



## DIVISION OF FISHERIES & WILDLIFE

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April 16, 2019

Mr. Robert Kubit  
MA Department of Environmental Protection  
Division of Watershed Management  
8 New Bond Street  
Worcester, MA 01606

RE: *FERC No. 2669*  
*Bear Swamp Power Company*  
*Bear Swamp Pumped Storage Project*  
*Application for a Water Quality Certificate*

Mr. Kubit,

The Massachusetts Division of Fisheries and Wildlife (MassWildlife) is the agency responsible for the protection and management of the inland fish and wildlife resources of the Commonwealth. MassWildlife's mission also includes conserving and protecting endangered, threatened and species of special concern pursuant to the Massachusetts Endangered Species Act (MESA; M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00). The purpose of MESA is to conserve and protect state-listed rare species and their habitats. The MESA prohibits the Take of any state-listed species, which is defined as *"in reference to animals, to harass, harm, pursue, hunt, shoot, hound, kill, trap, capture, collect, process, disrupt the nesting, breeding, feeding or migratory activity or attempt to engage in any such conduct, or to assist such conduct, and in reference to plants, to collect, pick, kill, transplant, cut or process or attempt to engage or to assist in any such conduct"* (M.G.L. c. 131A § 1). The MESA regulations further provide that *"the disruption of nesting, feeding or migratory activity may result from, but is not limited to, the modification, degradation or destruction of habitat"* (321 CMR 10.02).

Bear Swamp Power Company, LLC (Applicant) must comply with all review, performance standards and permitting requirements applicable to state-listed species and their habitats (at the time of review and thereafter) under the MESA as well as the rare wildlife provisions of the Massachusetts Wetlands Protection Act (WPA; 310 CMR 10.58(b) and 10.59). As such, we monitor operations at hydroelectric projects within the Commonwealth, as well as comment on proposed hydroelectric facilities.

MassWildlife has been an active participant and intervenor on the ongoing licensing process with the Federal Energy Regulatory Commission (FERC) for the Bear Swamp Project by Bear Swamp Power Company LLC (the Applicant). By reference herein, we include the current and complete FERC re-licensing record for the Project (FERC P-2669) since the date of the Division's intervention on 12/22/2014 and until the end of the FERC re-licensing process. Specifically, MassWildlife has submitted the following comment letters to date. Herein, MassWildlife highlights our concerns about the Application and impacts to the Aquatic Ecosystem, that being with the role and interpretation of the Deerfield River Agreement by the Applicant.

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## LIST OF MASSWILDLIFE LETTER SUBMITTED TO DATE

FERC Accession Number	Filed Date	Description
20190401-5514	04/01/2019	Comment of Massachusetts Division of Fisheries and Wildlife under P-2669, responding to the Final License Application and the Ready for Environmental Analysis.
20180130-5082	01/30/2018	Comment of Massachusetts Division of Fisheries and Wildlife on Draft License Application under P-2669.
20171212-5101	12/12/2017	Comment of Massachusetts Division of Fisheries and Wildlife under P-2669, Request to Modify Operations Model Study.
20170719-5060	07/19/2017	Comment of Massachusetts Division of Fisheries and Wildlife under P-2669, responding to BSPC response to ISR relative to Odonates.
20170526-5259	05/26/2017	Comment of Massachusetts Division of Fisheries and Wildlife under P-2669, responding to Study Reports 1, 2, 4, 5, 7, 8, 10, 13, 18, 19 (submitted 3/31/17).
20161221-5153	12/21/2016	Comment of Massachusetts Division of Fisheries and Wildlife on Bear Swamp Study Reports under P-2669, responding to the Fish Assemblage Study, Wild Trout Spawning and Abundance, Entrainment Evaluation, State Listed Odonates Survey, Baseline Study of Freshwater Mussel Species.
20160325-5220	03/25/2016	Comments of Massachusetts Division of Fisheries and Wildlife re the Bear Swamp Pumped Storage Project under P-2669, responding to the Supplemental/Additional Information – Aquatic Mesohabitat Data (posted on FERC website 3/9/16).
20151014-5309	10/14/2015	Comments (dated October 14, 2015) for Bear Swamp Pumped Storage Project No. 2669 from Massachusetts Division of Fisheries & Wildlife, Revised Study Plan comments.
20150831-5386	08/31/2015	Massachusetts Division of Fisheries & Wildlife comments (dated August 31, 2015) re: Proposed Study Plan, Bear Swamp Pumped Storage Project No. 2669.
20150417-5182	04/17/2015	Comment of Massachusetts Division of Fisheries and Wildlife under P-2669, Study Requests.
20141222-5141	12/22/2014	(doc-less) Motion to Intervene of Massachusetts Division of Fisheries and Wildlife under P-2669.

