



February 28, 2013
e-filing

The Honorable Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
Room 1A East 888 First Street, N.E.
Washington, D.C. 20426

Re: Electronic Filing: Appalachian Mountain Club, Vermont River Conservancy, and Friends of the Connecticut River Paddlers' Trail's Comments and Study Request for First Light Power Resources Turners Falls Project (FERC Project No. 1889-081) and Northfield Mountain Pumped Storage Project (FERC Project No. 2485-063)

Dear Secretary Bose:

Enclosed are the Appalachian Mountain Club (AMC), Vermont River Conservancy, and Friends of the Connecticut River Paddlers' Trail's comments and study requests for the above referenced proceedings, submitted by electronic filing and distributed electronically or by U.S. Mail to persons identified on the Commission's Service List for this proceeding. Please add those identified below as our respective organization's representatives to the Commission's official service list for this project. Thank you.

Sincerely,
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**UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

FirstLight Power Resources

Turners Falls Project No. 1889-081

Northfield Mountain Pumped

Storage Project No. 2485-063

**APPALACHIAN MOUNTAIN CLUB, VERMONT RIVER CONSERVANCY, AND
THE FRIENDS OF THE CONNECTICUT RIVER PADDLERS' TRAIL'S
COMMENTS AND STUDY REQUESTS
IN RESPONSE TO THE**

**NOTICE OF INTENT TO FILE LICENSE APPLICATION, FILING OF PRE-
APPLICATION DOCUMENT (PAD), COMMENCEMENT OF PRE-FILING
PROCESS, AND SCOPING: REQUEST FOR COMMENTS ON THE PAD AND
SCOPING DOCUMENT, AND IDENTIFICATION OF ISSUES AND ASSOCIATED
STUDY REQUESTS REGARDING THE TURNERS FALLS HYDROELECTRIC
PROJECT, FERC PROJECT NO.1889-081, AND THE NORTHFIELD MOUNTAIN
PUMPED STORAGE PROJECT, FERC PROJECT NO. 2485-063.**

Since 1876, the Appalachian Mountain Club (AMC) has promoted the protection, enjoyment, and understanding of the mountains, forests, waters, and trails of the Appalachian region. The AMC is a steering committee member of the Hydropower Reform Coalition based in Washington, D. C. The AMC is the largest conservation and recreation organization in the Northeast with more than 90,000 members, many of whom live within three hours of the Connecticut River and would enjoy this section as a daylong or longer trip. The AMC's interests in hydropower relicensing are mainly in the areas of conservation and recreation.

The Vermont River Conservancy protects public access, wildlife habitat, clean waters, scenic natural beauty and ecological integrity by conserving undeveloped land along rivers, lakes and wetlands of Vermont. Since 1995, working in cooperation with state and federal agencies, municipalities and other conservation organizations, VRC has completed projects at over 45 popular local swimming holes, gorges and waterfalls, fishing and boating accesses, protecting paddlers' trails and meandering river corridors for all to enjoy.

The Friends of the Connecticut River Paddlers' Trail is dedicated to building and stewarding primitive campsites, access points, and portage trails along the Connecticut River. The organization manages over 30 campsites and 70 access points that reach from the Connecticut River's headwaters south to the Massachusetts border. Efforts are underway to expand the trail into Massachusetts and Connecticut. The group includes representatives from conservation organizations, state and federal agencies, hydroelectric companies, and town conservation commissions that recognize the region's rich ecology and productive working landscape and seek to facilitate recreational use compatible with the Refuge's natural, social, and historic character.

Currently five hydropower projects on the Connecticut River are up for new federal licenses, with Turners Falls Dam the farthest south. These five facilities influence about 168 miles of the longest river in New England, including creating 91 miles of reservoir that have fragmented the river and converted whitewater rapids into impoundments. The impacts stretch from the upper reaches of the 45-mile long Wilder Project reservoir in New Hampshire and Vermont down to about Northampton, or possibly the Holyoke Dam reservoir, in Massachusetts. The watershed surrounding these projects encompasses a significant portion of the 7.2 million acres in the Connecticut River and Watershed National Blueway. The main stem is of sufficient size for canoeing, kayaking and rowing for multiple-day trips, and flows through beautiful Appalachian countryside.

Rather than repeating some requests here, the AMC co-signed onto American Whitewater and New England FLOW's study requests for whitewater recreation and contingent valuation economic studies and hereby references them without repeating them in detail for brevity's sake. This includes controlled-flow studies as have been done on dozens of FERC projects, specifically at the bypass reach below the Turners Falls Dam. The recreational values there would be improved by scheduled releases. On- or off-site mitigation for loss of whitewater should also be evaluated in relation to the loss of whitewater above the Turners Falls Dam, whose reservoir reaches all the way to Vernon Dam in Vermont and New Hampshire.

In the following study requests, we additionally address impacts of and study needs for the Turners Falls and Northfield Mountain Projects, including issues of multiple-day river trips, flow diversion issues, historical and cultural resources, recreational concerns, and the financial health of the operator and decommissioning funds.

All studies requested here should contain projections for use by the public during the 30-year life of the proposed license, and the adequacy of all facilities and mitigation for that time period, as well as how existing impediments discourage public use currently.

In addition to recreation and aesthetics, we recognize that flow-related decisions also affect economic factors related to power generation and other environmental variables. We look forward to exploring how all flow values relate to one another through participation in this relicensing process.

Our study requests address impacts of the Turners Falls and Northfield Mountain projects, including issues of multiple-day river trips including the lack of the portage trail, the opportunities for whitewater recreation in the bypass reach, historical and cultural resources, recreational resources at Northfield Mountain, and the financial health of the facilities and decommissioning funds.

Issue #1: Impacts of Project Dams on Multiple-Day Self-Propelled Trips on the Connecticut River.

In the scoping area of recreation, the AMC has an interest in the creation of improved opportunities for multiple-day canoe and kayak trips on the Connecticut River, along with facilities that would also accommodate rowing shells. When compared to other regions of the country, New England generally does not have a lot of opportunities for multiple-day canoe trips with the exception of several rivers in far northern Maine, such as the St. John and Allagash, which are many hours from population centers. The Connecticut River runs from northern New Hampshire to Long Island Sound. It passes through several major population centers and is easily accessible from all the cities in New England as well as the greater New York City area with populations in the millions.

The most serious obstacles to multiple-day trips on the Connecticut River are the hydropower dams themselves. The Turners Falls dam owned by FirstLight blocks the river to downstream navigation. Access points and campsites are inadequate. Additional land-based amenities should be added such as potable water, toilets, and campsites that would be used by paddlers engaged in multiple-day trips on the river.

One could say there is no portage pathway around the dam, or that it is conspicuously bad. The current portage route is unmarked and the longest along the river. The boat launch at Barton Cove is also the take-out location for the portage around Turner's Falls Dam. It is a 3.5-mile portage that requires traveling on busy highways with guide signs. The power company will provide a free shuttle to those who call ahead, but information about this shuttle service is limited. In addition, the frequency of this service is somewhat limited. It is also necessary to develop a safe and signed portage trail route for paddlers seeking to self-shuttle.

Access below the Turner's Falls Dam is inadequate. The official launch (Popular Street Launch) is a steep, eroding slope that is a hazard to paddlers. Most locals choose instead to launch on adjacent, private property where access is much easier. However, this land is posted, private land. Further work is needed to improve the situation here.

