

## REVIEW OF APPLICATION FOR CERTIFICATION OF COLLINS HYDROELECTRIC PROJECT

This report provides review findings and recommendations related to the application submitted to the Low Impact Hydropower Institute (LIHI) on June 1, 2011 by Swift River Company (Applicant) for Low Impact Hydropower Certification of the Collins Hydroelectric Project (the Project).

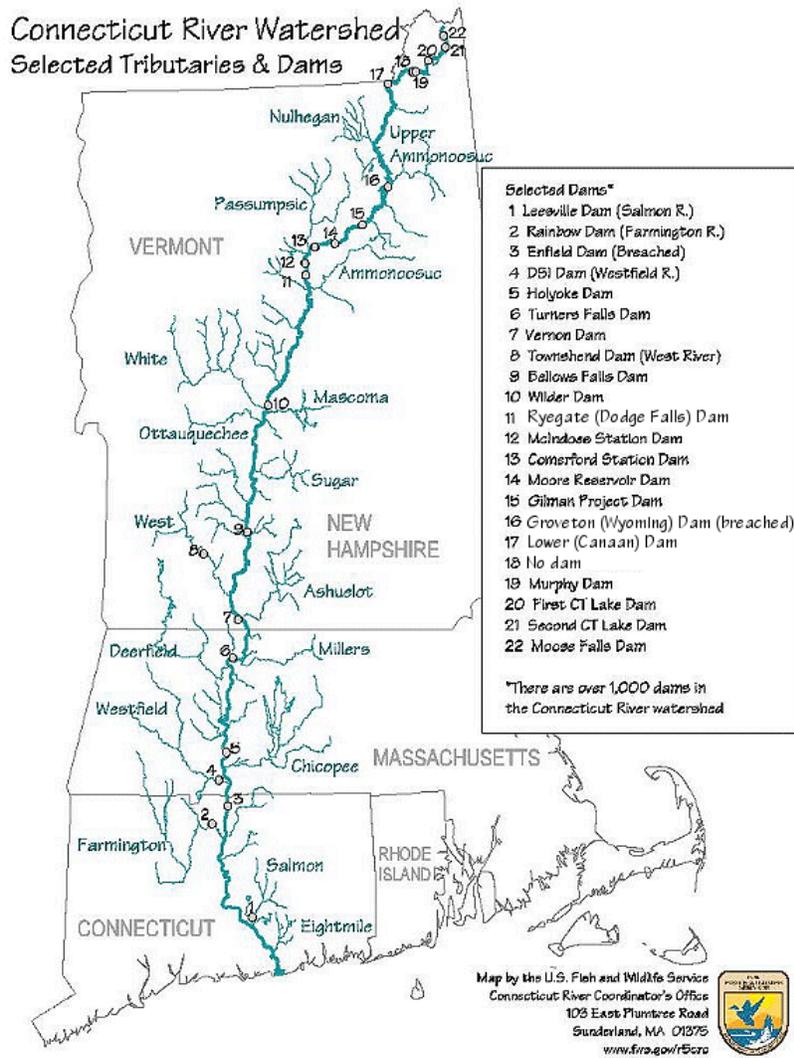
### **I. PROJECT'S GEOGRAPHIC LOCATION**

The Collins Hydroelectric Project is located on the Chicopee River in the towns of Ludlow and Wilbraham, Massachusetts. The Chicopee River basin is in south central Massachusetts as shown in Figure 1. A major tributary of the Connecticut River, the Chicopee River, with a total watershed area of 723 square miles, drains the largest watershed in the Connecticut River system. The Chicopee River is formed by the convergence of three major rivers, each with an almost equivalent watershed size of slightly more than 200 square miles: the Swift, Ware, and Quaboag rivers. The Swift River supports Boston's major water supply source, Quabbin Reservoir.<sup>1</sup> From the outlet of Quabbin Reservoir, the Swift River flows southerly to its confluence with the Ware River. The Ware River flows in a generally southwest direction until joining the Quaboag River and together forming the Chicopee River in the aptly named village of Three Rivers in Palmer. From there, the Chicopee River flows generally west to its confluence with the Connecticut River in the city of Chicopee; the confluence is about six miles downstream of Holyoke Gas & Electric's mainstem Connecticut River dam, which is the subject of another pending application before LIHI.

The Collins Hydroelectric Project dam is one of several dams located on the Chicopee River. The six dams shown in Figure 3 are currently in use for hydroelectric power production and operate under FERC license exemptions. Four of them are owned by EP Energy Massachusetts, LLC: Dwight (River Mile 1.2, FERC Project No. 10675), Indian Orchard (River Mile 7.8, FERC Project No. 10678), Putts Bridge (River Mile 9.2, FERC Project No. 10677), and Red Bridge (River Mile 15.2, FERC Project No. 10676). The City of Chicopee owns and operates the Chicopee Falls Station (River Mile 3.0, FERC Project No. 6522). Red Bridge also has a pending application before LIHI. Collins Dam is located at River Mile 12.6 between the upstream Red Bridge Dam and Putts Bridge Dam.

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<sup>1</sup> Quabbin Reservoir has a contributing watershed of 187 square miles, the majority of the Swift River basin. Water supply demands frequently exceed the basin yield. More than 60% of the reservoir inflow is transferred from the basin via the Quabbin Aqueduct.



**Figure 1. Connecticut River basin showing Chicopee River basin in south central Massachusetts.**

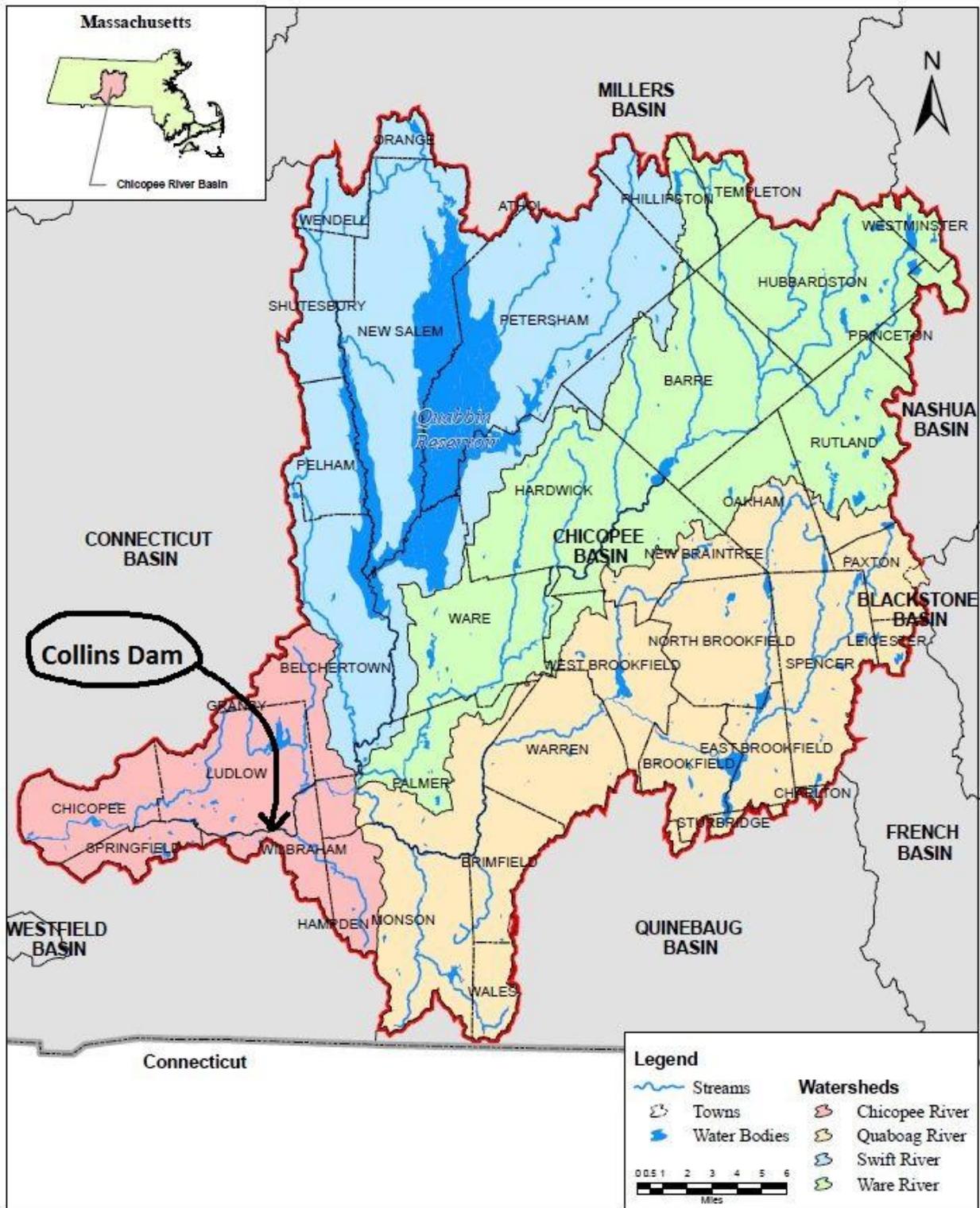
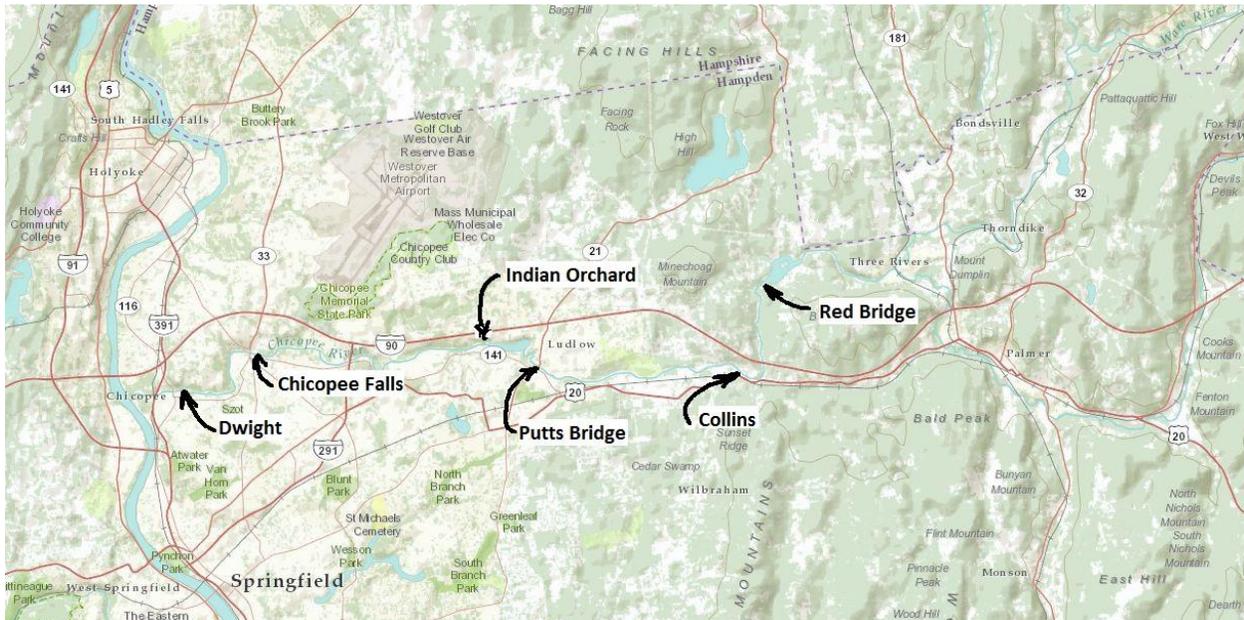


