatic conditions and the possible cessation of all large-scale water withdrawals from the lake, including both the hydropower and the hatchery. Thus, I oppose conditions 3F-H in the Water Quality Certificate circulated on March 14, 2024.

Sincerely yours,

A handwritten signature in black ink, appearing to read "William H. McDowell". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

William H. McDowell
30 James Farm Rd.
Lee, NH 03861
and
73 Black Island Way
Ellsworth, ME 04605