

Relicensing Study 3.3.3

Evaluate Downstream Passage of Juvenile American Shad

ADDENDUM 1

Northfield Mountain Pumped Storage Project (No. 2485)
and Turners Falls Hydroelectric Project (No. 1889)

Prepared for:



Prepared by:



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LIST OF ABBREVIATIONS

CRASC	Connecticut River Atlantic Salmon Commission
FERC	Federal Energy Regulatory Commission
FirstLight	FirstLight Hydro Generating Company
h	hour
MADFW	Massachusetts Department of Fish and Wildlife
NMFS	National Marine Fisheries Service
RM	river mile
RM/h	river mile per hour
TFI	Turners Falls Impoundment
USFWS	United States Fish and Wildlife Service

1 INTRODUCTION

On October 14, 2016, FirstLight (FL) filed with the Federal Energy Regulatory Commission (FERC) Study Report No. 3.3.3 *Evaluate Downstream Passage of Juvenile American Shad*. On October 31 and November 1, 2016, FL held its study report meeting in which Study No. 3.3.3 was discussed on October 31. On January 17, 2017, FL filed its responsiveness summary and agreed to file an addendum (Addendum 1) to the report to address the commenters concerns. [Section 2](#) of this addendum includes FL's responses to those items identified in its responsiveness summary.

On February 17, 2017 FERC issued its Determination on Requests for Study Modifications and New Studies. FERC indicated that the Study did not meet the study objectives and deferred a decision whether to repeat the study to July 31, 2017 in its Determination letter-*see below*:

Some aspects of study 3.3.3 did not meet the study objectives or provide the information that staff anticipates needing for its analysis. However, some of the study results (e.g., survival and entrainment data) are adequate to identify some project effects on downstream juvenile shad passage and could be used to develop measures to improve downstream juvenile shad passage.

While repeating several or all parts of the study may provide the information that was originally required by staff, this would be an expensive endeavor (i.e., as much as \$400,000) and it is also possible that some or all aspects of the study would again experience substantial complications. Therefore, we recommend deferring a decision about the need to repeat all or parts of study 3.3.3 until after FirstLight has discussed potential downstream passage measures with interested stakeholders and files a progress report by July 31, 2017.

2 RESPONSES TO STAKEHOLDER COMMENTS

Comments on Study No. 3.3.3 were received from the USFWS, NMFS, MADFW, CRWC and Karl Meyer. In its response to comments, FL cataloged the comments received such as USFWS-1 (refers to the first USFWS comment on Study No. 3.3.3), USFWS-2, etc. In its response to comments, FL indicated which comments (USFWS-1, etc.) it would address in Addendum 1 to Study No. 3.3.3. Using the same cataloging system, the subsections below list the comment, which is then followed by FL's response. All but one of the comments on the Juvenile Shad report were addressed in the comment matrix. Below is the reply to NMFS Comment #7.

2.1 Juvenile Shad Study No. 3.3.3 Addendum:

NMFS Comment #7:

Section 5.2 Rate of Downstream Movement within the Impoundment, over the Dam and through the Bypass Reach, or through the Power Canal

“As is reported, very few fish were available for this analysis. We recommend the report state the amount of error associated with the various rates of movement.”

Response:

Rates of movement were calculated for juvenile shad moving through the Turners Falls Impoundment (TFI), the power canal and the bypass reach. The mean rate of movement within the TFI was 0.31 RM/hr with a standard error of 0.02. This calculation was based on the movement of the 113 fish detected in the TFI. The mean rate of movement within the power canal was 0.03 RM/hr with a standard error of 0.008. This calculation was based on the movement of the 4 fish detected within the power canal. These rates of movement are depicted in [Figure 1](#), depicted with their associated standard error values.

The rate of movement in the bypass reach was 1.45 RM/hr as calculated from the movement of a single fish and therefore no associated error values could be calculated.

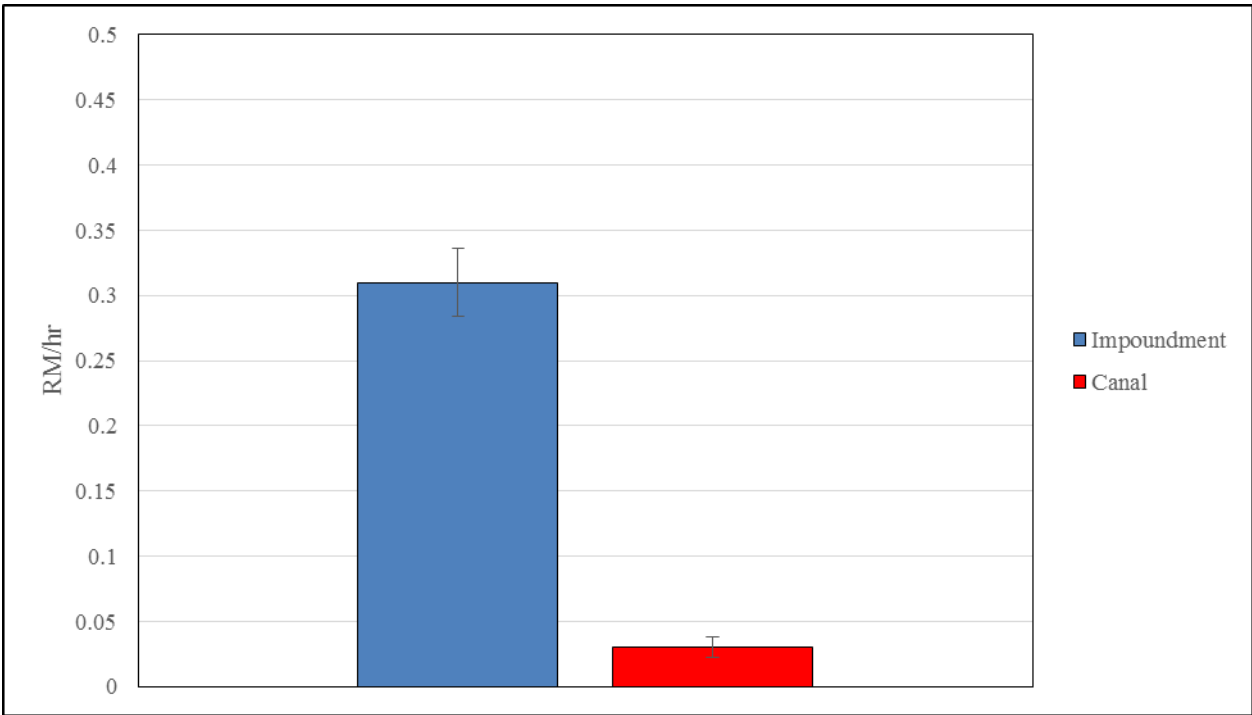


Figure 1: Rates of Movement (RM/hr) for juvenile shad moving throughout the Turners Falls Impoundment and the canal with associated standard error.