Figure 2. Chicopee River basin showing its three major subwatersheds. (Chicopee River Basin Five-Year Watershed Action Plan, Mass. Executive Office of Environmental Affairs, 2005.



**Figure 3. Dams on the mainstem of the Chicopee River. Note proximity of Chicopee to Holyoke (upper left corner of figure), which is the site of Holyoke Dam on the Connecticut River.**

## **II. PROJECT AND IMMEDIATE SITE CHARACTERISTICS**

The Collins Hydroelectric Project was developed by I-Maxmat Corporation at a partially breached dam site after receipt of a FERC license exemption in 1984. The exemption order describes the project as consisting of a 300-foot-long, 11-foot high dam to be fitted with 3.0-foot flashboards; an impoundment with a storage capacity of 450 acre-feet<sup>2</sup> at the flashboard crest (elevation 223.4 feet msl); an existing power canal 1,100 feet long, varying in width from 40 to 90 feet, and flanked by a 270-foot-long spillway section; a power station set in the breached section of the dam and housing two turbine/generator units with a total capacity of 1.5 MW; and a new 320-foot-long tailrace. According to a 1997 FERC inspection report, the power canal has been filled starting at a point just upstream of the Miller Street/Cottage Street bridge. The estimated annual output was 6,500 MWh; actual generation as reported in the LIHI application is 5,570 MWh. The turbines are ESAC bulb turbines, manufactured in France.

FERC's Pertinent Data Sheet for the Project indicates that the main dam crest elevation is 219.1 feet msl and that 4.0-foot boards are in place. The flashboard crest elevation and height are inconsistent with the exemption description.

The Project dam creates a backwater that extends an estimated 9,690 feet upstream. The impoundment surface area is about 72 acres.

<sup>2</sup> The LIHI application uses a gross storage volume estimate of 378 acre-feet.

The dam, as described by FERC in 1984, is a timber crib with a masonry cap. As shown in Figure 6, a substantial amount of rock fill has been placed on the downstream dam face. The dam was formerly used by the Collins Manufacturing Company, which was formed in 1872 and produced writing paper, employing 175 persons according to *History of the Connecticut Valley in Massachusetts: History of Franklin County. History of Hampden County.*, L.H. Everts, 1879.

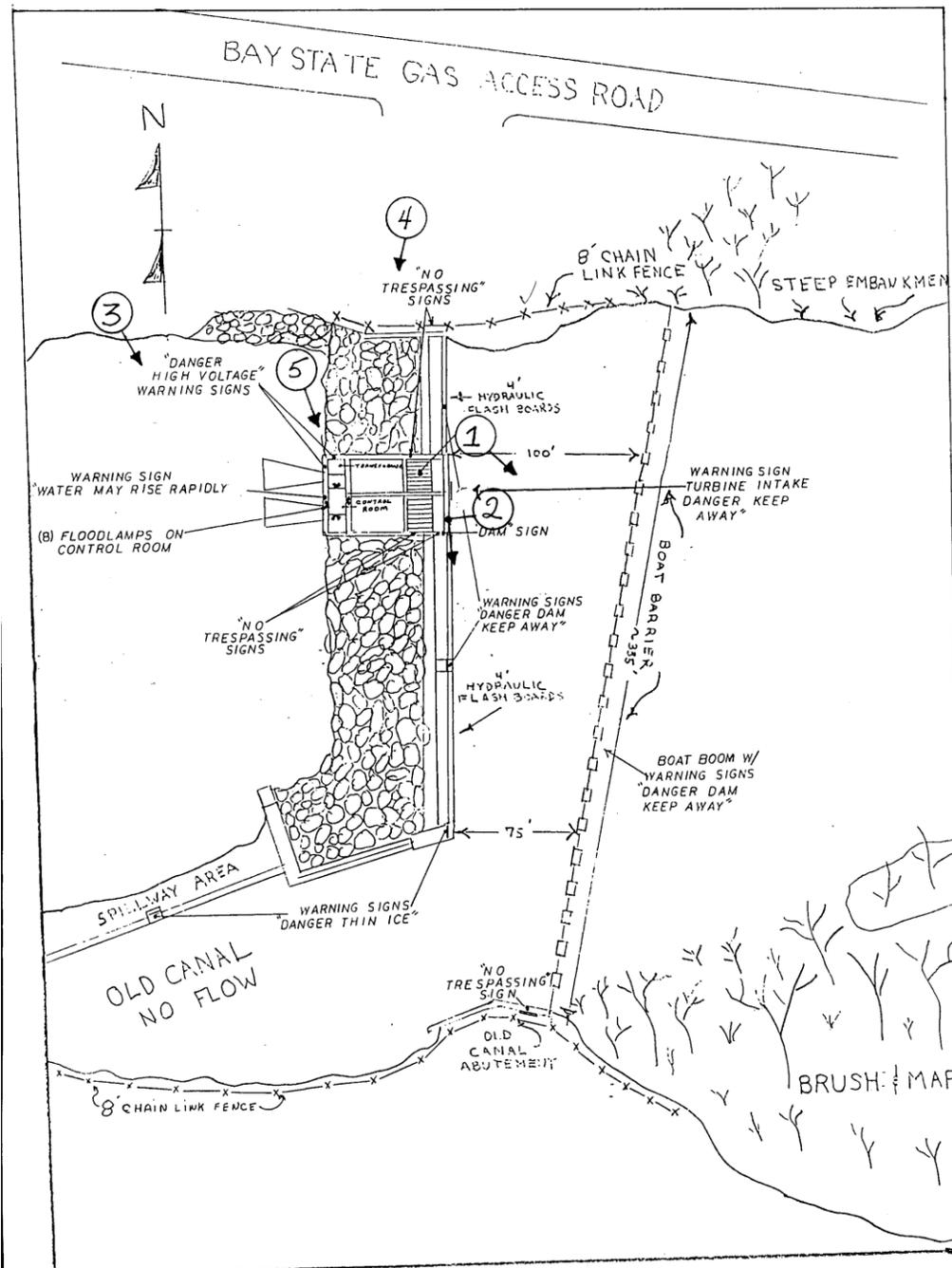


Figure 4. Project layout. (Source: 2001 FERC inspection report)



**Figure 5. Collins Dam and power station. Miller Street/Cottage Avenue bridge in foreground.**



**Figure 6. View of power station from north bank. (Source: 2001 FERC inspection report)**



**Figure 7. View of dam and impoundment from power station, showing boat safety barrier. (Source: 2001 FERC inspection report)**

### **III. REGULATORY AND COMPLIANCE STATUS**

The Federal Energy Regulatory Commission (FERC) granted the Project an exemption from licensing under the standard articles on February 9, 1984 as Project No. 6544. By letter dated January 23, 1984, the U.S. Department of Interior commented on the exemption application on behalf of the Fish and Wildlife Service (USFWS) and the National Park Service and set mandatory terms and conditions. Conditions included 1) reserved right to the USFWS and the Massachusetts Division of Fisheries and Wildlife to require fish passage in the future; 2) established a minimum flow below the Project; 3) required the development of a flow monitoring plan subject to USFWS approval; 4) required public recreational access “wherever possible”; and 5) suggested a recreational use study in consultation with State and local agencies and community groups. By letter dated May 27, 1983, the Massachusetts Division of Fisheries and Wildlife commented that the Project “should not reduce or substantially restrict fisherman access.” A 2001 FERC environmental inspection report refers to an EPA terms and conditions letter from November 17, 1983, but the Applicant was unable to furnish a copy; the report, however, indicated that the Facility was in compliance with the flow requirements set forth in the EPA letter.

The Applicant leases the Project from the exemptee, I-Maxmat Corporation.

No compliance issues were revealed in my review of the last ten years of documents in eLibrary. The Applicant provided FERC site inspection reports for 1997, 1999, 2001, 2004, and 2007.

#### **IV. PUBLIC COMMENTS RECEIVED BY LIHI**

The LIHI application was deemed complete and publicly noticed on March 27, 2012. No comments were received during the notice period, which ended on May 27, 2012.

#### **V. LIHI CRITERIA REVIEW**

Under each of the issue sections that follow, I include a table that contains the related LIHI questionnaire sections and my analysis and conclusions.

***General Conclusions and Recommendations.*** I recommend that the facility be conditionally certified for the standard period of five years, with three recommended conditions to address issues related to flow compliance, fish passage, and recreational use. The three recommended conditions are set forth below. If these conditions are attached to the certification, it is my opinion that the Project will meet all of LIHI's criteria as explained below.