Current License, Deerfield River Settlement Agreement, and 2005 Agreement with GRH

The framework for the APPLICATION FOR A WATER QUALITY CERTIFICATE (AWQC) submitted to MA DEP includes the FINAL LICENSE APPLICATION (FLA) and READY FOR ENVIRONMENTAL ANALYSIS (REA). In these documents, the Applicant argues that the Project does not cause the daily peaking flow regime currently present in the Deerfield River. The Applicant claims that the Project simply passes the flows received from the upstream Deerfield Hydroelectric Project (P-2323) owned and operated by Great River Hydro, LLC (GRH). The Applicant argues that their operations are subject and bound by the Deerfield River Settlement Agreement (DRA<sup>1</sup>) and operations of the upstream Deerfield Hydroelectric Project.

<sup>1</sup> Copy of the DRA. <https://lowimpacthydro.org/assets/files/Deerfield%20documents/Attachment%20A1%20-%20Deerfield%20Settlement%20Agreement.pdf>

Throughout the Application, the Applicants have stated that they are constrained by the DRA and operations of the Deerfield River Project, owned by Great River Hydro LLC. It is the Applicant's position that the modify flows below FBD, the DRA would need to be re-opened and re-negotiated. MassWildlife continues to disagree<sup>2</sup> with the Applicant's interpretation of the DRA, which clearly states that all conditions "*apply to, and be binding on, the [parties] and their successors and assigns, but only with regard to the [whole Deerfield relicensing] proceeding*" (DRA, page. 5). It is MassWildlife's position that the Project, nor the agencies, are bound by the terms of the DRA or would need to seek modifications to the DRA to implement alternative operations.

We refer the MA DEP to the letter submitted to FERC by GRH to FERC<sup>3</sup> which provides a clear interpretation of the DRA and March 25, 2005 Agreement between the Applicant and GRH in the context that they were written. In particular, that the current License was amended by FERC<sup>4</sup> on 4/4/1997. Thus, the DRA is an amendment to the current License and therefore expires with the current License. Without the self-imposed limitations of the DRA and March 25, 2005 Agreement, MassWildlife is confident that the Applicant can provide alternative operational regimens that continue to allow whitewater uses while increasing protection of the Aquatic Ecosystem and its critical functions.

### Required Additional Information

MassWildlife has reviewed the AWQA, DRA, FLA and all associated appendices and supporting studies. We find that the filing is inadequate to address impacts to the Aquatic Ecosystem. In particular, the proposed operations are inadequate to avoid and minimize impacts to (a) state-listed odonates, (b) fish, (c) lands required to ensure adequate water quality and quantity, and (d) water quality due to direct human uses. These insufficiencies are summarized below and detailed in our previous comments during the FERC relicensing process.

#### **A. STATE-LISTED ODONATES**

As with impacts to fish, peaking creates rapid increases in water surface elevations that are harmful to and result in the killing of odonates that emerge from the river during the eclosure process, which is triggered when the larvae initiate the transformation from an aquatic larva to a flighted adult. From eclosure to flight, odonates cannot survive contact with water, including inundation. Individuals washed away from the emergence surface, even if they have not begun eclosure, rarely survive being washed downstream. Both inundation of emerging individuals and washing away of individuals occurring during upramping of the Project. Project operations are having significant and direct impacts to MESA-protected odonates, including the riffle snaketail (*Ophiogomphus carolus*, Threatened) and the ocellated darner (*Boyeria grafiana*, Special Concern).

MassWildlife conducted a risk assessment of the existing operations of the Project for state-listed odonates documents that existing up-ramping operations pose a 90% risk of impact for emerging state-listed odonates on a per day basis during their respective emergence period. These data and analysis are provided in TABLE 1, TABLE 2, AND FIGURE 4 in our comment letter on the FLA. Therefore, the operational regime proposed by the Applicant does not avoid and minimize impacts to state-listed odonates and the Aquatic Ecosystem. We ask that MADEP find that the proposed operational regime is adversely impacting the Aquatic Ecosystem.

<sup>2</sup> FERC accession numbers 20150831-5386, 20151014-5309

<sup>3</sup> FERC accession numbers 20100329-5296, dated 3/29/2019

<sup>4</sup> FERC accession numbers 19970407-3101, 19970411-0278

The Applicant provided several ramping rate scenarios in the FLA, but failed to provide any relationship or context to the state-listed odonates to allow interpretation of these data. The Applicant also failed to provide sufficient details to allow for informed review of the scenarios. In all scenarios, the Applicant posits that they lack sufficient volume capacity to slowly ramp to a recreational flow from the daily minimum flow. However, all of these scenarios assume no use of Bear Swamp Reservoir (BSR) for additional water to make up for any shortfall (see detailed comment in MassWildlife response to the FLA), despite repeated requests by MassWildlife and other stakeholders to the FERC licensing process that all scenarios include BSR. This approach to hydraulic modelling is in stark contrast to the approach required by FERC for the Northfield Mountain Pumped Storage Project (FERC No. 2485)<sup>5</sup> and Turners Falls Hydroelectric Project (collectively, the Turners Falls Project), which are concurrently undergoing FERC re-licensing in Massachusetts. This failure to fully represent the operational capacity of the Project using both reservoirs eliminates effective analysis and exploration of viable alternatives by Applicant and stakeholders detailed in our previous comment letters submitted to FERC.

