



www.americanwhitewater.org

Robert A. Nasdor
Northeast Stewardship Director
365 Boston Post Road, Suite 200
Sudbury, MA 01776
617-584-4566
bob@americanwhitewater.org

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Marie Levesque Caduto
VT DEC
100 Mineral St., Ste 303
Springfield, VT 05156

Dear Ms. Caduto,

Thank you for meeting with me on September 25, 2015 to discuss the DRAFT Tactical Basin Plan for the West, Williams and Saxtons Rivers and Connecticut River and adjacent tributaries (Basins 11 and 13). Please consider these written comments along with those I conveyed orally in our meeting and at the November 10, 2015 public hearing.

American Whitewater is a national non-profit 501(c)(3) river conservation organization founded in 1954. We have over 5,800 members and 100 local-based affiliate clubs, representing approximately 80,000 whitewater paddlers across the nation. American Whitewater's mission is to conserve and restore America's whitewater resources and to enhance opportunities to enjoy them safely. Our organization maintains a national whitewater rivers database that includes 82 Vermont river segments. As a conservation-oriented paddling organization, American Whitewater has an interest in numerous rivers in the Basin 11 and 13 areas, including the West, Williams, Saxtons, Rock, Wardsboro, Winhall, and the Connecticut River at Bellows Falls. A significant percentage of American Whitewater members reside a short driving distance from these rivers. With regard to the West River in Jamaica, annual releases draw thousands of boating enthusiasts from throughout the northeast and mid-Atlantic regions, having a positive economic impact on the area.

Existing Uses

Through the tactical basin planning process, the Agency identifies existing uses of particular waters. Once these existing uses are identified, the use is protected under the anti-degradation policy of the Vermont Water Quality Standards. According to the Draft Basin Plan, all surface waters in Vermont are managed to support designated uses valued by the public including swimming, boating, and fishing. Vermont's Anti-Degradation Policy, Section 1-03 of the Vermont Water Quality Standards, states that, "Existing uses of waters and the level of water quality necessary to protect those existing uses shall be maintained and protected regardless of the water's classification." The Policy specifically enumerates uses that the State is required to maintain, including "[t]he use of the waters for recreation or fishing."

With regard to boating on rivers in the Basin 11 and 13 region, the Draft Appendix identifies boating on the West River, Winhall River, Wardboro Brook, Williams River, Saxtons River, and the Connecticut River as existing uses. The American Whitewater rivers database and other publications¹ identify additional rivers where boating is an existing use. The Basin Plan should be revised to reflect a more thorough review of existing boating use.

Despite identifying these longstanding existing uses, boating in the basin, particularly whitewater boating, has not been adequately protected through the basin planning process. For example, the 2008 Basin 11 Management Plan incorrectly points to the whitewater releases on the West River as a cause of significant migration delay and mortality to Atlantic Salmon smolts, implicitly blaming whitewater boating for the extirpation of Atlantic Salmon from the Connecticut River watershed. Whitewater releases were eliminated from the Ball Mountain Dam a decade ago in an effort to restore Atlantic Salmon to the watershed, and millions of fry were stocked in the West River and other tributaries. Despite these efforts, Atlantic Salmon have unfortunately failed to return, making the elimination of the spring whitewater releases unwarranted. Given the fact that the USFWS has subsequently abandoned the restoration program, this no longer serves as a basis for eliminating this very well established existing use on the West River.

2008 Basin 11 Management Plan

The broader hostility toward whitewater boating in Vermont was reflected in the 2008 Basin 11 Management Plan as follows:

4.5.3 West River Whitewater Releases from USACE Flood Control Dams

The Basin 11 Watershed Council examined the issue of water releases from USACE Ball Mountain flood control dam on the West River. Water-based recreation of whitewater kayaking, canoeing, and rafting has been popular in the West River for decades where the naturally occurring rapids and swift currents offer exciting river sport. The flood control operation of the USACE dams beginning in 1961 offered a more predictable timetable for high flows to whitewater groups throughout New England. Several organizations with interests in promoting their sport –American Whitewater, Appalachian Mountain Club, New England Flow and the Vermont Paddlers Club – worked release agreements with the USACE for their memberships over the years. Releases are scheduled and advertised for one weekend in the spring and one weekend in the fall when the USACE releases a sufficient volume to create whitewater conditions from the Ball Mountain and the Townshend Dams. These bi-annual release events have brought hundreds of river enthusiasts to the West River each year with significant economic benefit for recreation based enterprises in several river-side towns, as well as private and public campgrounds in the area.