Regarding flows, the facility as exempted operates in a run-of-river mode with a minimum flow equivalent to the USFWS summer aquatic base flow. Although the USFWS required as an exemption term that the exemptee develop a flow monitoring and record-keeping plan, there is no evidence that this was ever done. This makes verification of compliance virtually impossible and is the basis for my first recommended condition. The failure to comply with the terms and conditions of the exemption could be considered grounds for denial of certification, but I am not recommending denial.

Regarding water quality, the Massachusetts Department of Environmental Protection (MassDEP) indicates that it reasonably assured that water quality standards are being met.

Regarding fish passage, catadromous American eel are present in the basin upstream of the Facility dam but no measures are in place to accommodate safe downstream passage. Consequently, I recommend that the certification be conditioned to require fish passage for eel, beginning with interim downstream passage in 2012, and with permanent measures designed and implemented as acceptable to the USFWS and the Massachusetts Division of Fisheries & Wildlife (MassWildlife). Anadromous species are not present nor is passage likely to be needed within the term of the certification.

Regarding recreation, the National Park Service had recommended as an exemption term that the exemptee complete a recreational needs assessment in consultation with State and local agencies and interest groups. This apparently was never done. Further, although a boat safety barrier is installed seasonally, a formal portage is not available. Consequently I recommend Condition #3 below.

Regarding other LIHI criteria, there are no known listed T&E species at the site. No outstanding cultural resource issues are apparent in the record. The watershed protection criteria do not apply, and there is no watershed enhancement fund that would qualify the facility for extension of the certification term by three years. No dam removal has been recommended.

**Issue 1.** The Facility does not maintain records for monitoring compliance with the flow management requirements of the exemption.

**Recommended Condition No. 1.** Within 60 days of LIHI's grant of certification, Swift River shall bring the Facility into compliance with USFWS Condition 6 of the January 23, 1984, Department of Interior terms letter. The flow monitoring and record-keeping plan shall be developed in consultation with the USFWS and MassWildlife. The USFWS-approved plan and USFWS approval letter shall be filed with LIHI within 7 days of USFWS approval.

**Issue 2.** The Facility does not provide measures to for safe and effective downstream eel passage. The Applicant has not presented evidence that turbine mortality and injury is acceptably low.

**Recommended Condition No. 2.** By October 1, 2012, Swift River shall enter into, and provide LIHI with a copy of, an agreement reached between the USFWS, MassWildlife, and Swift River for providing both interim and permanent safe, timely, and effective downstream passage for American eel, including a description of the planned passage and protection measures and the implementation schedule for design, installation, and operations. Said permanent facilities shall be in place and operational by August 1, 2015, and Swift River shall notify LIHI within two weeks of completion. In the interim, effective immediately, Swift River shall institute interim downstream passage which shall consist of nightly shutdowns (dusk to dawn) during rainy nights from August 15 to November 15. Swift River shall keep a log during this period, showing precipitation and generation information, and provide it to the USFWS and MassWildlife by December 31 annually until permanent measures are in place. This interim passage provision shall be included in the aforementioned agreement. In the event that the USFWS and MassWildlife determine prior to the installation of permanent downstream passage that the above-described interim downstream passage measure is not providing safe, timely and effective interim passage for outmigrating eels, Swift River shall implement other reasonable interim measures as requested by these agencies. LIHI will waive the requirements for interim and/or permanent downstream eel passage measures if Swift River presents written documentation of concurrence from the Resource Agencies that eel can pass through the bulb turbines with acceptable levels of turbine mortality and injury.

During the term of this certification, should a resource agency request implementation of upstream passage at the Facility for anadromous or catadromous fish species, Swift River shall so notify LIHI within 14 days and provide LIHI with a copy of the request and its response.

**Issue 3.** The Facility is not in compliance with the National Park Service recommendation for a recreational needs assessment under the exemption terms. The Project dam also lacks a canoe portage.

**Recommended Condition No. 3.** Within 6 months of LIHI's grant of certification, Swift River shall complete a recreational needs assessment consistent with the recommendations of the National Park Service as described in the Department of Interior terms and conditions letter of January 23, 1984: *The project's potential for public recreation should be explored in consultation with State and local agencies and community groups concerned with providing opportunities for public recreation. The assessment should include consideration of recreational needs and priorities identified in the Statewide Comprehensive Outdoor Recreation Plan, with particular attention being given to water-based activities, such as fishing, canoeing, boating and*

swimming. At a minimum, a portage shall be constructed to provide a safe route around the Project dam. The assessment report, which shall include proposals and an implementation schedule for recreational improvements as appropriate, shall be provided to the National Park Service and the consulted agencies/groups immediately upon completion, and filed with FERC. Swift River shall file the report and copies of the agencies/groups transmittal letters with LIHI by February 1, 2013.

### A. Flows

The Chicopee River drains an area of 682 square miles at the dam site. The Collins station operates in a run-of-river mode over a range of flows up to 1,200 cfs. According to a FERC inspection report from 2001, the station is automated to run off of a headpond water level sensor, shutting the station down when the level drops to 0.25 foot below the top of the flashboards and returning it to service when level rises to the top of the boards. Operation is in tandem with releases from the upstream Red Bridge Hydroelectric Project (FERC No. 10676), which operates in a peaking mode. Figure 8 below displays data from the U.S. Geological Survey river gage (drainage area 689 square miles) located about five miles downstream of Collins (0.6 mile below Indian Orchard Dam) and illustrates the cycling caused by the Red Bridge operation.

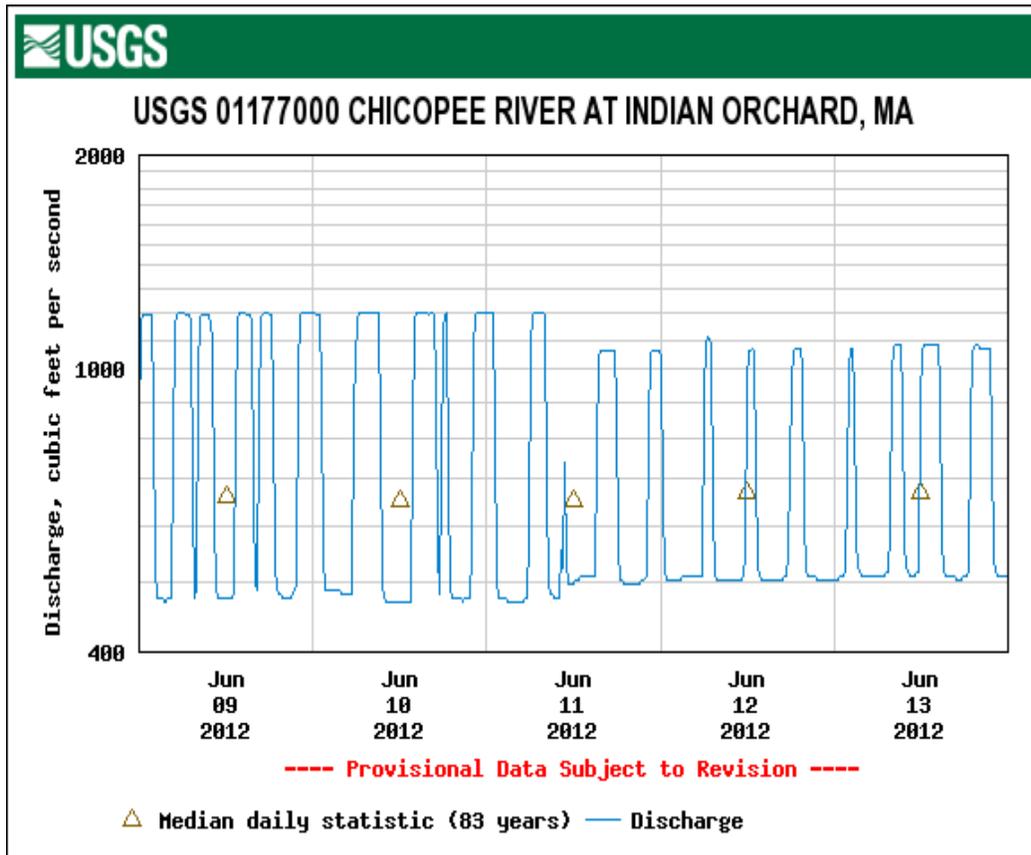


Figure 8. Hydrograph showing peaking flow fluctuations downstream of Indian Orchard Dam.

Under exemption terms set by the USFWS, the Project maintains a minimum flow of 332 cfs, or the summer Aquatic Base Flow per the USFWS New England Flow Policy (1981). Since the station is integral with the dam, no bypass flows are necessary for habitat support. Further, based on available data, MassDEP believes that spillage for reaeration and maintenance of dissolved oxygen standards is unnecessary. When the station is off line during low flows, flows are idled through the units and not spilled over the crest.

The Applicant provided several years of self-reported compliance statement that are filed with FERC annually. No non-compliance conditions were contained in those reports, nor were any incidences of non-compliance revealed in my review of the last ten years of documents in FERC eLibrary.

Although the USFWS required as a condition for the exemption (Condition 6 of the Department of Interior terms and conditions letter, January 23, 1984) that the exemptee develop a flow monitoring and record-keeping plan within six months of the issuance of the exemption, this requirement was apparently ignored. Swift River contends that the plan became unnecessary after the project was redesigned to make the powerhouse integral with the dam (telephone conversation between reviewer and Peter Clark, Swift River, July 11, 2012). Communication with Melissa Grader, July 13, 2012, indicates that the plan should still be developed (see USFWS in appended email at p. A-10). Since 1) the Applicant does not maintain records that can be used to demonstrate compliance with the LIHI flow criteria and 2) the Facility is out of compliance with the exemption terms, I recommend that LIHI certification be subject to Recommended Condition #1.