First Light provides two camping facilities along the river. These facilities are inadequate to meet the growing demand. There is a need to establish additional campsites, especially in the 65-mile section below Turners Falls where no official campsites have been developed.

In preliminary application documents, the Licensee cited the Massachusetts SCORP (2006-2011), which indicated a need for "water-based" activities. Multiple-day canoe, kayak or rowing trips certainly meet the needs identified in the SCORP documents, but such trips are severely limited by the operations of the Turners Falls hydropower dam.

Facilities such as campsites and boat ramps do exist, as detailed in the PAD. But for multiple-day trips, or for paddlers or rowers seeking to navigate the length of the Connecticut River, the dams and lack of campsites discourage such travel. Fisheries

biologists have suggested that migrating fish tire after the second fish ladder. Canoeists faced with the cumulative obstacles presented by the hydropower dams become similarly discouraged and abandon their efforts to migrate downriver.

River travelers find that the Turners Falls Dam is the largest impediment to through-travel. In addition, users are at the site of a major historical event in American life, yet the power company gives no indication of that. See Issue #3 below.

In its PAD, the Licensee proposes no enhancements to mitigate the project effects on multiple-day canoe and kayak recreational use.

Issue #2: Impacts of the Connecticut River Flow Diversion on Recreational Paddling at the Turners Falls Bypass Reach.

We recommend a controlled-flow study of whitewater in the Turners Falls bypass reach. The Turners Falls bypass section of the Connecticut River has the potential to offer quality whitewater paddling opportunities during scheduled events. At moderate and higher flows, a few boaters who can gain access to the river currently use the bypass reach to surf waves to paddle this 2.7-mile whitewater section.

In addition to kayaking, this reach has potential for rafting, guided kayaking, canoeing, instruction, and general paddling use. Collectively the recreational use of the resources at this project has the potential to add economic value to the region if the releases were scheduled and predictable. The bypass reach has close proximity to the University of Massachusetts, Holyoke and Greenfield Community Colleges, and the Northfield-Mt. Hermon School. Millions of people live within a three-hour drive of the Turners Falls facility.

Access to the bypass reach is extremely problematic. Fences have been installed to make access even more difficult. With enough scrambling, a kayaker can make it to the river left side, but the more desirable right side is steep, fenced off, and has little parking. No access stairs exist. Similarly, the take-out downstream at the confluence with the Deerfield River is steep, frequently muddy, and often unusable.

Any bypass reach such as this one presents aesthetic issues as well. A nearly dry natural riverbed is ugly. Daytime aesthetic flows during the spring, summer, and fall could give the public a glimpse of what the natural river looked like before the dam.

The current operation of the project eliminates valuable seasonal paddling opportunities. In the PAD, the Licensee proposes no flow enhancement to mitigate the project's effects on whitewater recreational use.

In addition to recreation and aesthetics, we recognize that flow-related decisions also affect economic factors related to power generation, fish passage, and other environmental variables. We look forward to exploring how all flow-related values relate to one another through participation in this relicensing process.

Issue #3: Cultural, Historical, and Educational Resources.

The Turners Falls Dam creates a number of special and distinctive issues that can be improved during relicensing. The reservoir covers much of the scene of a significant event in American history, yet the Licensee does not have educational and interpretative signs that would allow visitors to understand that history.

In May 1676, colonial forces under the command of Capt. William Turner attacked an Indian village across the river from the current town of Turners Falls. Many of the inhabitants were slaughtered, especially women and children. Some of the men escaped. They returned with friends and pursued the retreating English forces, killing Capt. Turner. Historical artifacts may still exist at the site, much of which has been submerged beneath the Turners Falls Dam reservoir. A study should be done to determine a variety of options for educating the public about the site, and to determine what actions should (or should not) be taken to preserve artifacts.

Informational signage and kiosks at project facilities should promote education about historical events as well as invasive species, water flows, the history of the area, who to call with problems, and what to do to get involved. Educational improvements should be coordinated with recreational improvements. Some people have suggested that a walkway be constructed on the north or river right side at Turners Falls with interpretative materials. Such a walkway could help solve two other major issues with the dam: the lack of a portage pathway around it, and the difficulty of accessing the bypass on river right.

A second historical issue involves the records of construction of the Turners Falls dams and the Northfield Mountain Pumped Storage facility. The engineering studies, drawings, and photographs taken during construction are of historical importance now and should be preserved. The first dam at Turners Falls was attempted in 1792 but washed away. A substantial timber-crib dam was constructed in 1865. The first concrete dam was built in 1909-1912. The current dam was built in 1969-71 on the Gill side and on the Turners Falls side the old dam was retrofitted with new gates. This relicensing offers perhaps a last chance to rescue important historical records held by the Licensee related to the design and construction of the hydropower facilities as well as historical, pre-project conditions. A study should determine what historical records remain, make suggestions for their safe storage, for how they can be made publicly accessible, and for improvements at the project to highlight the historical significance of the facilities to the public.

Issue #4: Recreation at Northfield Mountain.

At the Northfield Mountain Pumped Storage project, the original Licensee created a wonderful recreation area. It has been perhaps the premier regional cross-country skiing site during the winter, when there is sufficient snow, and many activities take place

during the warmer months. This is exactly the kind of facility that Licensees should be providing.

Unfortunately at Northfield Mountain cutbacks have trimmed the staff. The facilities along the river shut down way too soon in the fall and do not offer night skiing during the winter. Low-snow years have limited cross-country skiing. A study should be done to recommend improvements and additions that would return Northfield Mountain to the intent of its original license as well as providing for greater amenities for the future license.

A parent and manager of the nearby Amherst High School Nordic Ski Team began an email by saying, “Northfield Mt. is a treasure. There are beautiful hiking, snowshoeing and cross-country trails and the grooming of the ski trails is excellent.” But then she added, “The mountain needs lights for night skiing and the ability to make snow. Currently, the mountain is closed on Monday and Tuesdays and closes at 4:30 PM. Our team skis after school, arrives at Northfield around 3 PM and can only ski for an hour and half although there is adequate light to ski for longer. Often the mountain is closed when there is snow on upper trails, but not lower trails. Also, Northfield should be available to host high school Nordic ski meets. Currently they are unwilling to do this. Northfield Mt. would be an ideal place to make snow. There is no trouble accessing water and the lower trails are in the shade and would hold snow for a long period of time. A five kilometer loop of man-made snow would be ideal. This would allow for skiing throughout the season and would make Northfield Mt. a truly valuable resource for outdoor recreation in Massachusetts.”

The Applicant needs to analyze what operational hours will best meet users’ needs and expectations and consider snowmaking for early cross-country skiers before any big winter storms can cover the trails.

There are equally important issues at Northfield Mountain concerning trails of national significance. The New England Scenic Trail (NET) runs through project lands at Northfield Mountain. The New England National Scenic Trail is a 215-mile trail in Connecticut and Massachusetts that received federal designation in 2009. FirstLight has agreed that a relocation of the NET within project boundaries would provide an enhanced recreational experience and level of safety for the public. There are significant climbing areas nearby that would be more accessible after the relocation of the NET. A recreational study could provide assistance in both cases, possibly by recommending that the Licensee buy nearby land from willing sellers to preserve the climbing areas and provide the best route for the New England Trail.

Issue #5: Economic Health and Decommissioning.

