



# Scotland Hydroelectric Station (FERC No. 2662) Fish Passage Project



## Project Summary

ALDEN is providing complete designs and specifications for construction of upstream and downstream fish passage facilities at the Scotland Hydroelectric Station for American shad, river herring, and American eel.

## Client

FirstLight Power Resources, LLC

## Location

Scotland Hydroelectric Station  
Windham County, CT

## Year

Ongoing

## FOR MORE INFORMATION,

Contact our Headquarters, Holden, MA at +1 (508) 829-6000 or by e-mail at : [info@aldenlab.com](mailto:info@aldenlab.com)

## Project Overview

ALDEN provided FirstLight with agency consultation, final design and specifications, and construction oversight of the upstream and downstream fish passage facilities currently under construction at the Scotland Hydroelectric Station (Scotland). Upstream fish passage facilities includes design and installation of a new fish lift for American shad and river herring and downstream structures include modifications to the existing trash rack and the addition of surface and sub-surface bypasses for these species and silver American eel.

## Work Performed

ALDEN reviewed existing geotechnical, hydrologic, site constraints, and other site data, along with the results of an additional site survey included in the project scope, to finalize the conceptual fish passage designs at Scotland. The conceptual designs were then further developed into detailed drawings and specifications. Alden supported the Owner with agency consultations, meetings and addressed comments and concerns with technical memorandums. After agency acceptance of the final design and specifications, ALDEN supported the construction bidding process and bid reviews and construction oversight. ALDEN staff also conducted desktop evaluations of turbine mortality and total project survival for American eel to determine the relative biological effectiveness of bar racks with different spacings (0.75 and 1.00 inch clear).

## Project Highlights

- Target species—American shad, river herring and American eel
- Developed detailed designs and specifications for upstream and downstream fish passage for Scotland.
- Supported the Owner through the permitting and agency review process at 30%, 60%, 90%, and final design review meetings .
- Provided construction bidding support and ongoing engineering consultation throughout construction. Construction is ongoing and anticipated to be completed by April of 2018.
- Conducted a desktop evaluation of total project survival for silver American eel to assist with the selection of an appropriate bar spacing for reducing turbine entrainment.