LIHI Questionnaire: Flows	
<b>A.1</b>	<p><b>Is the Facility in <i>Compliance with Resource Agency Recommendations</i> issued after December 31, 1986 regarding flow conditions for fish and wildlife protection, mitigation and enhancement (including in-stream flows, ramping and peaking rate conditions, and seasonal and episodic instream flow variations) for both the reach below the tailrace and all bypassed reaches?</b></p>
	<p><i>Reviewer Analysis/Conclusions:</i> The Resource Agency Recommendations (U.S. Fish and Wildlife Service) are from 1984. This subcriterion only applies when the recommendations are from or after 1987. <b>N/A = Go to A.2</b></p>
<b>A.2</b>	<p><b>If there is no flow condition recommended by any Resource Agency for the Facility, or if the recommendation was issued prior to January 1, 1987, is the Facility in Compliance with a flow release schedule, both below the tailrace and in all bypassed reaches, that at a minimum meets Aquatic Base Flow standards or “good” habitat flow standards calculated using the Montana-Tennant method?</b></p>
	<p><i>Reviewer Analysis/Conclusions:</i> With respect to the below-tailrace reach, the Facility meets the Flow criterion under A.2, as the Facility is operated strictly run-of-river with a minimum flow of 332 cfs (USFWS summer ABF). The Applicant is, however, unable to demonstrate compliance based on a flow monitoring and record-keeping plan. Further, a plan was to have been developed 28 years ago and never was. To assure future</p>

	<p>compliance, Recommended Condition #1, which requires on-site record keeping, should be adopted. <b>YES (so long as Recommended Condition #1 is attached to the certification) = PASS</b></p>
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**B. Water Quality**

Because this project was granted an exemption by FERC, there is no state water quality certification. MassDEP indicates, however, that there is reasonable assurance that the Facility complies with water quality standards and that spillage is unnecessary for reaeration purposes.

In 2003, MassDEP completed a water quality assessment of the Chicopee River (*Chicopee River Watershed 2003 Water Quality Assessment Report*, MassDEP, October 2008). Collins dam and impoundment is in River Segment MA36-23, which extends from Red Bridge Dam downstream to the Wilbraham Pumping Station (the former wastewater treatment plant), which is about 1.2 miles below the Project dam. Water quality was monitored at a sampling station, CH02B, located at the Cottage Avenue bridge directly downstream of the Project dam. Based on sampling results, which included pre-dawn dissolved oxygen sampling, MassDEP characterized the water quality as “good” and considered Aquatic Life use to be fully supported. Acknowledging streamflow issues, the report placed this segment on “Alert Status” due to hydropower operations at Red Bridge and Collins.

The Chicopee River in the Project vicinity is currently listed as a Category 2 water (attaining some uses and others not assessed) in the 2010 303(d) list. Aquatic life, Primary and Secondary contact recreation and Aesthetic uses are considered met. No change is proposed in the draft 2012 integrated list of waters.

LIHI Questionnaire: Water Quality	
<b>B.1</b>	<p><b>Is the Facility either:</b>  <b>a) In Compliance with all conditions issued pursuant to a Clean Water Act Section 401 water quality certification issued for the Facility after December 31, 1986? Or</b>  <b>b) In Compliance with the quantitative water quality standards established by the state that support designated uses pursuant to the federal Clean Water Act in the Facility area and in the downstream reach?</b></p> <p><i>Reviewer Analysis/Conclusions:</i> The Project does not have a water quality certification. MassDEP, based the 2003 assessment data and its knowledge of the river and Project operations, is reasonably assured that the Project complies with water quality standards and has not requested that further sampling be completed.  <b>YES to (b) = Go to B.2</b></p>
<b>B.2</b>	<p><b>Is the Facility area or the downstream reach currently identified by the state as not meeting water quality standards (including narrative and numeric criteria and designated uses) pursuant to Section 303(d) of the Clean Water Act?</b></p> <p><i>Reviewer Analysis/Conclusions:</i> The Chicopee River is not 303(d) listed for the river segment bracketing the Project dam and impoundment (Segment MA36-23).  <b>YES = Go to B.3</b></p>

**C. Fish Passage and Protection**

The USFWS through the Department of Interior (letter of January 23, 1984) reserved authority to prescribe fish passage during the exemption proceeding; however, no prescriptions have been issued to date for migratory or riverine fish. At the time the exemption was being processed, the USFWS expected anadromous fish passage would not be necessary for 20-25 years. Several anadromous fish species run the Connecticut River up to and past Holyoke Dam; however, fish that enter the Chicopee River are blocked a short distance upstream at Dwight Dam. There is limited spawning habitat in the lower portion of the Chicopee basin and several impassable dams currently block passage to the upper watershed.

With respect to anadromous species, it is likely that lower dams on the Chicopee will need passage facilities in the near future, although Red Mill (and presumably Collins) are unlikely to need to have passage in place for a number of years (email from Melissa Grader for the Red Mill Project, October 13, 2011). Dr. Caleb Slater (MassWildlife) confirmed by email dated July 11, 2012 that no fish passage prescriptions are currently in place.

Efforts by state and federal agencies to protect and enhance the depleted coastwise stock of American eel are ongoing. The USFWS is currently reviewing eel status for possible protection under the Endangered Species Act. MassWildlife provided fish survey data from 1998-2009 that shows eel are present in all three major tributaries of the Chicopee River. Downstream passage for eels should be accommodated to protect these fish from entrainment and to provide a safe route past the dam during outmigration. Despite the lack of upstream passage facilities, eel are capable of moving upstream past dams with some, albeit diminished, success. Condition #2 is recommended in order to have interim downstream passage in place for the 2012 outmigration season; permanent passage designed and implemented in accordance with plans and a schedule approved by the Resource Agencies; and notification of LIHI should a resource agency request upstream passage for any diadromous fish species during the term of the certification. Since bulb turbines may cause less injury and mortality to eels compared to other turbines, the condition includes a provision that the downstream passage requirements will be waived if the Applicant presents documentation from the Resource Agencies that routing fish through the turbines presents a limited risk of mortality and injury.

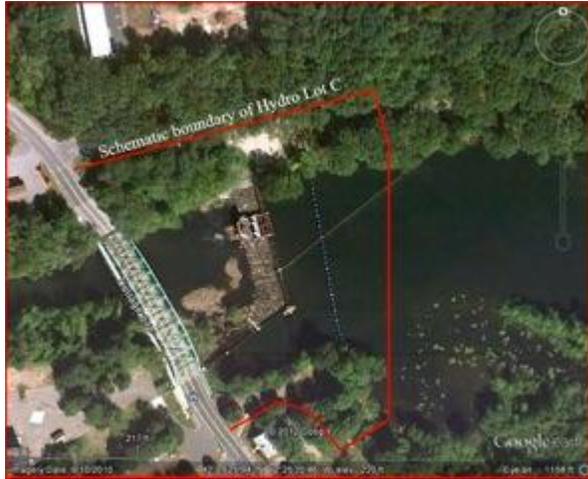
LIHI Questionnaire: Fish Passage and Protection	
<b>C.1</b>	<p><b>Is the Facility in Compliance with <i>Mandatory Fish Passage Prescriptions</i> for upstream and downstream passage of anadromous and catadromous fish issued by Resource Agencies after December 31, 1986?</b></p> <p><i>Reviewer Analysis/Conclusions:</i> No prescription exists. N/A = Go to C.2</p>
<b>C.2</b>	<p><b>Are there historic records of anadromous and/or catadromous fish movement through the Facility area, but anadromous and/or catadromous fish do not presently move through the Facility area (e.g., because passage is blocked at a downstream dam or the fish run is extinct)?</b></p>

	<p><b>Reviewer Analysis/Conclusions:</b> Several anadromous species continue to run the Connecticut River but are blocked from moving up the Chicopee River at Dwight Dam. American eel, a catadromous species, persists in the watershed.</p> <p><b>Yes with respect to anadromous fish = Go to C.2.a</b> <b>No with respect to catadromous fish = Go to C.3</b></p>
C.2.a	<p><b>If the fish are extinct or extirpated from the Facility area or downstream reach, has the Applicant demonstrated that the extinction or extirpation was not due in whole or part to the Facility?</b></p> <p><b>Reviewer Analysis/Conclusions:</b> Four mainstem dams are located downstream of Collins Dam, none with upstream fish passage facilities.</p> <p><b>Yes with respect to anadromous fish = Go to C.2.b</b></p>
C.2.b	<p><b>If a Resource Agency Recommended adoption of upstream and/or downstream fish passage measures at a specific future date, or when a triggering event occurs (such as completion of passage through a downstream obstruction or the completion of a specified process), has the Facility owner/operator made a legally enforceable commitment to provide such passage?</b></p> <p><b>Reviewer Analysis/Conclusions:</b> Such a request has not been made to date.</p> <p><b>N/A with respect to anadromous fish = Go to C.3</b></p>
C.3	<p><b>If, since December 31, 1986:</b></p> <p>a) <b>Resource Agencies have had the opportunity to issue, and considered issuing, a Mandatory Fish Passage Prescription for upstream and/or downstream passage of anadromous or catadromous fish (including delayed installation as described in C2a above), and</b></p> <p>b) <b>The Resource Agencies declined to issue a Mandatory Fish Passage Prescription,</b></p> <p>c) <b>Was a reason for the Resource Agencies' declining to issue a Mandatory Fish Passage Prescription one of the following: (1) the technological infeasibility of passage, (2) the absence of habitat upstream of the Facility due at least in part to inundation by the Facility impoundment, or (3) the anadromous or catadromous fish are no longer present in the Facility area and/or downstream reach due in whole or part to the presence of the Facility?</b></p> <p><b>Reviewer Analysis/Conclusions:</b> The agencies have had an opportunity to prescribe fish passage as a reserved right under the exemption terms and conditions but have not done so to date. None of the three C.3.c factors apply to this Facility.</p> <p><b>N/A for both anadromous and catadromous fish = Go to C.4</b></p>
C.4	<p><b>If C3 was not applicable:</b></p> <p>a) <b>are upstream and downstream fish passage survival rates for anadromous and catadromous fish at the dam each documented at greater than 95% over 80% of the run using a generally accepted monitoring methodology? OR</b></p> <p>b) <b>If the Facility is unable to meet the fish passage standards in 4.a, has the</b></p>