Energy markets have changed dramatically in the past decade. The ownership turnover of energy facilities has been dramatic. Climate change may cause more frequent catastrophic and extraordinary events in coming years in the Connecticut River Valley,

such as Tropical Storm/Hurricane Irene in 2011, which washed out some portion of almost every state highway in Vermont except the Interstates. With the possibilities of millennial weather events occurring with much greater frequency and the ongoing dramatic changes in the competitiveness of current energy generating sources, we believe that a study should assess the need for escrowed decommissioning funds or trust funds for all hydroelectric facilities currently up for new licenses. Many outdated and derelict dam removals today are coming at the expense of public dollars.

We recommend a study to determine the appropriate decommissioning costs at the end of this project's lifetime and how such costs should be funded in escrow in advance. In an age of international ownership, deregulation, changing ownership, and climate change, the financial health of ownership can be brought into jeopardy by distant events or by weather-related catastrophic failure of a dam. The public should not be burdened with decommissioning costs.

We hereby request five studies per 18 CFR 5.9(b).

1. Study of Project Facilities to Support Multiple-day Self-Powered Boating Trips on the Connecticut River.

(1) Describe the goals and objectives of each study proposal and the information to be obtained.

We recommend a study of the quantity, quality, and adequacy of land-based recreational facilities operated by the Turners Falls and Northfield Mountain Licensee that are associated with boating on the Connecticut River. This study should examine put-in and take-out facilities especially for canoes, kayaks, rowing shells and other self-powered watercraft; the portage route at Turners Falls Dam; campsites; parking and road access; seasons of operation of the facilities to match with actual river use; maintenance; water supplies and other amenities at campsites; and trash and sanitary facilities. The study should include a projection of usage during the proposed 30-year life of the license, opportunities for the licensee to buy land from willing sellers in order to increase and safeguard recreational benefits for the project's tenure.

The study should examine the facilities that are necessary specifically for canoe, kayak and rowing shell access to the river. Information from the state SCORP study and from other river recreational interests suggests that interest in quiet water paddling is rising along with the sales of sea kayaks, rowing shells and canoes. Most of the existing facilities were designed for day use by motorboats. Motorboat launch ramps are not particularly suited to canoeists, kayakers, and rowers, especially those using wood-and-canvas or fiberglass boats (e.g., sand works better than concrete).

Paddlers who have attempted to follow the Connecticut River to the sea report that portages and camping can be difficult, and become even more difficult once they reach Massachusetts. Campsites become few and far between. Islands are often posted as off-

limits. Many paddlers don't know that any campsites are available and end up camping on mudflats and on isolated portions of private lands. One landowner reported at a scoping meeting in Turners Falls, Mass., that he found a number of canoeists on his property one morning above the Turners Falls Dam. He shuttled them to below the dam, stopping en route to buy them breakfast at the Shady Glen diner in Turners Falls. The Licensee maintains two campsites, at Barton Cove and Munn's Ferry, both of which charge \$22 per night for a tent site and require reservations and deposits. One source-to-sea paddler was very complimentary of the Munn's Ferry site, which is for boaters and canoeists only, except that it doesn't have potable water. Competition for campsites is not uncommon, and the study might look at ways to minimize such conflicts. In the Turners Falls reach, which extends from below the Vernon Dam in Vermont to as far downstream as Northampton or even the Holyoke Dam, there are not nearly enough campsites. The Connecticut River Paddlers' Trail organization states the ideal frequency of canoe campsites is one for every five river miles, accompanied by canoe and kayak access in every town. This project falls far short of that standard.



(Photo: Jeff Feldman)

The amenities provided by the Licensee at campsites should be standardized and, at a minimum, include good canoe landing sites, toilets, potable water, trash disposal, picnic tables, and tent platforms or three-sided shelters.

The Turners Falls Dam has no portage pathway around it. If paddlers arrive at Barton Cove during working hours and have a phone, they can call for a truck to pick them up. Paddlers report the Licensee is fairly prompt and courteous in providing that shuttle service. It drops paddlers off at the mouth of the Deerfield River, which is often an unusable put-in. Still, a trail is needed in the new license if someone wants to self portage. Two opportunities exist: one on river right that might also be used for

educational displays; and one on river left along the power canal that now serves as a bike trail. A 3.5-mile portage trail is too long, and the locations of the take-out and put-in are important not only for portage reasons but also for safety reasons. This can be a tough problem and it should be closely examined in the study.

This portage problem can be a major discouragement to downriver paddlers. One through-paddler, who completed the entire river in five years by paddling one week a year, said he stopped at the Turners Falls Dam to avoid the portage. The next year he picked up below the dam.

Trails on both land and water should be studied. The Connecticut River Paddlers' Trail and the Connecticut River Birding Trail cross project boundaries. Their interests should be part of a study framework that takes a watershed viewpoint, especially as it involves trail networks and associated facilities. Trails of national significance pass through the Northfield Mountain Pumped Storage project lands in Massachusetts, including the New England National Scenic Trail (NET), a 215-mile trail in Connecticut and Massachusetts that received federal designation in 2009. FirstLight has agreed that a relocation of the NET within project boundaries would provide an enhanced recreational experience and level of safety for the public.

The ownership of project lands at all the facilities should be studied for recreational and conservation improvements. Some project lands could be added to existing park facilities, or placed under permanent conservation restrictions, in order to improve conservation and recreation. One example involves land at the Northfield Mountain Recreation Facility owned by FirstLight, where the relocation of the New England National Scenic Trail and the access it provides to popular climbing areas would benefit from the purchase of critical parcels to guarantee the long-term viability of the major recreational opportunities on or near the site. The public has an interest in trails in the vicinity of project lands. The study should evaluate the adequacy and maintenance of existing trail systems for the next 30 years, and determine opportunities for additional hiking trails on project lands, and for linking those trails to existing trails. Such trails in the watershed could cross project boundaries, and adding to them could involve requiring the Licensee to purchase additional land.

In association with this study, the creation of the Connecticut River and Watershed National Blueway should be taken into account, along with ways that the Turners Falls and Northfield Mountain projects can contribute to that effort. The study should take into consideration impacts on the entire watershed.

As part of this study, for example, a survey should seek to determine why people do NOT use this great public resource. The cumulative discouragement of recreation on the Connecticut River may displace use to other areas of the watershed. As with upstream migration of fish and downstream migration of canoeists, the survey might identify several discouraging aspects of project operations that could be corrected during relicensing.

(2) If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;

None of the three requesters is a resource agency. However, several state and federal agencies have an interest in recreation and conservation on the Connecticut River.

The Commonwealth of Massachusetts owns and operates several river access areas on the Connecticut River in the vicinity of the Turners Falls Project, and thus has a clearly expressed interest in the public's ability to navigate the commonwealth's rivers.

The U. S. Fish & Wildlife Service (USF&W), National Marine Fisheries Service (NMFS) and the Massachusetts Department of Fisheries & Wildlife (MA-DF&W) have a clear interest in the passage of anadromous and other migratory fish through fish ladders at the Spillway, Station # 1 and Cabot at Turners Falls. In addition, the Conte Anadromous Fish Laboratory is located within the Turners Falls Project boundaries and is a founding organization in the National Blueway System. Although the federal Atlantic Salmon Restoration Program has been recently curtailed, some of the above agencies continue to study and promote the effective upstream and downstream passage of many endangered or threatened species.

