



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

NOV - 3 0 2016

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

Re: Ellsworth Project (P-2727), Union River, Maine; observed fish kills

Dear Ms. Bose:

Several filings have been made to the Commission's docket regarding the Ellsworth Project (P-2727) on the Union River in Maine in response to observed fish kills. On October 16, 2016, the Downeast Salmon Federation (DSF) filed documentation of injured and dead juvenile river herring (alewife) below the Ellsworth Project tailrace. Black Bear Hydro Partners, LLC, Brookfield Renewable responded on October 25, 2016 to update you regarding actions taken to protect downstream migrating fish. We are providing comments on these recurring fish kill events.

DSF documented injury and mortality of juvenile fish (alewife and American eel) in October of 2014, 2015 and 2016. Black Bear has responded to each documented fish kill event. In their October 25, 2016 filing responding to DSF's complaint, Black Bear outlined actions taken since 2015 to minimize the potential for, as well as to reduce the scope and scale of, entrainment related injury and mortality. Notwithstanding these efforts, fish kill events continue to occur seasonally. We urge Black Bear to characterize the extent of these mortality events and to develop additional measures as necessary to improve downstream passage conditions at both the Graham Lake and Ellsworth Dams to allow for safe, timely and effective passage for alewives. In addition to being one of our trust species, alewives are an essential feature of listed critical habitat for Atlantic salmon. As such, Black Bear must minimize the effect that the Ellsworth Project has on alewives.

In their October 16, 2016 filing, DSF noted that a large proportion of the dead alewives were missing eyes, which is potentially symptomatic of barotrauma. Photos of the dead fish were examined by a U.S. Geological Survey biologist, and he supported the assertion that barotrauma was a potential cause of death. This is concerning as we have not observed this effect at other hydroelectric projects in the State of Maine. If any fish using a specific passage route exhibits signs of barotrauma, it is likely that many fish using that route will be affected. Some of these fish may die, while others may be subjected to adverse sub-lethal effects. We are concerned that this effect may not be limited to river herring and may also be affecting downstream migrating critically endangered Atlantic salmon. Black Bear should study and characterize this effect so that it can be considered during the ongoing relicensing proceedings. We expect this could be carried out with an entrainment study that injects test fish at varying water depths through the turbines and collects them in the tailrace in order to determine under what physical conditions



the barotrauma is occurring, as well as what proportion of fish are being affected. This should not be done as a desktop analysis as every hydropower project is different and physical conditions change over time.

Our agency is fully engaged in the relicensing process during which the need for terms and conditions for the protection of migratory fish in any new license will be assessed. We will continue to work with Black Bear to evaluate potential problem areas and solutions, analyze downstream passage study results and assess the need for additional studies. We look forward to hearing from FERC and Black Bear as to how the negative effects of downstream passage at this project will be minimized in the future. Please contact Dan Tierney (207-866-3755) if you have questions regarding this correspondence.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kimberly B. Damon-Randall', with a long horizontal flourish extending to the right.

Kimberly B. Damon-Randall
Assistant Regional Administrator
for Protected Resources

cc: Service List