	<p><b>Applicant either i) demonstrated, and obtained a letter from the U.S. Fish and Wildlife Service or National Marine Fisheries Service confirming that demonstration, that the upstream and downstream fish passage measures (if any) at the Facility are appropriately protective of the fishery resource, or ii) committed to the provision of fish passage measures in the future and obtained a letter from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service indicating that passage measures are not currently warranted?</b></p>
	<p><b>Reviewer Analysis/Conclusions:</b> With respect to <b>anadromous species</b>, the Resource Agencies has a reserved right to prescribe upstream passage for any of the six mainstem dams but has not yet done so. The USFWS indicates that prescriptions are likely to occur soon, and Condition #2 will provide for LIHI notification of any prescription for the Project dam.</p> <p>With respect to <b>catadromous species</b>, the Applicant has not attempted to demonstrate effective eel passage. After consultation with the USFWS, I recommend that Condition #2 addressing eel passage be adopted to provide safe and effective downstream passage. The Applicant may elect to seek to have the requirement for downstream passage measures waived if the Resource Agencies concur that passage through the bulb turbines results in minimal mortality and injury.</p> <p><b>YES to (b) for anadromous fish (so long as Recommended Condition #2 is attached to the certification) = Go to C.5</b> <b>YES to (b) for catadromous fish (so long as Recommended Condition #2 is attached to the certification) = Go to C.5</b></p>
C.5	<p><b>Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of Riverine fish?</b></p> <p><b>Reviewer Analysis/Conclusions:</b> There are no prescriptions for riverine fish. <b>N/A = Go to C.6</b></p>
C.6	<p><b>Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?</b></p> <p><b>Reviewer Analysis/Conclusions:</b> There are no Resource Agency Recommendations for entrainment protection measures. Interim and permanent downstream passage measures for eel will address entrainment of outmigrants. <b>N/A = PASS</b></p>

**D. Watershed Protection**

The Facility dam creates an impoundment with a surface area of about 72 acres and a length of about 9,690 feet. No protected buffer zones have been created along the riverine impoundment through a settlement agreement or the federal exemption. Although the exemptee has flowage rights, outright ownership is limited to the area near the dam as shown in Figure 9.



**Figure 9. Exemptee ownership at dam site.**

LIHI Questionnaire: Watershed Protection	
<b>D.1</b>	<b>Is there a buffer zone dedicated for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low-impact recreation) extending 200 feet from the high water mark in an average water year around 50 - 100% of the impoundment, and for all of the undeveloped shoreline?</b>
	<i>Reviewer Analysis/Conclusions:</i> There are no buffer zones at this project. <b>NO = Go to D.2</b>
<b>D.2</b>	<b>Has the facility owner/operator established an approved watershed enhancement fund that: 1) could achieve within the project's watershed the ecological and recreational equivalent of land protection in D.1.,and 2) has the agreement of appropriate stakeholders and state and federal resource agencies?</b>
	<i>Reviewer Analysis/Conclusions:</i> There is no watershed enhancement fund. The facility does not qualify for an extension of the LIHI certification term by three years. <b>NO = Go to D.3</b>
<b>D.3</b>	<b>Has the facility owner/operator established through a settlement agreement with appropriate stakeholders and that has state and federal resource agencies agreement an appropriate shoreland buffer or equivalent watershed land protection plan for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low impact recreation).</b>
	<i>Reviewer Analysis/Conclusions:</i> There is no settlement agreement.

	<b>NO = Go to D.4</b>
<b>D.4</b>	<b>Is the facility in compliance with both state and federal resource agencies recommendations in a license approved shoreland management plan regarding protection, mitigation or enhancement of shorelands surrounding the project?</b>
	<i>Reviewer Analysis/Conclusions:</i> There are neither recommendations nor a shoreline management plan related to the exemptee's Facility. <b>N/A = PASS</b>

*E. Threatened and Endangered Species Protection*

There is no record of federally listed threatened and endangered species in the Facility area.<sup>3</sup>

The Applicant consulted MassWildlife with respect to the presence of species protected under the Massachusetts Endangered Species Act (MESA). Although no state-listed threatened or endangered species are known to be present, a species of Special Concern, the Triangle Floater mussel, is present and protected under MESA. Dewatering of habitat can cause mortality, but the Facility is operated run-of-river with limited impoundment water level fluctuations. As discussed previously, the Red Bridge Project causes significant and rapid fluctuations in flows in the Chicopee River, but there is no evidence that operation of the Collins Project exacerbates conditions.

<b>LIHI Questionnaire: Threatened and Endangered Species Protection</b>	
<b>E.1</b>	<b>Are threatened or endangered species listed under state or federal Endangered Species Acts present in the Facility area and/or downstream reach?</b>
	<i>Reviewer Analysis/Conclusions:</i> There is no record of state or federally listed T&E species in the Facility area presently. A state-listed species of Special Concern, the Triangle Floater mussel, is present and protected under state law. <b>NO = PASS</b>

<sup>3</sup> Listings for Massachusetts are available at:  
<http://www.fws.gov/newengland/pdfs/MA%20species%20by%20town.pdf>  
The Facility is in Hampden County.

**F. Cultural Resource Protection**

There is no evidence of conflicts with respect to cultural resources protection. The Applicant provided a copy of a June 13, 1983, letter from the Massachusetts Historical Commission stating that a review of its files did “not indicate the presence of any significant historic or archaeological properties within the proposed project areas.” No special protection is afforded cultural resources under the exemption as issued.

LIHI Questionnaire: Cultural Resource Protection	
<b>F.1</b>	<p><b>If FERC-regulated, is the Facility in Compliance with all requirements regarding Cultural Resource protection, mitigation or enhancement included in the FERC license or exemption?</b></p> <p><i>Reviewer Analysis/Conclusions:</i> No conflicts were identified in the record; however, there are no requirements set under the exemption. The SHPO letter is rather dated but sufficient for the purposes of review of this Facility.</p> <p><b>YES = PASS</b></p>

**G. Recreation**

The Applicant (telephone conversation with Peter Clark, July 11, 2012) states that very limited recreational use occurs at the Project. Anglers are allowed access to the tailrace; however, access and use upstream of the dam is discouraged by the station operators purportedly due to security concerns related to a gas storage area and pipeline (Columbia Gas of Massachusetts) on the north side of the impoundment. Although there is a boat safety barrier upstream of the dam, there is no formal takeout and portage. The Applicant also states that FERC inspectors want them to restrict use of the impoundment for recreation and that the security issue is brought up during each dam inspection (although there is no mention of this in the inspection reports). Station operators direct recreationalists to Red Bridge.

For the purposes of the exemption application for the Red Bridge Project, the original exemptee, Western Massachusetts Electric Company (WMEC), prepared an environmental report in 1989. The recreation section of that report indicates WMEC had completed certain recreational improvements at Red Bridge and deeded the lands occupied by those improvements to the Commonwealth for management. The improvements included a canoe access at the tailrace. The recreation section indicates that the recreational improvements were being heavily used. The recreation section also indicates that the Connecticut River Watershed Council had expressed an interest at that time in a canoe trail from Red Bridge to Putts Bridge and that there had been a request for installation of portages at all of the mainstem dams. The reach of river from Red Bridge downstream to the Massachusetts Turnpike, including the majority of the Project impoundment, is mostly forested and well buffered, which would seem to be an attractive condition for canoeing.

As mentioned previously, the Department of Interior requested on behalf of the National Park Service that the exemptee complete a recreational needs assessment in consultation with state and local agencies and interest groups. It is unclear why this was never done. This places the Project in non-compliance with the exemption terms, and I recommend Condition #3 to rectify this.

The reader may wish to look at the Appendix, pp. A-1 to A-4 where there are several Applicant responses to questions I posed on this issue.

LIHI Questionnaire: Recreation	
<b>G.1</b>	<p><b>If FERC-regulated, is the Facility in Compliance with the recreational access, accommodation (including recreational flow releases) and facilities conditions in its FERC license or exemption?</b></p> <p><i>Reviewer Analysis/Conclusions:</i> There is neither a recreation plan nor facilities provided. The exemptee failed to complete a recreational needs assessment pursuant to the terms and conditions of the exemption.</p> <p><b>YES (so long as Recommended Condition #3 is attached to the certification) = Go to G.3</b></p>
<b>G.3</b>	<p><b>Does the Facility allow access to the reservoir and downstream reaches without fees or charges?</b></p> <p><i>Reviewer Analysis/Conclusions:</i> Access is provided without charge below the dam but discouraged upstream.</p> <p><b>YES (so long as Recommended Condition #3 is attached to the certification) = PASS</b></p>

*H. Facilities Recommended for Removal*

The record does not indicate an interest on the part of resource agencies in removing the dam.

LIHI Questionnaire: Facilities Recommended for Removal	
<b>H.1</b>	<p><b>Is there a Resource Agency Recommendation for removal of the dam associated with the Facility?</b></p> <p><i>Reviewer Analysis/Conclusions:</i> No.</p> <p><b>NO = PASS</b></p>

## **APPENDIX**

### **Contents**

Correspondence.....	A-1 to A-16
Contacts .....	A-17

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Wednesday, July 11, 2012 2:43 PM  
**To:** 'Martha Brennan'; 'Peter Clark'  
**Subject:** RE: Summary of Collins Questions

Peter – Thanks for clarifying some aspects of the project. I checked the exemption. It says the powerhouse will be in the breached section of the dam, not down the power canal. So what you were telling me about the FWS flow monitoring plan isn't correct.  
Jeff

**From:** Martha Brennan [<mailto:mbrennan@swiftrivercompany.com>]  
**Sent:** Wednesday, July 11, 2012 9:31 AM  
**To:** Peter Clark; Jeffrey Cueto  
**Subject:** RE: Summary of Collins Questions

Hi Jeff, This is getting to be a multi-colored document! We have added some clarifications in Purple. I understand your concerns about the lack of a formal Recreation plan. One of our inspectors (Joseph Erricco) of the NY FERC office is the recreation contact at FERC and in his May 22 2001 page 2 he indicates that there is no follow up needed on this requirement. After 9/11 the inspectors were much more serious about limiting access to the area due to energy security concerns. In fact we had one of our guys working at Collins one day surrounded by the police while he was taking some measurements. They thought he was a terrorist. After that experience we have not pursued any program that would put more people into the area.

