



July 18, 2019

Honorable Kimberly D. Bose Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Wilder Dam Project No. 1892
Bellows Falls Project No. 1855
Vernon Dam Project No. 1904

Connecticut River Conservancy Comments on Great River Hydro, LLC Study Reports filed by May 20, 2019 (Studies 9, 18 and 24)

Dear Secretary Bose,

The Connecticut River Watershed Council, Inc. (CRWC), now doing business as the Connecticut River Conservancy (CRC), is a nonprofit citizen group established in 1952 to advocate for the protection, restoration, and sustainable use of the Connecticut River and its four-state watershed. We have been participating in the relicensing of the five hydropower facilities on the Connecticut River since the beginning of the process in late 2012. We have reviewed the set of Study Reports that were posted by Great River Hydro (GRH) on May 20, 2019. Additionally, CRC attended the study report meeting held on June 4, 2019.

ILP Study 9: Instream Flow (Revised Final Study Report)

The purposes of Study 9 were to answer the following questions:

- “are current minimum flows adequate to protect aquatic resources downstream of project dams; and
- what is the effect of current project operations on fish and aquatic resources.”¹

CRC contends that the study shows that current minimum flows are not adequate to protect aquatic resources down stream of project dams. Current minimum flows from the project facilities are 765 cfs for Wilder, 1,083 cfs for Bellows Falls, and 1,250 cfs for Vernon. CRC agrees that, “No single flow range, whether daily or seasonally can provide suitable habitat conditions for all species and life stages,”² but many of the Habitat Suitability curves do indicate that flows between ~2,000 and 5,000 cfs provide a greater amount of suitable habitat. As the study states, “lower

¹ Great River Hydro, LLC. ILP Study 9- ILP Study 9 - Instream Flow Revised Final Study Report. Normandeau Associates, Inc. May 20, 2019. Page 1.

² Ibid. Page ES-2.

flows used tend to provide the highest AWS values for a majority of species and life stages.”³ CRC notes that “lower flows” is referring to a scale that has the baseline conservation flow on the low end and 16,000 cfs on the high end. This would indicate that the current minimum flows are not ideal for providing maximum habitat for most species. As we know, resident and migratory species are adapted to a natural river system with seasonal fluctuations. The more closely project operations mimic a natural river, the more protective they will be to those species.

The study indicates that fry habitat shifts to different areas of the river at different flows, “At higher flows most fry would be expected to be restricted to a band of shallow/slow habitat along the stream margin. The band of suitable habitat migrates laterally as flows increase... the implied immobility of fry under a dual flow analysis is unrealistic. Under the dual flow the majority of habitat would be lost as flows increase from 700 cfs to above 2,500 cfs as there is minimal overlap in habitat, assuming fry are essentially immobile. But as fry already occupy the available edge habitat, they would only need to move a few feet as flows increase or decrease.”⁴ While it may be true that fry would only need to move a few feet, it is not clear whether they can do that during a rapid change in the rate of flow. If the flow rate changes by several thousand cfs over the course of an hour or two, it is very likely that fry in the shallowest reaches of habitat could become stranded or swept downstream. The ability of fry to move safely depends on appropriate ramping rates. Drastic fluctuations in flows that result from peaking of the facility are detrimental to aquatic species. Generally, the outflow from the dams changes on the order of 4,000 to 9,000 cfs twice daily. While this study identifies appropriate protective steady state flows, it does not address the impact of peaking of the facilities.

Much of the conclusion relies on relating information about a “strawman” scenario where no details were provided as to the parameters used. It is quite difficult to understand the effects of a change of operational scenario without knowing what that change was. Additionally, the conclusions when comparing the baseline to the strawman seem to cherry pick only those that would indicate that an increase in minimum flow (having no idea what minimum flow was used) would be detrimental to or have no effect on available habitat. For instance, “an increase in minimum flows during the summer results in lower AWS for White Sucker and Smallmouth Bass fry,”⁵ but what about the other species under consideration? CRC strongly urges restraint in developing conclusions based on this one model run.

During the aquatic workgroup meetings over the last year stakeholders requested that Great River Hydro conduct an inflow equals outflow model run in order to evaluate the effect of that possible operational scenario on habitat. Great River Hydro executed that request but CRC notes that there was no habitat analysis conducted in coordination with that model run and no information from this model run was included in the study report, so the stakeholders and FERC cannot benefit from any information that might have been gleaned from that example. Conversely, GRH feels it is important to include 18 pages of charts showing possible changes in habitat duration affecting specific species as a comparison between the baseline and the ‘mystery’ strawman scenario.

