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June 17, 2016

Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Division  
888 First Street, N.E.  
Washington, D.C. 20426

**Re: Ellsworth Hydroelectric Project (FERC No. 2727-086): Graham Lake water level concerns**

Dear Secretary Bose:

The Maine Department of Inland Fisheries and Wildlife (MDIFW) is the state agency responsible for the management of resident freshwater fisheries in inland waters of Maine. The following comments were prepared in response to water level concerns as part of our Agency's review of the Ellsworth Hydroelectric Project (FERC No. 2727-086) Application for New License.

Under the current license, the Graham Lake full pond water level elevation is 104.2 ft. above mean sea level (msl). Its full permitted lake drawdown is to 93.4 ft. above msl, which equals a potential 10.8 ft. maximum vertical annual drawdown. The current license also calls for maintenance of a minimum flow to the Union River of 105 cfs and for the water level in Graham Lake be maintained between 93.4 ft. and 104 ft. msl from July 1 to the following April 30 of each year.

In February 2015, Black Bear Hydro Partners LLC (Black Bear) drew Graham Lake down to nearly its maximum allowed level under its current FERC license agreement. MDIFW first became aware of this when multiple anglers on Graham Lake complained to fisheries staff at the MDIFW Jonesboro Regional Headquarters. Low lake levels were limiting traditional ice fishing opportunities due to water levels reaching a lake elevation of 94.1 ft. msl. In several instances, anglers were drilling through the ice only to find that the ice was resting on muck. See photo below.



While within the bounds of the current FERC license, to our Agency's knowledge this was the first time a drawdown of this magnitude and timing has occurred. It is our understanding that this drawdown was outside the normal targeted range; however, MDIFW is now concerned that such a large drawdown at *any* time of year may negatively impact the lake's fisheries and that this issue should receive greater consideration during the current relicensing of this project. In an effort to facilitate an informed consultation process, MDIFW staff conducted a bathymetric study of Graham Lake in 2015. This mapping effort provided a basis to better understand the effect of a maximum drawdown (down to 93.4 ft. msl) in both the winter and open-water seasons. While there are some limitations to the model used, MDIFW's resulting bathymetry map (Attachment 1) indicates a number of areas where fish may become stranded, particularly if the lake were drawn down 8-10 feet. This potential stranding could lead to mortality of game and forage fish and as well as increased intra- and interspecific competition within pockets of stranded water. In addition, Graham Lake has established black bass fisheries for both smallmouth and largemouth bass. These fish typically spawn between May 20 and June 25 each spring, and a drawdown during this period would be detrimental to the reproductive success of these species.

On June 10, MDIFW staff met with representatives of Black Bear to discuss these concerns and to share the bathymetry data that was collected. It was explained by the Black Bear representatives that the February 2015 drawdown was a "generation issue" that was "not typical", and that there were no plans to draw the lake to that elevation in the future. Black Bear further explained that the historical target winter elevation was approximately 95.0 feet msl. Barring any future unpredictable climatic conditions, MDIFW staff discussed the feasibility of incorporating a new maximum drawdown level of no more than 97.0 ft. msl, which would allow a lake level fluctuation range of 7.2 feet, compared with its current allowable drawdown of 10.8 feet. This level would enhance winter angling opportunities in basins associated with angler residences and camps, particularly from December 15 to February 28, while MDIFW's findings indicate that the current maximum drawdown of 10.8 feet alters littoral adult, spawning, and nursery habitat; increases the likelihood of fish stranding; and impacts angler access and navigation. During the meeting MDIFW also discussed the feasibility of lake elevations being

maintained within a foot of the full pond level of 104.2 ft. msl between the dates of May 20 and June 25 annually to enhance black bass spawning and reproduction success. MDIFW provided Black Bear with the necessary GIS data for their own analyses of the bathymetry data, and Black Bear indicated that they will likely supplement the data by collecting their own data.

Overall the meeting was very productive and we appreciated Black Bear's willingness to meet with us to discuss future winter drawdowns and maintaining lake levels to enhance bass spawning at Graham Lake. Black Bear indicated they would analyze our bathymetry data and our proposed measures. We look forward to continued discussions with them once their analysis is complete.

Best regards,

A handwritten signature in blue ink, appearing to read 'John Perry', with a stylized flourish at the end.

John Perry, MDIFW Environmental Review Coordinator

Cc: Greg Burr, Joe Overlock--MDIFW Jonesboro Regional Office  
Francis Brautigam--MDIFW Fisheries Division Director  
Frank Dunlap, Kelly Maloney— Brookfield Renewable Energy Group  
Kathy Howatt, Maine Department of Environmental Protection

**Attachment 1: MDIFW bathymetry map of Graham Lake**