Please read below and then let's talk just to make sure we have a common understanding.

I am looking for the documentation of the containment of the transformer.

Martha

978-468-3999

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Tuesday, July 10, 2012 2:49 PM  
**To:** Martha Brennan  
**Cc:** Peter Clark; 'Fred Ayer'  
**Subject:** RE: Summary of Collins Questions

Thanks for your response, Martha. See my comments in green below.

**From:** Martha Brennan [<mailto:mbrennan@swiftrivercompany.com>]  
**Sent:** Tuesday, July 10, 2012 1:02 PM  
**To:** Jeffrey Cueto  
**Cc:** Peter Clark  
**Subject:** RE: Summary of Collins Questions

Hi Jeff,

Thanks for your patience. I have answered your questions below in Red. Please feel free to call me to discuss or clarify anything. I am in 8:30-1 all week.

As an overall comment I want to highlight the fact that our exemption was issued in 1984 and was one of the first exemptions issued. As such it was very generic. We did not have final design or even equipment determined when FERC issued the exemption to the project company. As Collins finalized its plans it was in contact and consultation with all the relevant agencies, with whom Collins maintains excellent relationships. This fact makes it problematic to tie back specific statistics from the historical letters.

Martha

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Sunday, July 08, 2012 7:36 PM  
**To:** Martha Brennan  
**Subject:** Summary of Collins Questions

Here's a summary of the questions I have at this time:

1. Appendix I contains an aerial map showing the "Schematic boundary of Hydro Lot C." (I think that is the map referred to in Appendix A.) Is that your company's ownership at the project site? **That is project boundary line for the land owned by I-MaxMat and leased by the Collins Hydroelectric project.**
2. Does the company have any ownership or control upstream, or is it limited to flowage rights? **Flowage rights only upstream of the Lot C that is leased from I-MaxMat.**
3. I note the discussion of security issues. What does the public have for access to the river in relationship to the project. **There is no Public access between the I-MaxMat site and the Red Bridge dam up stream. The security issues we cited in our application are significant. We did not want to encourage the public to access the river from this area due to the security concerns of our neighbor Boston Gas storage depot. Since 9/11 FERC has really clamped down on security around site which might be vulnerable to terrorist attack. FERC has always emphasized that Collins should not allow people to go into the river in its impoundment.**
4. I note the discussion of security issues. What does the public have for access to the river in relationship to the project. Is there any public recreational use at the site...boating, fishing, hiking...? **Same as above. The closest public access to the Chicopee River is at Red Bridge upstream that has a large public recreation area and boat launch. I would appreciate some elaboration on this. What prevents the public from accessing the river upstream of Collins Dam? Is the shoreline posted or fenced off between Red Bridge and Collins Dam? Please look at the Google Earth map which shows the east side of the impoundment is partly abutted by Route 20, then two private backyards where the owners**

used to have docks and canoes for fishing, and then the land goes under the Mass Pike and runs up to Red Bridge. All public access on east side of the river is made above Red Bridge. Collins had an agreement years ago with the two private owners who had canoes, but as far as we know, they have lost interest in their private access to the Chicopee River. Collins informs them if we lower the crest gates.

On the west side of the River, the project property is abutted immediately by the propane gas company (we think it is Columbia Gas), which is very concerned about terrorist activities that might get access to their property. There are regular patrols of security personnel that check on any vehicles that try to access the Chicopee River from the west side where Collins has its access to the dam. They have cameras mounted in the trees, so Collins parking area is always under surveillance. FERC has impressed on Collins Hydro that we should not encourage public access to the river, but direct parties with a recreational interest to drive up to Red Bridge where there is a large public access to that project's impoundment, but to discourage access to the river from the Collins project side of the river due to the concerns about terrorist access to the gas pipeline storage facility that abuts its project property.

From the FERC inspection reports I noted that there is security fencing to prevent the public from accessing the dam itself, but I didn't see if the chain link fence extend all around Lot C down to the Cottage Avenue bridge. What is fenced? The fencing prevents the public from accessing the river beside the dam. The chain link fence surrounds the project gate to the dam, and runs down on the downstream side towards Cottage Ave, but allow fishermen to access the river in the downstream reach (shore side only). On the road that runs up to Columbia Gas, there is a security gate shown in Google Earth, that blocks access to the Columbia Gas property. There are security camera mounted in the trees, so the security crews know just who is using the Collins parking area.

5. There are safety buoys. Is there a portage? No portage because the river is "restricted use" between Collins and Red Bridge projects.  
So there are safety buoys to keep boaters from going over the dam, but there is no route for them to take to go around it? Yes, you can see in Google Earth that behind City Tire on Route 20, there is an access to the river from that side of the river but it is for the City Tire owners only. Not a public access. We very seldom see boaters on the river in the impoundment, but this may be from the private property upstream or from the City Tire property that has frontage along the east side of the river.
6. As an exemption condition, the National Park Service asked for a recreational use study. Was one ever done? The exemption that Collins Hydroelectric LP was issued back in 1984 was a generic exemption that FERC issued before the decision on the layout of the project and purchase of the bulb generating equipment. As Collins settled on its design and equipment details it became aware of the security concerns of our neighbor's propane distribution center. During Collins periodic inspections by and consultations with FERC's New York Regional office, it was noted that the project was in full compliance with all aspects of its exemption and the lack of a recreation plan was not cited as a deficiency at any of the annual FERC inspections. I'm asking these questions because the recreation criteria are meant to insure that applicants accommodate public recreational access to, and use of, the river at the Project. The answers you are giving me suggest that use of the river is not encouraged and access

may be is essentially barred. So was the NPS ever consulted with regard to what recreational opportunities could reasonably be supported given the security concerns.

No, we have been inspected almost yearly by FERC and the MA FWS has said that Collins is in complete compliance with its exemption. Collins does allow fishermen a place to fish below the dam on its side of the Chicopee River, but not upstream of the Collins Dam due to the limitations set by FERC and Columbia Gas.

7. When did Swift River assume ownership from I-MaxMat Corp.? Collins has not assumed ownership; Collins leases the site and FERC exemption on a 30-year lease agreement from I-MaxMat.
8. Please send me a copy of the flow monitoring plan and a copy of the Fish and Wildlife Service's approval letter for the plan. This is attached, letter from Caleb Slater March 2012. Please note the because of the design of our site, in that the equipment is in the dam and not in a separate powerhouse, there is no bypass reach to be maintained. At the time that the exemption was issued, Collins had not finalized a design or even what equipment would be used. The design the was completed in consultations with the various agencies and FERC has inspected the project roughly every year since the exemption was issued. See Condition 6 in the Dept. of Interior terms letter. The Project is supposed to have a FWS-approved flow monitoring plan. What for? The outflow is always equal to the inflow since the project is an automatic run of the river project that discharges in the tailrace pool immediately at the dam. There is no bypass reach, so once the project was operational, FWS never requested a Min Flow Release Plan at the Collins Dam.
9. The FERC inspection reports indicate that the headpond is managed between elevations 221.85 and 222.10 (the top of the boards). If the plant shuts down if the pond drops to 221.85 feet, how are downstream flows maintained? Is there a lag time before downstream flows are restored? The Collins project is operated as run of river. Because the turbines are submerged in the water at the dam there is no lag time between water in and water out. The only time that flow rates differ from the inflow, is when the river flows exceed the hydraulic capacity of the project. If inflows decline below the Project capacity, doesn't the station shut down when the pool level drops 3 inches below the top of the boards, and, if so, how are downstream flow releases maintained, or is there an interruption in flow until the pond rises back to the top of the flashboards? The flow goes through the full Kaplan turbines even when the units are not operating. When the turbine comes off line, there is still 30 percent of the area of the closed Kaplan blades that is open for flow discharge downstream. The only time that flow could be stopped would be if the intake gates were closed on the upstream side of the project. These gates are only closed when the operators have to de-water the units for maintenance, which might happen once in 15 to 20 years, such as when we replaced a set of trashracks. But the intake of the other turbine was still open and water could flow through the space between the Kaplan blades, if that second unit was off line due to very low flow in the river.
10. The FERC environmental inspection report mentions an EPA terms letter. Please provide a copy. Please tell us which environment report you are referring to? I will research this one.

See p. 2 of the 2001 [environmental](#) report. Martha, will you try to find this report please.

11. The exemption describes the project as having a flashboards crest elevation of 223.4 feet and a flashboard height of 3.0 feet. The FERC inspection reports in your Appendix B state 222.1 feet and 4.0 feet, respectively. Is there an explanation for the discrepancy? **At the time the exemption was issued, the design was not finalized. The numbers in appendix B are correct: the project has 4 feet of flashboards that are lowered when flows exceed the crest discharge limitations.**
  
12. A Dept. of Interior letter from 1984 indicates that the station hydraulic capacity would be 100 to 598 cfs. A 1983 FWS letter says 255 to 520 cfs. If the information is available, could you let me know what the actual hydraulic capacity is? **According to the ESAC turbine company the hydraulic capacity is 546 CFS per unit at average capacity and at 14,432 feet of head.** **Not sure what average capacity is...maybe the rated capacity? What is the low end of one of the units? 546 cfs. I was trying to get a sense of over what range of flows the station can operate.** The full Kaplan units have rated hydraulic capacity that was guaranteed by ESAC when we bought the turbines. The rated hydraulic capacity is 540 kW at 14.432 ft of net head. This is equivalent to 546 cfs at that head. But, as you know, a Kaplan unit can operated in surcharge, which increased the rated capacity up to 660 kW at a decreasing efficiency. In that case the capacity rating of the two units would increased to 1,320 kW. At times, the head pond elevation increase due to flood flows, so we have seen cases where the hourly output rises to 725 kW, and then the capacity would increase to 1,450 kW. ESAC's guarantee when new was the hydraulic capacity would rise to 559 cfs for each unit, or for the combined max flow of 1,118 cfs for the two units together. So, to the best of our knowledge Collins can be operated between 130 cfs and perhaps up to 1,300 cfs in surcharge (maximum blade opening with some risk of cavitation). So, we very seldom operate the units in full surcharge, which limits hydraulic flow to a max of 1,272 cfs at 15.4 feet of head.