Beyond the fisheries agencies, several federal agencies have an interest in recreation and conservation on the Connecticut River. On May 24, 2012, Secretary of the Interior Ken Salazar designated the Connecticut River and Watershed as the nation's first National Blueway. A Memorandum of Understanding signed in August 2012 by the departments of Interior, Agriculture, and the Army has as one objective "providing opportunities for scientific research, environmental education and outdoor recreation and access within the National Blueway to the extent compatible with agency missions." The National Blueway concept takes a watershed viewpoint and addresses the river from its source to the sea. The National Blueways System has as its goal "to advance a whole river and watershed-wide approach to conservation, outdoor recreation, education, and sustainable economic opportunities in the watersheds in which we live, work, and play." The National Blueway designation includes all the tributaries in the watershed and involves several federal and state agencies, including the U.S. Army Corps of Engineers, the Silvio Conte Refuge, U.S. Fish and Wildlife Service, the National Park Service, and the States of Connecticut, Vermont, New Hampshire, and the Commonwealth of Massachusetts, which have prioritized conservation, recreation, and restoration in the 7.2 million-acre Connecticut River Watershed.

(3) If the requester is a not resource agency, explain any relevant public interest considerations in regard to the proposed study.

The hydropower dams on the Connecticut River create obstacles to public navigation and recreation on the river. Conducting the necessary studies and implementing the measures needed to ensure the public has access to quality outdoor recreational resources are in the public interest. It is widely accepted that outdoor recreation has significant benefits to

participants including health, well being, and quality-of-life. Outdoor recreation also has proven economic benefits for communities located near recreational resources.

Improvement in opportunities for multiple-day canoe, kayak and rowing trips on the Connecticut River has the potential to offer the region significant economic benefits.

Project operations have created serious aesthetic issues along the route of the Connecticut River. The dry bypass reach at Turners Falls is an aesthetic blight on the river. Even worse, the dams have substituted their industrial appearance for the naturally scenic rapids and falls that once graced the Connecticut River. The public has an interest in the scenic values of this major public resource.



1841 drawing of Great Falls (now Turners Falls) by Orra White Hitchcock (Courtesy Ed Gregory archive)

(4) Describe existing information concerning the subject of the study proposal, and the need for additional information.

There is an inconsistent body of knowledge regarding multiple-day trips on the Connecticut River. The PAD produced by the Licensee lists facilities that are not owned or operated by the Licensee, including commercial operations. There is a lack of consistency about those facilities in terms of their seasons of use and what amenities they provide for public recreational use and their long-term protection.

Several publications are widely used by paddlers and recreationalists. The primary source of information is *The Connecticut River Boating Guide: Source to Sea* (3rd ed.) published by the Connecticut River Watershed Council (2007). Recreational maps and guides to the river have been published for some reaches by KM Digital Productions in South Hadley, Mass., and are available from the Connecticut River Watershed Council. These foldout river maps cover the reaches from Vernon, Vt., to Turners Falls, Mass. (2008). Three other similar maps cover segments from Turners Falls (2007) down to Hartford, Conn. (2010), which is about the extent of the tidal zone. Most of those maps are in need of

updates. In 1991, New England Cartographics in Amherst, Mass., published the *Connecticut River Guide in Massachusetts* by Doug Greenfield and Christopher J. Ryan. The Connecticut River Birding Trail organization located in White River Junction, Vt., has published maps detailing the upper valley section, the northern section, and the southern section of the river.

The Connecticut River Paddlers' Trail prepared *The Connecticut River Paddlers' Trail MA-CT Expansion Feasibility Study* in 2013. In that document, Noah Pollock of the Vermont River Conservancy examined the Massachusetts and Connecticut reaches of the river. The *Connecticut River Paddlers' Trail MA-CT Expansion Feasibility Study* contained a map of the river in Massachusetts created by the Trust for Public Lands with dots indicating recommended locations for additional campsites. (See Appendix 1 attached.)

(5) Explain any nexus between Project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.

The Turners Falls Dam prevents navigation downstream on the main stem of the Connecticut River. Project owners have a responsibility to the public to provide adequate portage trails and facilities that promote public recreation on the river, including access points and campgrounds with necessary amenities.

This study will be the defining mechanism for identifying additional sites that can best be adapted for increasing public access and multiple-day paddling trips on the Connecticut River. License requirements may include having the Licensees purchase additional property to provide camping, trail sites, portages or other facilities to assist the public.

The study may also identify indirect effects if the hydropower facilities and their projects have discouraged public use of the Connecticut River or displaced recreation to other parts of the watershed.

Cumulative effects also need to be studied because it appears that the number of dams on the river discourage multiple-day trips and have fragmented the recreational experience. This study may result in license requirements or other mitigation for the Licensee regarding multiple-day trips on the Connecticut River.

(6) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.

Studies of the adequacy of public resources are fairly standard in the planning field. Methodologies can be selected from among the recognized and accepted standards of the resource and public planning fields. Surveys of people who do NOT use the river or are

displaced can employ randomized samples from several databases. Sufficient information is available from the guidebooks and maps of the river that identify access points and campsites, from the map done by the Paddlers' Trail for Massachusetts, as well as information contained in the PAD. The sites evaluated should be operated or funded by the licensee, not by others. Once a consultant is selected and approved, the information should be gathered and analyzed in a timely manner. The study would probably need a summer field season to locate river users for an adequate sample. A consultant with experience in similar projects should be selected, in part to create relevant comparisons to other hydropower projects around the country.

The AMC has some staff expertise in this area because it operates facilities in the White Mountains, in Maine, and elsewhere in its chapters. We could work with the Licensee or contractor to document the known information regarding the river. We will provide volunteers and technical support for the studies when possible as appropriate. We hope to work collaboratively with the Licensee on this study.

(7) Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

There are several sites along the Connecticut River, private and public, that are used as access points or have camping facilities. However, vast differences exist in the ability or capacity of these sites to handle paddling groups with varying sizes or sanitation needs. Because there is no comprehensive guide or text that provides updated information, field inspection of existing sites should take place. Any needed reconstruction or rehabilitation of existing facilities should be identified. This analysis can be completed during any spring, summer, or fall field season. Such field research needs to be matched with projections of use in the future and with standard requirements for access sites, campsites, portages, sanitation facilities and other amenities. We know of no other means to obtain this information.

2. Controlled Whitewater Flow Study in the Bypass Reach below the Turners Falls Dam.

(1) Describe the goals and objectives of each study proposal and the information to be obtained.

The Turners Falls project contains a 2.7-mile diversion that reduces in-stream flows in the natural riverbed except for minimum flow and during flood events. Natural boatable flows are frequently inaccessible, high, flashy, unpredictable, and are usually available only during periods of seasonal high spillage due to flooding. The Turners Falls Dam and diversion canal impacted the rapids below Turners Falls. The reservoir behind the dam almost certainly destroyed other rapids because it extends all the way north to the Vernon Dam.

Some of the whitewater opportunities eliminated by the project could be restored if the power company provided moderate, stable, and scheduled whitewater flows in the bypass reach that could be accessed from the late spring through early fall months. The current operation of the project largely eliminates valuable seasonal paddling opportunities.

Controlled flow studies have been done on dozens of FERC projects. This whitewater reach is a prime opportunity to restore a whitewater run that could be of enormous recreational and economic value to the community.