Therefore, MassWildlife asks that the MADEP determine that the Applicant has both failed to conduct an adequate alternative analysis of operational regimes that fully utilize both impoundments to avoid and minimize impacts to odonates, and demonstrate that they have no practicable alternatives that are less impactful to the Aquatic Ecosystem. We request that MADEP requires that the Applicant conduct a complete hydraulic model as detailed in our and other submitter's previous comment letters submitted during the FERC relicensing process<sup>6</sup> and contextualize those results for odonate climb height for the Applicant to access alternative operational regimes that avoid and minimize impacts to odonates.

#### **B. MINIMUM FLOWS – FISH**

MassWildlife and other stakeholders to the relicensing process requested a trout spawning study on two occasions<sup>7</sup>. FERC did not support either request. However, the Deerfield River Chapter of Trout Unlimited sponsored a trout spawning survey in 2017<sup>8</sup>. Documenting at 125 cfs, shallow water and no water was documented over redds<sup>9</sup>, which leaves eggs and/or fry at high risk of freezing, dehydration, suffocation, and/or predation. These results demonstrate that the current 125 cfs minimum flow does not adequately protect trout redds documented in the major spawning area below FBD. The Applicant has failed to demonstrate that the proposed 125 cfs is adequate to avoid impacts to redds and the Aquatic Ecosystem. Further, the Applicant has failed to conduct a thorough study of the relationship between flow and physical habitat parameters such as depth and velocity at *known* spawning areas. Cole (2018) determined that a minimum flow of 350 cfs *should* provide sufficient depth and flow over the known major spawning areas using the best available information (i.e., direct observations, water depth measurements, and estimations using Project generation and additional gage data collected during TU's 2017, 2018 and 2019 studies). However, MassWildlife requests that MADEP require, as part of the 401 WQC, that BSPP to conduct a rigorous flow study utilizing the Instream Flow Incremental Methodology (IFIM) for the riverine reach below FBD. The results of this study could then be used to inform and ground-truth MassWildlife's recommended 350 cfs winter flow proposal detailed in our FLA comments submitted to FERC.

<sup>5</sup> For example, FERC Accession Number 20130913-3013, Study Plan Determination for the Turner's Falls Hydroelectric Project and the Northfield Mountain Pumped Storage Project under P-2485 et al. See Study 3.2.2.

<sup>6</sup> For MassWildlife letters, see FERC submitted documents number 20190401-5514, 20180130-5082, 20171212-5101(32571479), 20170526-5259. Additional relevant letters were submitted by the U.S. Fish & Wildlife Service and Connecticut River Conservancy, among others.

<sup>7</sup> See FERC accession numbers 20150417-5182, 20161221-5153.

<sup>8</sup> see Cole, 2018 and FERC accession 20190329-5271, 20180525-5085

<sup>9</sup> see Cole, 2018 and FERC accession 20190329-5271, 20180525-5085

**C. LAND PROTECTION (EXHIBIT G, PAGE G-5 TO G-7)**

The Applicant proposes to allow the “term” Conservation Restrictions on the 1,256 acres of land to lapse on the basis that they are “not necessary for the Project.” However, no information is provided to describe potential future uses of these lands other than suggested they would likely not be developed due to steep slopes.

Protection of these large blocks of habitat will continue to provide habitat for wide-ranging native species, support intact ecological processes, maintain connectivity among habitats, and enhance ecological resilience to natural and anthropogenic disturbances in a rapidly changing world. These areas includes buffering upland around wetland, and aquatic habitat to help ensure their longterm integrity. The long-term persistence of biological resources requires a determined commitment to land and water conservation around Aquatic Ecosystems.

MassWildlife finds that these protected ecosystems are critical to the Commonwealth and require protection for the same purposes outlined in the current License and DRA for as long as the Applicant continues to utilize Commonwealth resources to operate the Project as detailed in our FLA comments submitted to FERC.

**D. SANITARY IMPROVEMENTS – WATER QUALITY**

The Division supports the requests of the National Park Service<sup>10</sup> to improve sanitary conditions and thus water quality to the Deerfield River. We note that many of the infrastructure enhancements may require review and permits pursuant to MESA and its implementing regulations (321 CMR 10.00). The sanitary improvements will protect water quality and help avoid further degradation.

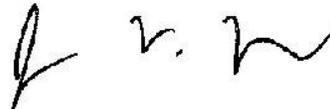
Comprehensive comments on all these insufficiencies, as well as specific recommendations about project operations are detailed in MassWildlife’s and stakeholder’s comment letters in the FERC record, in particular those relative to the DRA and FLA.

Thank you for this opportunity to comment.

Sincerely,



Caleb Slater, Ph.D.  
Anadromous Fish Project Leader



Jonathan V. Regosin, Ph.D.  
Deputy Director

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<sup>10</sup> Letter dated March 27, 2019. Department of Interior to FERC “RE: COMMENTS, RECOMMENDATIONS, PRESCRIPTIONS Application for Subsequent License”.