Thanks!

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Sunday, July 08, 2012 7:36 PM  
**To:** Martha Brennan  
**Subject:** Summary of Collins Questions

Here's a summary of the questions I have at this time:

13. Appendix I contains an aerial map showing the "Schematic boundary of Hydro Lot C." (I think that is the map referred to in Appendix A.) Is that your company's ownership at the project site?
14. Does the company have any ownership or control upstream, or is it limited to flowage rights?
15. I note the discussion of security issues. What does the public have for access to the river in relationship to the project.
16. I note the discussion of security issues. What does the public have for access to the river in relationship to the project. Is there any public recreational use at the site...boating, fishing, hiking...?

17. There are safety buoys. Is there a portage?
18. As an exemption condition, the National Park Service asked for a recreational use study. Was one ever done?
19. When did Swift River assume ownership from I-Maxmat Corp.?
20. Please send me a copy of the flow monitoring plan and a copy of the Fish and Wildlife Service's approval letter for the plan.
21. The FERC inspection reports indicate that the headpond is managed between elevations 221.85 and 222.10 (the top of the boards). If the plant shuts down if the pond drops to 221.85 feet, how are downstream flows maintained? Is there a lag time before downstream flows are restored?
22. The FERC environmental inspection report mentions an EPA terms letter. Please provide a copy.
23. The exemption describes the project as having a flashboards crest elevation of 223.4 feet and a flashboard height of 3.0 feet. The FERC inspection reports in your Appendix B state 222.1 feet and 4.0 feet, respectively. Is there an explanation for the discrepancy?
24. A Dept. of Interior letter from 1984 indicates that the station hydraulic capacity would be 100 to 598 cfs. A 1983 FWS letter says 255 to 520 cfs. If the information is available, could you let me know what the actual hydraulic capacity is?

Thanks!

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Sunday, July 08, 2012 6:08 PM  
**To:** 'Martha Brennan'  
**Subject:** RE: Collins Recreation

Thanks, Martha.

Also, was the National Park Service's recommended recreational study ever done? If so, please send me a copy.

Jeff

**From:** Martha Brennan [<mailto:mbrennan@swiftivercompany.com>]  
**Sent:** Friday, July 06, 2012 2:41 PM  
**To:** Jeffrey Cueto  
**Subject:** Re: Collins Recreation

Hi jeff, I am out of the office today and Monday but will follow up with both your questions first thing on Tuesday.  
Martha

Sent from my Samsung Epic™ 4G. Composed On Tiny Keyboard, Please excuse thumberisms

Jeffrey Cueto <[ompompanoo@aol.com](mailto:ompompanoo@aol.com)> wrote:

Martha –?

Thanks.

Jeff

><{{{> **Jeffrey R. Cueto, P.E.**

><{{{> (802) 223-5175

><{{{> [ompompanoo@aol.com](mailto:ompompanoo@aol.com)

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**From:** Kubit, Robert (DEP) [mailto:robert.kubit@state.ma.us]  
**Sent:** Wednesday, July 11, 2012 3:16 PM  
**To:** 'Jeffrey Cueto'  
**Subject:** RE: LIHI - Collins Hydro

Hi Jeff,

The MassDEP is reasonably assured that the Collins Hydro Project complies with Water Quality Standards.

Thanks,

Bob

Robert Kubit, P.E.  
MassDEP  
Division of Watershed Management  
627 Main Street  
Worcester MA 01608  
Telephone: (508) 767-2854  
Email: [robert.kubit@state.ma.us](mailto:robert.kubit@state.ma.us)  
Fax: (508) 791-4131

**From:** Jeffrey Cueto [mailto:[ompompanoo@aol.com](mailto:ompompanoo@aol.com)]  
**Sent:** Wednesday, July 11, 2012 2:43 PM  
**To:** Kubit, Robert (DEP)  
**Subject:** RE: LIHI - Collins Hydro

Bob – Following up on my 7/5 note below, I can provide the following information concerning how the project is operated. Apparently, it doesn't spill even when off line. (This is an excerpt from an email I sent to Swift River. The different colors are my questions, then their responses.)

9. The FERC inspection reports indicate that the headpond is managed between elevations 221.85 and 222.10 (the top of the boards). If the plant shuts down if the pond drops to 221.85 feet, how are downstream flows maintained? Is there a lag time before downstream flows are restored? **The Collins project is operated as run of river. Because the turbines are submerged in the water at the dam there is no lag time between water in and water out. The only time that flow rates differ from the inflow, is when the river flows exceed the hydraulic capacity of the project.**

**If inflows decline below the Project capacity, doesn't the station shut down when the pool level drops 3 inches below the top of the boards, and, if so, how are downstream flow releases maintained, or is there an interruption in flow until the pond rises back to the top of the flashboards? The flow goes through the full Kaplan turbines even when the units are not operating. When the turbine comes off line, there is still 30 percent of the area of the closed Kaplan blades that is open for flow discharge downstream. The only time that flow could be stopped would be if the intake gates were closed on the upstream side of the project. These gates are only closed when the operators have to de-water the**

units for maintenance, which might happen once in 15 to 20 years, such as when we replaced a set of trashracks. But the intake of the other turbine was still open and water could flow through the space between the Kaplan blades, if that second unit was off line due to very low flow in the river.

Thanks,  
Jeff

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Thursday, July 05, 2012 3:08 PM  
**To:** 'Kubit, Robert (DEP)'  
**Subject:** LIHI - Collins Hydro

Hi, Bob. I have started reviewing Swift River Company's application for the Collins Project. Thank you for providing the applicant with a letter back in March concerning the project and water quality conditions for the Chicopee. I have one question for you if you don't mind. The Chicopee River Watershed 2003 Water Quality Assessment Report indicates that sampling done at Station CH02B, which apparently is directly downstream of the Collins dam, showed support of Aquatic Life Use. The sampling included dissolved oxygen and several other parameters, and some of the sampling was done under pre-dawn conditions. I don't know whether the hydroelectric station was operating at the time samples were collected. While the station is run-of-river, it is not required to spill water to reduce dissolved oxygen deficits if they exist. As you are aware, since the project does not have a water quality certification, it will only pass the LIHI water quality criteria if MassDEP is reasonably assured that the project complies with water quality standards (setting aside the 303(d) listing part of the LIHI criteria) based on its knowledge of "available data, river characteristics, permitted wasteloads, project operating constraints (e.g., spillage, hydraulic operating range) and other relevant data..." If you believe that Collins is compliant but want additional sampling in order to verify compliance, I can ask the Board to condition the certification to require that the applicant develop a sampling plan subject to your approval.

In sum, I would appreciate it if you would confirm that you are "reasonably assured," and, if so, let me know if you want the applicant to complete water quality sampling to verify compliance.

The application does not indicate the minimum hydraulic capacity of the station, although a 1984 Dept. of Interior letter used a figure of 100 cfs. I'm going to check with the applicant to determine the station capacity. If you want me to provide that information, please let me know.

Thanks again for your help.  
Jeff

><{{{> **Jeffrey R. Cueto, P.E.**  
><{{{> (802) 223-5175  
><{{{> [ompompanoo@aol.com](mailto:ompompanoo@aol.com)

**From:** Melissa\_Grader@fws.gov [mailto:Melissa\_Grader@fws.gov]  
**Sent:** Friday, July 13, 2012 10:24 AM  
**To:** Jeffrey Cueto  
**Cc:** 'Slater, Caleb (MISC)'  
**Subject:** RE: LIHI - Collins Hydro

Hi Jeff,

The FWS recommends that LIHI certification should include a condition requiring the Collins Project to develop a Flow/Operations Monitoring Plan (if one does not already exist). This request is reasonable because without it, there is no way for the project to verify compliance with run-of-river operation. Also, because the MA DFW has provided data indicating that eels presently are upstream of the project, the Service supports including a LIHI condition that requires the applicant to (1) implement interim eel passage/protection measures (ceasing generation during rainy nights from 8/15-11/15) upon certification, and (2) work with the Service and MA DFW to develop a plan for permanent downstream eel passage measures within one year of receiving certification.

Regards,  
Melissa

~~~~~  
Melissa Grader  
Fish and Wildlife Biologist  
US FWS/New England Field Office  
c/o CT River Coordinator's Office  
103 East Plumtree Road  
Sunderland, MA 01375  
413-548-8002, x124  
413-548-9622 (FAX)  
[melissa\\_grader@fws.gov](mailto:melissa_grader@fws.gov)  
[www.fws.gov/newengland](http://www.fws.gov/newengland)  
~~~~~

▼ "Jeffrey Cueto" <[ompompanoo@aol.com](mailto:ompompanoo@aol.com)>

"Jeffrey Cueto"  
<[ompompanoo@aol.com](mailto:ompompanoo@aol.com)>

07/11/2012 02:43 PM

To:"Jeffrey Cueto"  
<[ompompanoo@aol.com](mailto:ompompanoo@aol.com)>,  
<[Melissa\\_Grader@fws.gov](mailto:Melissa_Grader@fws.gov)>, "Slater,  
Caleb \"(MISC)\""  
<[caleb.slater@state.ma.us](mailto:caleb.slater@state.ma.us)>

cc

SubjectRE: LIHI - Collins Hydro

Melissa and Caleb – It seems clear that a flow-monitoring plan was never drafted and approved. Swift River is claiming that a flow-monitoring plan is unnecessary as the station is integral with the dam (no bypass) and it's operated run-of-river. He also says no agency has raised this as an issue. I told him that it is not unreasonable to have a flow-monitoring plan even for projects of this type so that there are records showing compliance with run-of-river operations (stable headpond and consistent outflow/generation). Regardless, the Project appears to be out of compliance with this exemption term. I told him he would either have to come into compliance and seek to have the exemption term eliminated.