However, as mentioned above, these releases can have significant effects on aquatic habitat and biota, aesthetics and other uses and values of the state's waters. Over the last fifteen years, scientists and river ecologists in many areas of the country have conducted

¹ American Whitewater rivers database, <https://www.americanwhitewater.org/content/River/statesummary/state/VT/>; Bruce Lessels, Classic Northeastern Whitewater Guide; Alden Bird, Let It Rain (2007)

habitat and flow studies to determine impacts to rivers from high volume whitewater releases. Evidence shows there are adverse impacts to aquatic habitat and biota from rapid increases and decreases in river flow. (See Appendix A.15.) Although no site specific flow studies have been conducted to define impacts of whitewater releases in the West River, the VANR and USFWS consider existing evidence and related studies as sufficient and have worked with the USACE to reduce the number and flow volume of the annual whitewater releases at Ball Mountain Dam. The three agencies are implementing a three-year adaptive management process to use as a framework for identifying and resolving issues of concern. The goal of the process is to evaluate current operational and maintenance practices and identify ways to maintain and restore the integrity of the downstream and upstream aquatic and terrestrial ecosystems while maintaining the projects' primary purpose of flood control and recognizing other recreation and natural resource management objectives. (See Appendix A.15.)

While the 2008 Plan concedes that no site-specific studies have been performed on the West River that would document any adverse impacts from the limited number of scheduled whitewater releases, the Plan nevertheless concludes that such releases are harmful, alluding to several old studies related to the effects of hydropeaking. These studies are irrelevant to the supposed impacts from a handful of whitewater releases on the West River because the Ball Mountain Dam is a flood control rather than a hydropower dam and does not operate in a peaking mode.

As the 2008 Plan states, whitewater boating releases on the West River have occurred since 1961. Thousands of whitewater boaters converged on Jamaica during three scheduled release weekends during April, May, and September (a total of six boating days). The Plan makes the following recommendations:

49. Recommendation: Determine the impacts of the West River flood control dams on aquatic biota and physical habitat upstream and downstream from the USACE dams.

Strategies:

- 1) Conduct physical geomorphic stream assessments and biological studies.*
- 2) Monitor compliance and enforcement of the West River flood control dams with the coordination plan in place with VANR and USFWS.*

Lead Agencies: TNC, USACE, VDEC

Funding options: TNC, River Corridor grants, USACE

Timeline: 2008 – 2011

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52. Recommendation: Provide public outreach and river stewardship education pertaining to the adverse impacts of rapid releases from flood control dams on stream habitat, biota and water quality.

Lead Agencies: CRWC, WRWA, TNC, VDEC, VDFW

Funding options: CRWC, CRJC, private foundations

Timeline: 2008 – 2010

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54. Recommendation: Conduct water quality sampling at bi-annual white water releases.

Lead Agencies: WRWA, VDEC

Funding options: LaRosa grant, CRJC, private foundations, paddling organizations

Timeline: 2008 – forward

55. Recommendations: Work with towns along the West River mainstem to develop and promote a week-long area-wide River Festival to replace lost revenue from reduction of USACE whitewater release events.