The goal of a whitewater flow study is to assess the presence, quality, access needs, flow information needs, and preferred flow ranges for river-based boating resources in a stepwise manner. The information to be obtained can be generally characterized as quantitative and qualitative descriptions of:



Turners Falls bypass reach with low flow, Feb. 1, 2013

- The range of optimal and acceptable flows for whitewater paddling in a whitewater park setting;
- The frequency, timing, duration and predictability of optimal and acceptable paddling flows under current conditions;
- The access needs of whitewater boating use and the current and potential river access options for paddling;
- The flow information needs of whitewater boating and the current and potential flow information distribution system;
- The location, challenge, and other recreational attributes associated with specific rapids and other river features.

Thus, the information to be obtained is a combination of user-generated flow preferences and other engineering information on current and proposed operations (e.g. discharges), geographic information and basic recreational information.

In simpler terms, the Turners Falls Dam would release prescribed flows into the bypass reach for this test, perhaps over two days. For each release, a selected group of paddlers would run the rapid and then answer written questions about their experiences at each flow level. The Turners Falls Dam would release several different flows, measured in cubic feet per second, and the paddlers' experiences would be analyzed to determine the flows that work best at the rapid.

(2) If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.

None of the three requesters is a resource agency.

The Commonwealth of Massachusetts owns and operates several river access areas on the Connecticut River in the vicinity of the Turners Falls Project, and thus has a clearly expressed interest in the public's ability to navigate the commonwealth's rivers. In addition, the Connecticut River and Watershed has been designated America's first National Blueway.

On May 24, 2012, Secretary of the Interior Ken Salazar designated the Connecticut River and Watershed as the nation's first National Blueway. A Memorandum of Understanding signed in August 2012 by the departments of Interior, Agriculture, and the Army has as one objective "providing opportunities for scientific research, environmental education and outdoor recreation and access within the National Blueway to the extent compatible with agency missions." The National Blueway concept takes a watershed viewpoint and addresses the river from its source to the sea. The National Blueways System has as its goal "to advance a whole river and watershed-wide approach to conservation, outdoor recreation, education, and sustainable economic opportunities in the watersheds in which we live, work, and play." The National Blueway designation includes all the tributaries in the watershed and involves several federal and state agencies, including the U.S. Army Corps of Engineers, the Silvio Conte Refuge, U.S. Fish and Wildlife Service, the National Park Service, and the States of Connecticut, Vermont, New Hampshire, and the Commonwealth of Massachusetts, which have prioritized conservation, recreation, and restoration in the 7.2 million-acre Connecticut River Watershed.

The U. S. Fish & Wildlife Service (USF&W), National Marine Fisheries Service (NMFS) and the Massachusetts Department of Fisheries & Wildlife (MA-DF&W) have a clear interest in the passage of anadromous and other migratory fish including shad, blue-back herring, eels and other species through fish ladders at the Spillway, Station # 1 and Cabot. In addition, the Conte Anadromous Fish Laboratory is located within Project boundaries. Although the federal Atlantic Salmon Restoration Program has been recently curtailed, the above agencies continue to study and promote the effective upstream and downstream passage of many endangered or threatened species.

(3) If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.

The Turners Falls bypass reach offers the public a high-quality whitewater boating resource when flow conditions are suitable. Conducting the necessary studies and implementing measures to ensure public access to outdoor recreation are in the public interest. It is widely accepted that outdoor recreation has significant benefits to participants including health, well being, and quality-of-life. Outdoor recreation also has proven economic benefits for communities located near recreational resources.

Aesthetic resources are also at play in the bypass reach. Dry riverbeds are ugly, and this one is in full view of many people who pass by on nearby Route 2 and who drive across the two Connecticut River bridges that enter the town of Turners Falls.



Turners Falls bypass reach with low flow, Feb. 1, 2013.

Restoration of whitewater recreational opportunities in the Connecticut River has the potential to offer the region economic benefits. FERC has concluded that *“to fully evaluate the project’s effect on whitewater recreation opportunities and to balance potential enhancement opportunities with their cost, a controlled-flow whitewater boating study is relevant to Commission’s public interest determination.”* This is equally true regarding the Turners Falls Project on the Connecticut River.

(4) Describe existing information concerning the subject of the study proposal, and need for additional information.

While many flow studies have been conducted during FERC relicensings on New England's rivers (e.g., Deerfield, Kennebec, Rapid, Green) that have a long history of whitewater paddling use, this section of the Connecticut River is largely unknown to whitewater boaters. Rapids are un-named, the range of difficulty is unknown, and current access opportunities are extremely difficult. The potential high quality of this scenic 2.7-mile long whitewater run should be explored.

Current and historic project operations, however, have resulted in significant information gaps and eliminate most of the low and moderate flows from this reach. The result has been flows too low to paddle, or flashy, spiking high flows that may be too dangerous to attempt. Intermediate paddlers, commercial paddlers, and general river-runners know relatively little about this river reach at low or moderate flows. It should also be determined if there is adequate potential to improve river access in a way that offers a high quality car-top put-in and take-out for use of the entire bypass reach.

One experienced paddler tested low water on the bypass reach in September 2012 to determine if it would be suitable for an office-outing float trip. She entered on river left below the Great Falls Discovery Center, and paddled around the bend. "The entry shallows gave way to a series of 2' high ledges, stacked upon each other," she wrote. "I chose a line more central to river right. I am not sure if there was rebar in them too, I just remember thinking it was too shallow to be in my playboat, and being extra careful not to flip. These would make for some fun rapids I think at higher water, as there was overall several feet of gradient change, and the rock was stacked and defined enough to possibly become something of whitewater significance." At the end of her test run, she concluded: "Regionally, the area lacks Class III rivers. The result is that it is difficult for many New England paddlers to make the transition from Class II to Class IV. With the reduction of the West River releases, and most other regional Class III rivers being spring runoff dependent, many of our regional paddlers will travel to other parts of the country to build their skills and step up to Class IV. Additionally in recent years, with less snow, and rain, dam releases on the Deerfield have come to define the extent of the paddling season. Once these have passed, paddlers find themselves searching for other activities to hold them through till the short season begins again. These include paddlers as far east as Boston, north as New Hampshire & Vermont, south as Connecticut, and Rhode Island, west as New York State. I am not sure if some of these river features might become Class III with more water, but if they could they would be an immense resource to regional clubs and training programs."

The use of a controlled-flow analysis has been described in Doug Whittaker, Bo Shelby, and John Gangemi, *Flows and Recreation: A guide to studies for river professionals* (2005), p. 26-29, available from the National Park Service website at:

<http://www.nps.gov/hydro/flowrec.pdf>

(5) Explain any nexus between Project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.

The Project controls flows in the Connecticut River by withdrawing more than 13,000 cfs. The operations eliminate most of the paddling days each year, including the virtual elimination of valuable and regionally needed summer paddling opportunities. The Connecticut River can be a high-quality paddling resource, and since paddling is a flow dependent activity, the project directly affects paddling on the Connecticut River. The project nexus is direct.

The results of a controlled flow study would help determine the need for license requirements for scheduled whitewater releases.

(6) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.

The study we request on the Turners Falls bypass reach of the Connecticut River should follow the standard methodology as described in Whittaker, cited above. This methodology is designed to gather information to assess the presence, quality, and preferred flow ranges for river-based boating resources in a step-wise manner. The process steps are generally 1) desktop analyses, 2) on-land feasibility assessment, 3) on-water single flow assessment, 4) on-water multiple flow assessment. We expect and request the full implementation of this methodology.