When you get a chance, I'd appreciate a response to my email message below.

Thanks.

Jeff

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Sunday, July 08, 2012 7:34 PM  
**To:** 'Melissa\_Grader@fws.gov'; 'Slater, Caleb (MISC)'  
**Subject:** RE: LIHI - Collins Hydro

Following up on this note, I was wrong about #2. The FWS required a monitoring plan. So I'm asking the exemptee for a copy along with the FWS approval letter.

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Thursday, July 05, 2012 3:46 PM  
**To:** 'Melissa\_Grader@fws.gov'; 'Slater, Caleb (MISC)'  
**Subject:** LIHI - Collins Hydro

Hi, Melissa and Caleb –

I've started reviewing the Collins Project on the Chicopee and have some questions:

1. The project operates run-of-river and is required to release a minimum flow of 0.5 csm under the FERC exemption. The applicant indicates that bypass flows are unnecessary as the station discharges into the dam plunge pool. Is that correct, and is the flow regime appropriately protective for fish resources? (By the way, I'm aware of the peaking flow issues from Red Bridge.)
2. I don't believe that there was a requirement to develop a flow management plan and keep compliance records. Is that correct, and, if so, do you recommend conditioning any LIHI certification such that a flow management plan and recordkeeping would be required?
3. I don't see where there are any fish passage requirements, including anadromous fish and eels, although the exemption conditions include a provision for requiring passage in the future. Could you let me know whether any consideration is being given to upstream or downstream passage within the reasonably foreseeable future? Also, do you know if eels are present in the

basin, and, if so, whether downstream passage should be provided now as we have done with several other projects recently?  
4. To the extent of your knowledge, has the applicant been in compliance with the flow conditions of the exemption?

Thanks.  
Jeff

><{{{~}}> **Jeffrey R. Cueto, P.E.**

><{{{~}}> (802) 223-5175

><{{{~}}> [ompompanoo@aol.com](mailto:ompompanoo@aol.com)

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**From:** Slater, Caleb (MISC) [mailto:caleb.slater@state.ma.us]  
**Sent:** Thursday, July 12, 2012 12:36 PM  
**To:** Jeffrey Cueto; Melissa\_Grader@fws.gov  
**Subject:** RE: Collins LIHI Application - Eels

This sort of condition make nothing but sense to me.

Caleb



Caleb Slater, PhD  
Anadromous Fish Project Leader  
Massachusetts Division of Fisheries and Wildlife  
(508) 389-6331

**From:** Jeffrey Cueto [mailto:ompompanoo@aol.com]  
**Sent:** Thursday, July 12, 2012 12:23 PM  
**To:** Slater, Caleb (FWE); [Melissa\\_Grader@fws.gov](mailto:Melissa_Grader@fws.gov)  
**Subject:** Collins LIHI Application - Eels

Caleb and Melissa –

Based on Caleb's data, eels are present upstream of Collins. Given that, would it be appropriate to (if Collins is certified) require Swift River Co. to provide interim downstream passage immediately (rainy night seasonal spill) and develop a plan for permanent downstream passage? The usual condition that we have worked out in the past. And cooperate with upstream passage if so requested within the term of the LIHI certification. This was what we drafted for Franklin Falls:

*Issue 2.* The Facility does not provide effective downstream eel passage.

*Recommended Condition No. 2.* By August 1, 2012, Hydro Realty Corporation shall enter into, and provide LIHI with a copy of, an agreement reached between the U.S. Fish and Wildlife Service, the New Hampshire Department of Fish and Game, and Hydro Realty Corporation for providing both interim and permanent safe, timely, and effective downstream passage for American eel, including a description of the planned passage and protection measures and the implementation schedule for design, installation, and operations. Said permanent facilities shall be in place and operational by August 1, 2015, and Hydro Realty Corporation shall notify LIHI within two weeks of completion. In the interim, effective immediately, Hydro Realty Corporation shall institute interim downstream passage which shall consist of nightly shutdowns (dusk to dawn) during rainy nights from August 15 to November 15. Hydro Realty Corporation shall keep a log during this period, showing precipitation and generation information, and provide it to the U.S. Fish and Wildlife Service and the New Hampshire Department of Fish and Game by December 31 annually until permanent measures are in place. This interim passage provision shall be included in the aforementioned agreement. In the event that the U.S. Fish and Wildlife Service or

the New Hampshire Department of Fish and Game determine prior to the installation of permanent downstream passage that the above-described interim downstream passage measure is not providing safe, timely and effective interim passage for out-migrating eels, Hydro Realty Corporation shall implement other reasonable interim measures as requested by these agencies. During the term of this certification, should a resource agency request implementation of upstream passage at the Facility, Hydro Realty Corporation shall so notify LIHI within 14 days and provide LIHI with a copy of the request and its response.

Thanks.  
Jeff

**From:** Slater, Caleb (MISC) [<mailto:caleb.slater@state.ma.us>]  
**Sent:** Thursday, July 12, 2012 9:38 AM  
**To:** Jeffrey Cueto  
**Subject:** RE: Eel data

Yes, yes I was.  
vacation Friday....



Caleb Slater, PhD  
Anadromous Fish Project Leader  
Massachusetts Division of Fisheries and Wildlife  
(508) 389-6331

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Thursday, July 12, 2012 6:00 AM  
**To:** Slater, Caleb (FWE)  
**Subject:** Eel data

Caleb – I think you were going to attach the survey data.  
Thanks.  
Jeff

**From:** Slater, Caleb (MISC) [<mailto:caleb.slater@state.ma.us>]  
**Sent:** Wednesday, July 11, 2012 2:43 PM  
**To:** Jeffrey Cueto; [Melissa Grader@fws.gov](mailto:Melissa_Grader@fws.gov)  
**Subject:** RE: LIHI - Collins Hydro

Jeff,

1. The project operates run-of-river and is required to release a minimum flow of 0.5 csm under the FERC exemption. The applicant indicates that bypass flows are unnecessary as the station

discharges into the dam plunge pool. Is that correct, and is the flow regime appropriately protective for fish resources? (By the way, I'm aware of the peaking flow issues from Red Bridge.)

Yes and Yes

2. I don't believe that there was a requirement to develop a flow management plan and keep compliance records. Is that correct, and, if so, do you recommend conditioning any LIHI certification such that a flow management plan and recordkeeping would be required?

I have no recollection about a requirement to develop a flow management plan and keep compliance records- although that is pretty standard in new exemptions. Such a requirement through LIHI would be appropriate.

3. I don't see where there are any fish passage requirements, including anadromous fish and eels, although the exemption conditions include a provision for requiring passage in the future. Could you let me know whether any consideration is being given to upstream or downstream passage within the reasonably foreseeable future?

Nothing on the horizon- eels if anything.

4. Also, do you know if eels are present in the basin, and, if so, whether downstream passage should be provided now as we have done with several other projects recently?

Please see attached for the complete list of American eel occurrences in our stream survey database. I do not have time to go through it and see how many are upstream of the project- but the Lat/Long is included for each sample.

5. To the extent of your knowledge, has the applicant been in compliance with the flow conditions of the exemption?

Well, with no requirement to develop a flow management plan and keep compliance records....



Caleb Slater, PhD  
Anadromous Fish Project Leader  
Massachusetts Division of Fisheries and Wildlife  
(508) 389-6331

**From:** Jeffrey Cueto [<mailto:ompompanoo@aol.com>]  
**Sent:** Thursday, July 05, 2012 3:46 PM

**To:** [Melissa\\_Grader@fws.gov](mailto:Melissa_Grader@fws.gov); Slater, Caleb (FWE)  
**Subject:** LIHI - Collins Hydro

Hi, Melissa and Caleb –

I've started reviewing the Collins Project on the Chicopee and have some questions:

6. The project operates run-of-river and is required to release a minimum flow of 0.5 csm under the FERC exemption. The applicant indicates that bypass flows are unnecessary as the station discharges into the dam plunge pool. Is that correct, and is the flow regime appropriately protective for fish resources? (By the way, I'm aware of the peaking flow issues from Red Bridge.)
7. I don't believe that there was a requirement to develop a flow management plan and keep compliance records. Is that correct, and, if so, do you recommend conditioning any LIHI certification such that a flow management plan and recordkeeping would be required?
8. I don't see where there are any fish passage requirements, including anadromous fish and eels, although the exemption conditions include a provision for requiring passage in the future. Could you let me know whether any consideration is being given to upstream or downstream passage within the reasonably foreseeable future? Also, do you know if eels are present in the basin, and, if so, whether downstream passage should be provided now as we have done with several other projects recently?
9. To the extent of your knowledge, has the applicant been in compliance with the flow conditions of the exemption?

Thanks.  
Jeff

><{{{> **Jeffrey R. Cueto, P.E.**  
><{{{> (802) 223-5175  
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## CONTACTS

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United States Fish and Wildlife Service	Melissa Grader Fish & Wildlife Biologist	c/o Connecticut River Coordinator's Office 103 East Plumtree Road Sunderland, MA 01375 Telephone: (541) 312-6422 Email: <a href="mailto:melissa_grader@fws.gov">melissa_grader@fws.gov</a>
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Town of Wilbraham Conservation Commission	Christopher J. Brown Chairperson  Melissa Graves Administrative Assistant	240 Springfield Street Wilbraham, MA 01095 (413) 596-2800, ext 204 Email: <a href="mailto:mgraves@wilbraham-ma.gov">mgraves@wilbraham-ma.gov</a>
Town of Ludlow Conservation Commission	Jason Martowski Chairperson	Town Hall, 3rd Floor 488 Chapin Street Ludlow, MA 01056 (413) 583-5600 x1285 Email: <a href="mailto:conservation@ludlow.ma.us">conservation@ludlow.ma.us</a>