Lead Agencies: WRWA, municipalities

Funding options: private foundations, VFPR

Timeline: On-going

The recommendations in the 2008 Plan are remarkable in that they simultaneously propose to determine the impacts of the USACE flood control dams (#49) and conduct water quality sampling at whitewater releases (#54), while at the same time recommending public outreach pertaining to the supposed adverse impacts (#52) and creating a week-long River Festival to replace lost revenue from cancelled releases that previously drew thousands of individuals to the region. The 2008 Plan uses a “shoot first and ask questions later” approach to whitewater releases, predetermining adverse impacts and cancelling releases without any objective study data demonstrating negative impacts from West River whitewater releases. Notwithstanding these recommendations, it does not appear that any effort was made to conduct water quality sampling at whitewater releases and no effort was made to develop and promote a week-long area wide River Festival.

As a result of the Basin 11 Management Plan and the Adaptive Management Plan negotiated by ANR, USFWS, and USACE without input or involvement by the whitewater boating community, scheduled whitewater boating releases were reduced to a single day in late September. A 2005 study of the economic impact of whitewater releases conducted by Crane & Associates concluded that each release weekend resulted in an economic impact of \$440,065 for each 2-day release cancelled, or a loss of \$147,973 for the elimination of the second day release on a release weekend. The cumulative impact of the 2008 Plan was that thousands of people were deprived of recreational opportunities on the West River, and the towns in the area of Jamaica were deprived of millions of dollars in economic benefit in the ensuing decade. There is no data to support the view that these losses resulted in any benefit to the Atlantic Salmon restoration program or that there was any benefit to the aquatic habitat as promised by the 2008 Plan.

2015 Tactical Basin Plan (Basins 11 & 13)

The Draft Tactical Basin Plan for Basins 11 and 13 omits the inflammatory language from the 2008 Plan that resulted in the elimination of whitewater releases on the West River. In fact, other than a passing reference, it omits any mention of whitewater boating in the Basin Plan altogether. This is a glaring omission given the public interest in whitewater boating both on the West River and on other rivers in the basins. Given the history of what can best be described as antagonism toward the existing use of whitewater boating as reflected in the 2008 Plan, the Agency should revise the 2015 Draft Basin Plan to appropriately recognize this use and the positive economic impact that it brings to Vermont.

- *West River*

While the West River mainstem is not monitored between Ball Mountain and Townshend dams, the 2014 Updated Water Quality/Aquatic Habitat Assessment Report for the West River Watershed lists this section of the river as impaired for temperature due to the impoundment. According to the 2014 303(d) List of Waters, the TMDL priority for the temperature alteration is low.² Nowhere in the 2014 Assessment Report is there any mention of whitewater releases as contributing to the temperature impairment on the river. Short of removing the Ball Mountain and Townshend dams, temperature impairments will continue due to heating caused by the presence of the reservoirs.

Providing scheduled whitewater boating opportunities on the West River is consistent with and biologically indistinguishable from the natural flow regime, and is consistent with the current or alternative modified run-of-river modes of operation. The presence of the dam and USACE flood control operations will always have a negative impact on the river as it relates to elevated temperatures in the reservoir, sediment transport, fish passage and other impacts. Whitewater releases from the Ball Mountain Dam will not exacerbate those impacts, and may actually provide positive benefits relating to temperature, sediment transport, dissolved oxygen, and restoration of habitat that is beneficial to aquatic species.

Numerous studies have assessed the effects of variable flow regimes that seek to restore key functions of a natural flow regime in the context of hydropower projects. Recent studies have shown that scheduled pulse flows have positive or no effect on stream ecosystems. We offer highlights of just a few from North Carolina below.

- On the West Fork of the Tuckasegee River, monitoring has revealed no significant temperature or fisheries impacts associated with the pulse flows and the public is greatly enjoying paddling the stream during pulse flows. Following monitoring, resource agencies recommended that the release program continue.³
- On the Upper Nantahala River, monitoring of scheduled pulse flows simulating natural rain events revealed variability in trout densities and age classes that were indistinguishable from natural variability, and no evidence of mortality in live adult caged trout. The releases have proven to be an unqualified recreational success, with no documented impacts. Following monitoring, resource agencies recommended that the release program continue.⁴
- On the Cheoah River, monitoring following scheduled pulse flows revealed no significant impacts and since this time the number of pulse flow releases has been slightly increased.⁵

² The 2014 Assessment Report also lists the West River as altered due to artificial flow regime and the lack of minimum flows for biota resulting from dam operations; however, no action is planned to address the alteration.