Because the quality and flow needs of the resource are unknown, we request an on-water multiple flow assessment be conducted. This study will need to take place on various dates and at variable flow levels throughout a spring and summer. The Appalachian Mountain Club and other boating groups can work with the Licensee to document the known information regarding the river. Along with other paddling groups, we will help provide volunteer paddlers and technical support for the studies as appropriate. We hope to work collaboratively with the FirstLight on this study.

The whitewater boating study methodology we have requested has been used on dozens of other FERC regulated reaches. This study should include an examination of the access issues for the bypass reach and the take-out below.

(7) Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

Representatives of the AMC and other NGOs with whitewater expertise are willing to work with the Licensee on the whitewater paddling controlled-flow study to keep costs reasonable and the quality of information high.

We will need the integration of information that is already known and then an organized flow study during which several flows are paddled by boaters, with still image and video

documentation, surveys of the boaters, a guided conversation among the boaters, and a written report. Given that this is a bypass reach with some minimal access and relatively straightforward hydrology, and given the collaborative approach sought by the paddling community, including in-kind contributions of time and expertise, a consultant should be able to complete this study on behalf of the Licensee for a very reasonable cost.

The Licensee PAD proposes no whitewater feasibility analysis. This no-action step will reveal nothing about the project impacts on whitewater recreation or opportunities for protection, mitigation, or enhancement measures. We currently do not know the relationship between specific low and moderate flows and the paddling experiences they provide. A desktop analysis cannot generate this information. Without this information we cannot fully define the project impacts, nor propose and consider provision of releases that provide targeted recreational experiences.

3: Cultural, Historical, and Educational Analysis and Recommendations.

(1) Describe the goals and objectives of each study proposal and the information to be obtained.

The proper presentation and preservation of historical materials is particularly sensitive at Turners Falls. A major event in colonial America happened here in 1676. The Indian fishing village on the north side of the river was attacked by forces under Capt. William Turner. That battle site now lies mostly flooded under the Turners Falls reservoir. Indian burial grounds dating back thousands of years have been reported on or adjacent to project lands. Yet the Licensee does not have an educational program or interpretative signs that would allow visitors to understand that history.

A study should be done to determine a variety of options for educating the public about this historical site, and to determine what actions should (or should not) be taken to preserve artifacts and provide education.

Some people have suggested that a walkway be constructed on the northern or river right side with interpretative materials. Such a walkway could help solve other major issues with the dam, such as the lack of a portage pathway around the dam, and access to the bypass reach.

This study should also address a second issue. The engineers who built the dams at the Great Falls on the Connecticut River, now Turners Falls, were professionals who did excellent work. Part of that work included documenting their efforts in drawings, photographs (dating from as early as 1865), blueprints, inventories and plans. Those documents are now historical records that should be preserved for the public benefit. The study should discover what records remain and recommend plans for preserving them and making them available to historians and researchers.

We also have an interest in the educational opportunities for the public that should be provided by the project operators on the Connecticut River. Informational signage and kiosks at project facilities can and should promote education about invasive species, water flows, the history of the area, who to call with problems, and what to do to get involved. Existing data should be archived and be publicly accessible. These educational improvements should be coordinated with recreational improvements. These questions should be addressed in this study concerning the “proper presentation” and preservation of history.

(2) If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.

None of the three requesters is a resource agency. The tasks here are properly of concern to the state historical preservation agency and of such nearby institutions as the Great Falls Discovery Center in Turners Falls and the Pocumtuck Valley Memorial Association in Old Deerfield, Mass.

The study and presentation of information about the past involves Indian tribes. They were on one side in the 1676 battle, but more importantly they had lived at the site for centuries. An article titled “Bare Bones” in the *Greenfield Recorder* on Feb. 14, 2013, mentioned a development site near Turners Falls and said, “Sitting on the only lightly developed quadrant of the ancient Indian fishing site known as Peskeomskut (now Turners Falls dam), activists have attempted to derail development there for many years and reasons, including wetland and sacred burial-site issues. The activists claim the site was an important burial ground for local indigenous peoples dating back more than 10,000 years, and they say they have the bones to prove it.” The article by Gary Sanderson reported on an interview with an archeologist, George Nelson, who discovered what was presumably an Indian burial site in a sand bank being used for the reconstruction of Route 2 in 1964, including a full skeleton that he donated to the University of Massachusetts. In private correspondence, Sanderson said, “To be honest, everything within a mile radius of falls would have been loaded with ancient indigenous history/artifacts/burials. When widening Gill Road ca. 1860, they found a spoke burial, 12 bodies, the feet in the center separated by 10-foot circle, many beads, stones, possessions etc.”

In the PAD, the Licensee does not mention the 1676 battle, William Turner, or that the battlefield is submerged under the reservoir. In the PAD, the Licensee states that if any construction takes place the Massachusetts Historical Commission would likely require a Phase 1A study “given the sensitivity of archaeological resources within the given region.” Licensee also mentions that the Abenaki and the Narragansett tribes may be “potentially interested.” Since those tribes have been displaced from this region, perhaps they should be contacted.

(3) If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.

Historical records and education are valuable public resources. The traditional Native American gathering at the fishing site across the river from Turners Falls is part of the collective heritage of Americans, as is the history of the 1676 battle.

The engineering records related to the construction of dams at Great Falls are also part of our social and industrial history. The first attempt at a Great Falls dam was in 1792, but it washed away. In 1865-66 a timber-crib dam was successfully constructed. It was drowned by a concrete dam in 1909-1912. In 1969-71, the current dam was constructed on the Gill side and the dam on the Turners Falls side was retrofitted with new gates. During that construction, the remains of the original timber-crib dam were removed.



Remnants of the 1865 timber-crib dam were revealed during construction in 1969-71. (Photo courtesy Ed Gregory archive.)

(4) Describe existing information concerning the subject of the study proposal, and need for additional information.

Many history books have dealt with the 1676 fight at Turners Falls and its ramifications during King Phillip's War. It remains unclear what historical resources remain under water and in the ground. Such sites have a chance of preservation under current laws. The question is: How can the operator of the Turners Falls Dam benefit the public through the presentation of the historical issues at the site?

A study could suggest various opportunities. Some people have suggested an interpretative trail could be cut along the riverbank on the north side with signs indicating the rich history of the area.

As for the engineering history of the site, several books have helped tell that story, but the records held by the Licensee have not been catalogued. Books that relate to this topic include Bill Gove, *Log Drives on the Connecticut River* (Littleton, N.H., Bondcliff Books, 2003), and Ed Gregory, *The Turners Falls Canal; History and Description* (2006).

(5) Explain any nexus between Project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.

The reservoir at Turners Falls covers the site of the battle and probably a lot of artifacts. There may be Indian artifacts or burial grounds on Project lands. The nexus there is direct.

Concerning the colonial and ancient history around Turners Falls, FERC might require an educational component in the license requirements that could assist the public in understanding its history. This might be through direct Licensee action, such as the trail or displays mentioned above, and through support of the preservation of documents by institutions such as the Great Falls Discovery Center in Turners Falls or the Pocumtuck Valley Memorial Association in Old Deerfield.

Presumably the Licensee has in its possession scrapbooks, photographs, construction plans, blueprints, and other historical records related to the construction of the dam, or at least some surviving remnant of such documents. The nexus there is direct. Preservation of such documents should be a license requirement and they should be publicly accessible.

(6) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.

In this case, tribal values and knowledge would be relevant in the case of Turners Falls.