³ Ibid. Page 196.

⁴ Ibid. Page 181.

⁵ Ibid. Page 197.

In conclusion, we are in agreement that Study 9 alone should not be used to define operating conditions. The study, focused on steady state flows does not illuminate the effect on habitat when the facilities are rapidly changing the outflow twice daily due to peaking. There is a growing body of knowledge that indicates that hydro-peaking heavily impacts riverine ecosystems by disrupting available habitat, spawning, migratory cues, substrate and ecological communities. CRC looks forward to additional conversations between the agencies, the aquatic working group, and GRH to explore possible operating scenarios, which, we assume might include additional model runs to ascertain feasibility and project effects.

ILP Study 18: American Eel Upstream Passage Assessment (supplemental study report)

The goal of Study 18 was to, “provide baseline data on the presence of American Eels attempting to move upstream of the Wilder, Bellows Falls, and Vernon projects and the locations where they congregate while attempting upstream passage. The goal of the 2018 supplemental effort was to collect information on upstream migrating eels at Vernon throughout the migration season and during a period when the Vernon fish ladder was operating.”⁶

Specifically, the 2018 supplemental effort was intended to, “conduct systematic surveys of eel presence/abundance at Vernon tailrace and spillway locations (including within the fish ladder following eel-specific modifications) in order to identify areas of concentration of eels staging in pools or attempting to ascend wetted structures.”⁷

GRH reports that, “Over the 22 weeks of visual surveys conducted from June 7, 2018 through November 1, 2018, 221 eels were observed at Vernon dam. The greatest number of eels observed in a single survey was 42 on June 13.”⁸ 221 is the total counted in WEEKLY surveys. We don’t know how many fish ultimately passed, or how many attempts were made to pass.

GRH mentions in the study that, “At the visitor’s window, eels were observed to be actively swimming, but frequently appeared to be circling in the large turn pool. In the counting room window, eels usually appeared traveling upstream at the bottom of the water column and ‘falling back’ or traveling downstream mid water column.”⁹ GRH has been actively working on making changes to the ladder to increase upstream passage of eels, but this “falling back” needs to be addressed. Additionally, “This behavioral observation coupled with the negative net count of juvenile eels reported for the Vernon fishway by VANR for 2018 suggests that the SalmonSoft monitoring equipment is not accurately enumerating both upstream and downstream passage.”¹⁰ Given this, Salmon soft is not the best way to count eels and GRH should consider investing in another way to count.

In addition to the comments provided above, please note that CRC supports the comments submitted by the natural resource agencies, including but not limited to, the New Hampshire Fish and Game Department (NHFGD), the Vermont Fish and Wildlife Department (VTFWD), and the

⁶ Great River Hydro, LLC. ILP Study 18-American Eel Upstream Passage Assessment. Supplement #3 to Study Report. Normandeau Associates, Inc. March 26, 2019. Page 10.

⁷ Ibid.

⁸ Ibid. Page 12.

⁹ Ibid.

¹⁰ Ibid. Page 19.

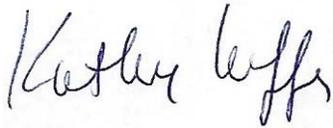
Connecticut River Conservancy comments on Great River Hydro Study Reports dated May 20, 2019
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U.S. Fish and Wildlife Service (USFWS).

We are very grateful for Great River Hydro's collaborative effort and relative transparency throughout the process of the aquatic workgroup meetings. Additionally, we appreciate the opportunity to provide comments on these studies and look forward to ongoing discussions.

I can be reached at kurffer@ctriver.org or (802) 258-0413.

Sincerely,

A handwritten signature in black ink that reads "Kathy Urffer". The signature is written in a cursive, flowing style.

Kathy Urffer
River Steward

CC:

John Ragonese, GRH
Jennifer Griffin, GRH
Jeff Crocker, VT DEC
Eric Davis, VT DEC
Betsy Simard, VT DEC
Gregg Comstock, NH DES
Pete McHugh, VT FWS
Lael Will, VT FWS
Matt Carpenter, NH DFG
Melissa Grader, USFWS
Katie Kennedy, TNC