³ <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13810895>

⁴ <http://www.americanwhitewater.org/content/Document/view/documentid/1430/>

⁵ <http://www.americanwhitewater.org/content/Document/view/documentid/954>

These are just three examples in which we worked to design pulse flows to partially mimic the natural flow regime in order to enhance recreational opportunities. The studies and other anecdotal information on these and other rivers demonstrate that scheduled whitewater boating releases have either a negligible or even positive impact on aquatic habitat when done in a responsible manner.

While the 2015 Plan omits any discussion of the existing whitewater boating usage throughout the basin in general and the West River in particular, two documents appear in the Appendix: 1) U.S Army Corps of Engineers & Vermont Agency of Natural Resources Coordination Plan for Operating Federal Flood Control Dams in Vermont (unsigned and undated); and 2) Whitewater Paddling Releases on the West River, VT Fish and Wildlife Dept. (2004).

The former document contains the following language:

Whitewater boating releases

The Corps has provided releases to accommodate scheduled recreational boating events at many of its dams for over forty years. At present there are two whitewater release events scheduled at Ball Mountain Dam and Townshend Lake. These releases, which are timed to coincide with planned seasonal regulations of the conservation pool, are scheduled for the last weekend in April and again in late September. In recent years, the resource agencies have raised concerns about the ecological impacts of these releases. In response, beginning in 2003, the Corps adopted the minimum conservation flows and ramping rates recommended by the U.S. Fish and Wildlife Service for each project. For the spring release on the West River, the Corps will follow the ANR/USFWS ramping and refill rates agreed to by the parties. In addition, an overnight flow of 4.0 csm will be maintained. The target pool elevation at the start of this release will be approximately 75 feet with a target pool elevation of 25 feet at the end. Releases beyond the last weekend in April will not be considered due to the need to pass salmon smolts downstream in the spring. For the fall release on the West River, the Corps will follow the ANR/USFWS ramping and refill rates agreed to by the parties. Beginning in 2003, the Corps has released water to support a one-day event. A full two-day event may be possible under conditions when where there is sufficient inflow to support a second day while employing ramping and 4.0 csm flows overnight. The target pool elevation at the start of this release will be 65 feet with a target pool elevation of 35 feet at the end.

The unsigned and undated document was drafted without the input of stakeholder groups that would be directly impacted. The document is no longer accurate in that the spring whitewater releases were cancelled entirely when the Atlantic Salmon smolt migration period was extended to April 1 – June 15.

Based on our review of the flow data upstream of the Ball Mountain Dam at Londonderry over the past three years, it is clear that there are numerous unscheduled times during the year when there are boatable flows on the West River. While there has been no whitewater boating study on the West River to determine minimum boatable and optimal flows, flows in the range of 1300-

1700 cfs are often boated during the fall scheduled release, with a target of 1500 cfs for scheduled releases. Flows within this range are not high flows, rather they are well within the normal range of variable flows on the West River.

Adjusting for differences in the drainage area, the flow data shows that there are between 25-35 days annually when there flows below the Ball Mountain Dam exceed 1300 cfs. The highest concentration occur during April, May and the fall months, however boatable flows also occur periodically during the summer months after significant rain events. Over the past three water years, there were approximately 10-15 natural high-flow occurrences on the West River that produced boatable flows, half of which were multi-day events. Scheduling three whitewater release weekends during the spring and fall months is consistent with the natural hydrology of the river.