The study methodology regarding interpreting Native American use of the area should be left to the tribes themselves, some of which are living locally or were long ago removed to Vermont, upstate New York, or Quebec, and to professional historians, anthropologists, and archeologists who are present in numbers at the University of Massachusetts, Amherst College, and the other regional institutions of higher education.

The Pocumtuck Valley Memorial Association, which operates the Memorial Hall Museum and Library located just downstream in Old Deerfield, Mass., has expertise in dealing with Native American artifacts, in creating museum displays, and in maintaining close contact with Native Americans in the region and in Canada. Its library contains

thousands of historical records of colonial America. (Deerfield was the site of another major historical battle on Feb. 29, 1704, when French and Indians came down from Canada and attacked Deerfield. They returned to Canada with more than 100 captives who, over time, were generally ransomed back to their families. Some, however, famously choose to live with the Indians. The Indians won that time.)

The generally accepted practices in historical preservation and museum presentation could lead to recommendations for license requirements.

(7) Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

This area of Massachusetts is rich in academics and museum personnel who could contribute to the Turners Falls effort at a low cost compared to other studies. The people who are knowledgeable about archeology, anthropology, museum presentation, and history in the Turners Falls area are not all local, but some subset of them would be perfect for this study. We are not aware of any less-knowledgeable team that could do an adequate study and make recommendations.

Most of the work in locating the records owned by the Licensee would be internal, with advice and recommendations coming from professional historians after the scope and location of the documents is known. Study of educational opportunities would benefit from consultations with local outdoor educators and schools.

4: Recreation Study at Northfield Mountain.

(1) Describe the goals and objectives of each study proposal and the information to be obtained.

We request a study to recommend improvements and additions that would return the Northfield Mountain Recreation facility to its original intent during its initial licensing and to the level of public benefit required under the previous license. Additions should be recommended as appropriate for a new license. Options might include providing snowmaking for cross-country skiers, or buying additional lands to improve recreation.

There are important issues at Northfield Mountain concerning trails of national significance. The New England Scenic Trail (NET) runs through project lands at Northfield Mountain. The New England National Scenic Trail is a 215-mile trail in Connecticut and Massachusetts that received federal designation in 2009. FirstLight has agreed that a relocation of the NET within project boundaries would provide an enhanced recreational experience and level of safety for the public. This involves moving the trail at a greater distance from the storage reservoir at the mountaintop. Relocating the NET could improve access to popular climbing areas nearby. A recreational study could provide assistance in both cases, possibly by recommending that the Licensee buy nearby

land from willing sellers to preserve the climbing areas and provide the best route for the New England Trail.

Major improvements in boating could be required in a new license. FirstLight needs to provide more campsites and access points in the long reach of the Connecticut River that it controls. The Connecticut River Paddlers' Trail recommends one campsite for every five river miles with access in every community along the river. FirstLight's provision of such amenities has not reached that standard.

(2) If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.

None of the three requesters is a resource agency.

The Commonwealth of Massachusetts owns and operates several river access areas on the Connecticut River in the vicinity of the Turners Falls Project, and thus has a clearly expressed interest in the public's ability to recreate on the commonwealth's rivers. In addition to this interest, the Connecticut River and Watershed has been designated America's first National Blueway.

On May 24, 2012, Secretary of the Interior Ken Salazar designated the Connecticut River and Watershed as the nation's first National Blueway. A Memorandum of Understanding signed in August 2012 by the departments of Interior, Agriculture, and the Army has as one objective "providing opportunities for scientific research, environmental education and outdoor recreation and access within the National Blueway to the extent compatible with agency missions." The National Blueway concept takes a watershed viewpoint and addresses the river from its source to the sea. The National Blueways System has as its goal "to advance a whole river and watershed-wide approach to conservation, outdoor recreation, education, and sustainable economic opportunities in the watersheds in which we live, work, and play." The National Blueway designation includes all the tributaries in the watershed and involves several federal and state agencies, including the U.S. Army Corps of Engineers, the Silvio Conte Refuge, U.S. Fish and Wildlife Service, the National Park Service, and the States of Connecticut, Vermont, New Hampshire, and the Commonwealth of Massachusetts, which have prioritized conservation, recreation, and restoration in the 7.2 million-acre Connecticut River Watershed.

(3) If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.

The Turners Falls Recreation facility offers the public a high-quality resource when fully functional. Conducting the necessary studies and implementing measures to ensure that the facility delivers as promised is in the public access. It is widely accepted that outdoor recreation such as cross-country skiing, hiking, climbing, and boating have significant benefits to participants including health, well being, and quality-of-life. Outdoor recreation also has proven economic benefits for communities located near recreational resources.

(4) Describe existing information concerning the subject of the study proposal, and need for additional information.

The subject of recreation at Northfield Mountain has been addressed in several newspaper articles over the years. The study might examine expenditures by the Licensee over the years in support of the facility, its promotion, and usage.

The study might assess the adequacy of the facility. Launching a canoe on the river at the Northfield Mountain site is unattractive to paddlers, who are displaced to other facilities. Here's a passage that explains why from *The Connecticut River Boating Guide: Source to Sea* (3rd ed., 2007), p. 138, published by the Connecticut River Watershed Council:

Mile 124.5: You have now arrived at the **Riverview Picnic and Recreation Area** at **Northfield Mountain** on the left bank, which has a dock to accommodate the *Quinnetukut II* riverboat, offering river cruises for the general public (phone 800-859-2960). The Northfield Mountain pumped-storage generating plant is sheltered in the mountain behind the site. The main dock area must be kept clear for the *Quinnetukut II*, but boaters and paddlers may use the dock for brief stops to load and unload. The dock is inaccessible directly by car and can only be reached on foot from a parking area 100 yards away. Access is difficult, and the dock is unavailable from mid-April to mid-June. The power company stretches a fish net across the intake of Northfield Mountain during this time to prevent salmon smolt, which are heading downriver, from getting caught in the pumped-storage station. *Caution:* Avoid the discharge area marked by orange floats on the left bank, which can release enough water to swamp a small boat.

Additional information is needed that this study might produce. The study should assess the months of operation of the Riverview facility, which seems to open late and close early in the boating season. Sometimes the power company provides shuttle service for boaters doing day trips on the river, but apparently they charge for that service. The study should assess the appropriateness of such charges, and whether or not anything should be charged by a power company that uses the public's water as its fuel supply.

(5) Explain any nexus between Project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.

The Licensee operates the Northfield Mountain Recreation Area as partial mitigation for its operations at the Northfield Mountain Pumped-Storage Project. There is a direct impact on these resources.

The study should examine the skiing, snowshoeing, hiking, climbing, boating, sightseeing, and educational services provided by the facility with an eye toward how the

facility has met previous license requirements and how mitigation should be enhanced for a new license. The study could recommend ways that the facility could be updated and improved as the Licensee seeks a new federal license, and what conditions might be included in that license. The study and the license requirements should address needs for the 30-year proposed life of the license.

(6) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.

The study might make use of several techniques to determine the effectiveness of the Northfield Mountain recreation facilities. Surveys could determine issues that are current in the skiing, climbing, boating and hiking communities. A survey might also seek to determine what discourages the public from using the facility, or displaces recreation to other areas in the watershed. Such studies have been developed in the administration of parks and recreation areas and can be adapted to this task.

During the relicensing process, there should be plenty of time to collect and analyze data for this task, which would need a full year in order to have access to year-round recreationists.

(7) Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

The Appalachian Mountain Club has some expertise in this area through its operation of trails and huts in the White Mountains and along the Appalachian Trail in Maine. We are willing to work with the Licensee on the study to keep costs reasonable and the quality of information high. Given such in-kind contributions of time and expertise, a consultant should be able to complete this study on behalf of the Licensee for a very reasonable cost.

The Licensee PAD proposes no recreation analysis of this sort. This no-action step will reveal nothing about the project impacts on recreation or opportunities for mitigation or enhancement measures. Without this information, we cannot fully define the project impacts, nor propose and consider provision of license requirements to improve recreational experiences.

5. Study of the Economic Health of Ownership and Creation of a Decommissioning or Trust Fund.

(1) Describe the goals and objectives of each study proposal and the information to be obtained.

We request a study on the creation of a decommissioning fund or trust fund to protect the public interest. New England's rivers are littered with abandoned dams. Over the centuries, companies have failed, and weather events or human error have crippled dams that were then simply left behind. Energy markets and ownerships have been changing quickly.

A "perfect storm" event, might breach a dam such as Turners Falls. Most of the Connecticut River dams are elderly facilities. The Turners Falls portion of this dam dates from 1909 while the Gill side of the dam dates from 1965.

Distant events, changing regulations, new energy sources, currency devaluations or unfortunate weather events could compromise the health of the current project. If something happened, the public should be insured against the burden of decommissioning costs. A study should recommend the terms of a license requirement for a decommissioning fund.

(2) If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;

We are unaware of the resource agencies' jurisdiction over decommissioning funds.

(3) If the requester is a not resource agency, explain any relevant public interest considerations in regard to the proposed study.

The economic security of a federally licensed hydropower dam on the longest river in New England is clearly in the public interest. Many hydropower projects support robust recreation economies and they produce a public good by generating renewable forms of electricity.

But the historical record demonstrates—by the thousands of abandoned dams on New England's rivers—that the public should not accept the burden of industrial failure any longer. It has become common to create decommissioning funds at such federally licensed facilities as a way of insuring the public interest against having to pay for removal of a damaged facility or to take over from a failed corporation.

(4) Describe existing information concerning the subject of the study proposal, and the need for additional information.

We are unaware of any published information on the economic viability of the individual dams, which may need to be studied under a non-disclosure agreement, or of the performance of decommissioning funds or other trust funds for this purpose.

(5) Explain any nexus between Project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.

There is a direct connection between Project operations and the economic viability of each individual dam. Study results could lead to a license requirement setting up an escrowed decommissioning or trust fund to protect the public interest.

(6) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.

The financial viability portion of the study would follow normal procedures in accounting and financial management. The rules of trusts or decommissioning funds are well known.

(7) Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

The requested study would be relatively inexpensive. Funding the trust would be another matter. We are unaware of alternative means of securing the public from risks that the corporations or the physical assets might fail during the course of the federal license.

Conclusion:

We respectfully request studies of multiple-day self-powered trips on the river, a controlled-flow analysis in the bypass reach; a historical, educational, and cultural study; a recreation study at Northfield Mountain; and a decommissioning study that will support dialog and analysis regarding the relicensing of the Turners Falls Dam and the Northfield Mountain Pumped Storage facility.

In addition, we offer our comments on the PADs to better inform this relicensing process. Thank you for considering these comments.

Respectfully submitted this 28th day of February, 2013.

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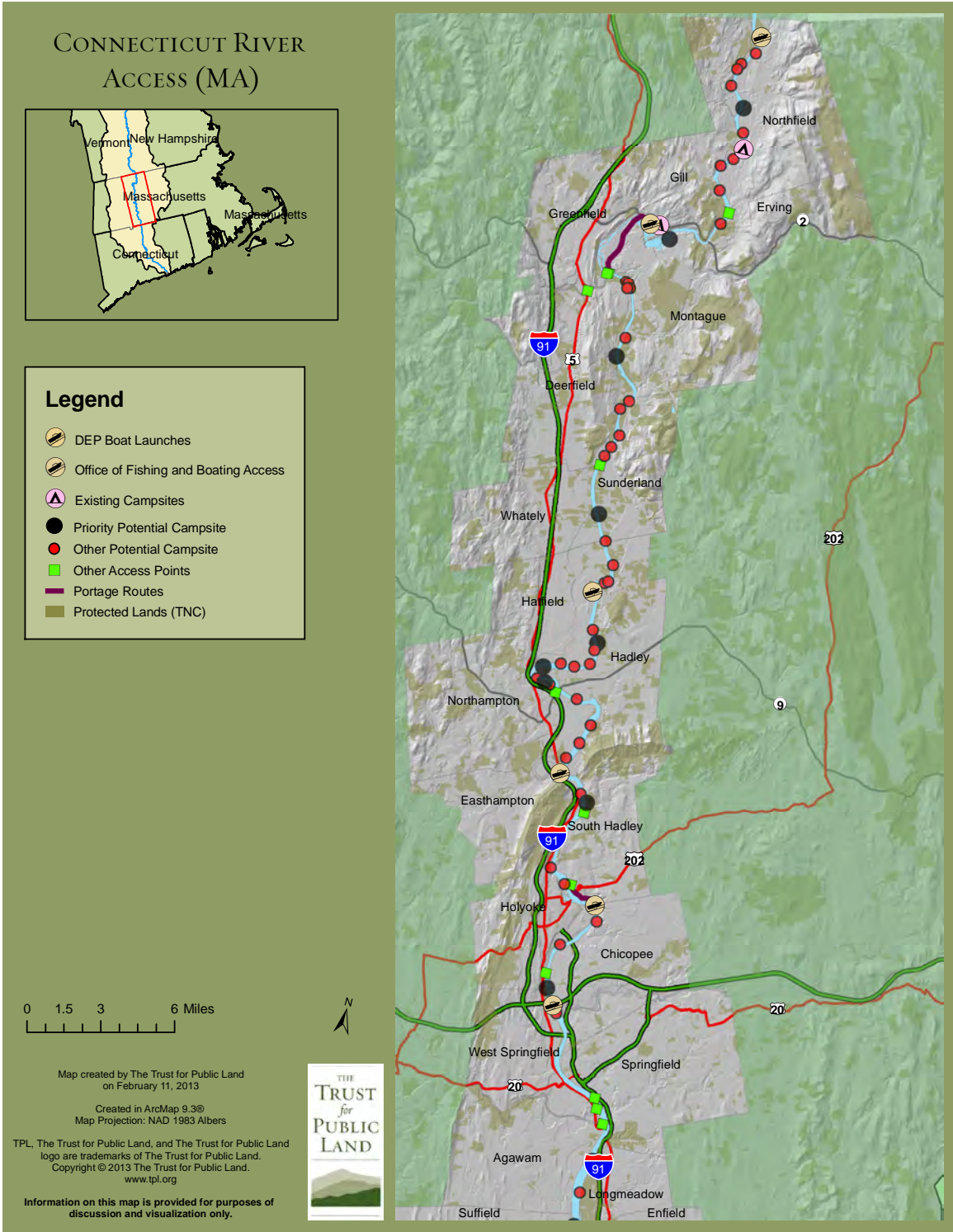
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Appendix 1, Paddlers' Trail, MA, Overview, published by the Trust for Public Lands.

See electronic pdf/attachment on last page.



Turners Falls diversion canal.



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