With regard to the latter document appearing in the Appendix discussing paddling releases on the West River, the document draws unsupported conclusions about the aquatic impact of whitewater releases without referencing any site-specific study data. Instead, the document vaguely refers to studies elsewhere that fit the narrative that whitewater releases are harmful to aquatic habitat and ignores other studies that contradict its predetermined conclusions. With regard to the discussion of ramping rates preceding and following whitewater releases, excessive restrictions on ramping rates and overnight flow requirements resulted in the further elimination of whitewater releases in the fall, as the September release was limited to one day. A review of inflows above the Ball Mountain Dam suggests that the natural rate of change on the West River was significantly higher on September 30, 2015 than the level specified in the Coordination Plan and outflow guidance with regard to upward ramping.⁶

Any actions that restrict or eliminate existing uses should only occur after careful study and through an open and transparent process involving all community stakeholders impacted by the proposed action. Plainly that did not occur on the West River prior to the elimination of scheduled whitewater releases. Given the lack of site-specific studies, conflicting information on the impact of pulse flows, and the lack of any nexus between the temperature impairment on the West and whitewater releases, the 2015 Plan should be modified to support the restoration of whitewater releases on the West River until such time as there is real data supporting the conclusion that whitewater releases should be curtailed.

- *Connecticut River*

With regard to the Connecticut River below Bellows Falls, the 2015 Plan should reference the strong interest of American Whitewater, Appalachian Mountain Club, and New England FLOW in whitewater boating at Bellows Falls. In 2015, TransCanada conducted a whitewater boating study in the natural river channel below Bellows Falls as part of the FERC relicensing process. The natural river channel, or “bypass reach” as it is referred to, is a section of the Connecticut River that has been dewatered by the hydropower project. A power canal diverts the river’s flow and carries it to a powerhouse for generation before returning it to the riverbed downstream. The only flow in the natural river channel comes from leakage from faulty dam seals (a few hundred cfs) and from spills when flows on the Connecticut River exceed the hydraulic capacity of the

⁶ In 2014, the USACE modified ramping rates and overnight flows in order to provide a 2-day September whitewater release and has provided several time-shift releases following significant rain events.

power canal. There is no minimum flow requirement in the natural river channel below the Bellows Falls Dam. Toward the bottom of the natural river channel near the petroglyphs under the Vilas Bridge, there is a dangerous and obsolete low-head dam that was constructed to divert Atlantic Salmon away from the natural river channel and toward the fishway in the power canal. Given the curtailment of the Atlantic Salmon restoration program, this low-head dam no longer serves a purpose and is an impediment to recreation. Through the FERC relicensing process, the low-head dam should be removed and flows restored to the natural river channel. In addition, whitewater boating instruction occurs at the bottom of the bypassed reach at Bellows Falls near the area where the powerhouse returns flows to the Connecticut River.

During the spring 2015 on-water evaluation of flows ranging from 1500 to 10,000 cfs, participants evaluated the presence and quality of various whitewater features in the bypass reach. The final study report for Bellows Falls and Sumner Falls (Hartland Rapids) is expected in the coming months. These studies will show that there is strong interest in whitewater boating on these sections of the Connecticut River if the dam operator provides sufficient flows, scheduled releases, and adequate access. The 2015 Basin 13 Plan should be revised to reflect the public interest in whitewater boating at Bellows Falls. The Plan should also support the study of the feasibility of removing the low-head dam.

Conclusion

Based on our experience over the past 25 years, we feel that scheduled pulse flows can be integrated into the flow regime in a manner that is within the natural range of flow variability for the West River and that has additive recreational benefits without causing ecological impacts. Promoting recreational opportunities for whitewater boating is a value that is recognized under the Clean Water Act and Vermont's Anti-Degradation Policy in its Water Quality Standards. It should also be supported by the 2015 Basin Plan. We also request inclusion on the 2015 Basin Plan of the public interest in whitewater boating at Bellows Falls and on numerous other rivers in the basins.

We appreciate the opportunity to provide you with this information to use in the development of the Final Tactical Basin Plan for the West, Williams and Saxtons Rivers and Connecticut River and adjacent tributaries (Basins 11 and 13).

Very truly yours,



Bob Nasdor
American Whitewater