MASSWILDLIFE

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April 7, 2026
Maryalice Fischer
Certification Program Director
Low Impact Hydropower Institute
68 Harrison Ave Ste 605 PMB 113938
Boston, MA, 02111-1929

Dear Ms. Fischer,

MassWildlife was contacted in an email from you on March 9, 2026, regarding the Low Impact Hydropower Institute's (LIHI) application by the Chicopee Falls Project (P-6222), located on the Chicopee River, Massachusetts. Following discussion internally at MassWildlife and with federal partners on the Technical Committee of the Connecticut River Migratory Fish Restoration Cooperative (CRASC), we have the following responses to your questions regarding American eel on the Chicopee River.

1) ***What is the status of American Eel in the river? Are you aware of eel populations there? There have been prior anecdotal reports. If so, can you quantify the populations?***

Response – In the last decade, MassWildlife has completed 65 different fisheries surveys in the Chicopee River and its surrounding watershed. These surveys have documented American eel throughout the Chicopee River basin and areas upstream of the Chicopee Falls Project. This data was used in coordination with CRASC to develop the Connecticut River American Eel Management Plan (2023), outlining American eel occurrences in the watershed and agency-based management recommendations (Figure 1). This dataset provides evidence of an extensive range distribution in the Chicopee River basin by American eel. Despite these sampling efforts, quantifying American eel populations is challenging due to their preference for nocturnal activity and cryptic nature, reducing their detectability during traditional fisheries sampling. Upstream passage structures (eel ramp with holding tanks) at dams can be used to estimate populations but currently do not exist in the Chicopee River.

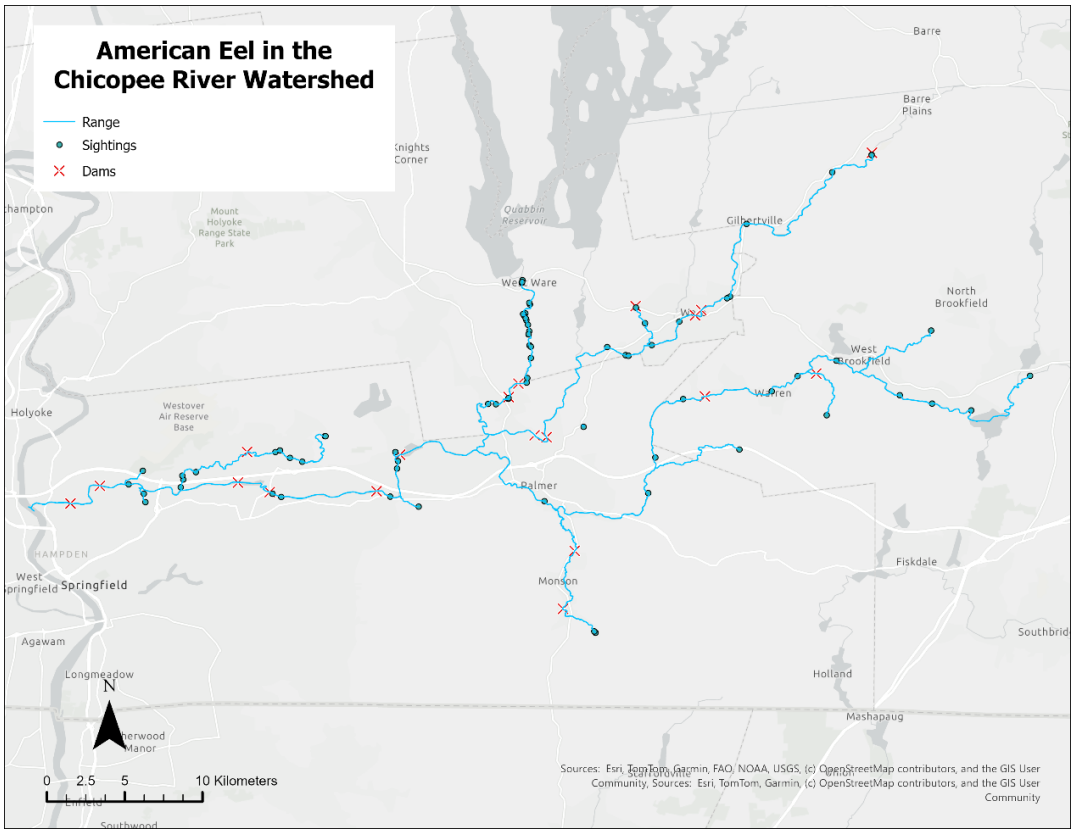

Figure 1. The range of American Eel in the Chicopee River Basin (MA), based on electrofishing samples from 1984 to 2024, from MADFW (Map sourced from USFWS draft GIS).

2) What is the Current agency perspective on the need for upstream American eel or anadromous fish passage in the river?

Response – MassWildlife and USFWS retain authority to require fish passage at the Chicopee Falls Project and the first dam (Dwight) located downstream, through the original FERC exemption licensing process. MassWildlife and its partner agencies have historically not required upstream and downstream passage measures for migratory and resident species on the Chicopee River due to higher priority projects and resource limitations. However, this does not mean there are no concerns regarding fish passage and its potential on the Chicopee River moving forward. To achieve *"assurance that a facility has avoided or reduced environmental impacts"* (LIHI Certification Criteria), future considerations for fish passage must be addressed during the certification process. This includes impacts to American eel, American shad, river herring, and sea lamprey**,** as well as resident species such as white sucker, walleye, smallmouth bass, and northern pike. Both migratory and resident species require in-river movement within the Chicopee and currently cannot complete important life history migrations critical to population persistence.

To be clear, MassWildlife anticipates requiring both upstream and downstream passage for the species listed above, at some point in the future, in order to agree with any LIHI listing status or certifications. The Chicopee River is the largest sub-watershed in the Connecticut River and historically was perhaps the most important river habitat for migratory species such as Atlantic salmon, American shad, river herring, sea lamprey, and American eel. The lack of fish passage in this system has historically limited migratory and resident fish movements and must be addressed for continued characterization of hydropower projects as "low impact" in the watershed.

While we acknowledge that requiring upstream and downstream passage for many of the species listed above would be a lengthy process involving coordination with agencies, hydrology studies, and fish passage engineering, we do anticipate this requirement in the future to support LIHI certifications in the state. In the immediate future, we recommend downstream passage measures be implemented at the Chicopee Falls project for American eel, which is to be coordinated with MassWildlife and other resource agencies. We also recommend that project owners coordinate with MassWildlife and other resource agencies regarding future upstream eel passage requirements, as well as upstream and downstream passage requirements of other species listed above.

3) ***What about any need for downstream passage of eels, is there enough of a population to warrant passage now or in the future?***

Response - Based on the known presence of American eel throughout the upper Chicopee River basin, downstream fish passage measures and protections are recommended for any project seeking or having "low impact hydropower" designation**.** MassWildlife recommends coordination by project owners with resource agencies to implement downstream passage measures for American eel. This is a realistic goal that is already achieved at some LIHI projects on the Chicopee River and should be completed throughout all projects on the river for maximum downstream passage effectiveness. Following downstream passage protection measures is essential for safe and timely passage of adult American eels and their survival when migrating through these projects. The LIHI review and criteria should include recognition of the Connecticut River American Eel Management Plan (2023), to ensure LIHI projects achieve effective downstream American eel passage and protection measures. The following information can be used to guide this process.

Downstream passage recommendations should be safe, timely and effective, per Section 18 of Federal Power Act as amended. The Connecticut River Plan importantly defines what is safe, timely and effective for American Eel as follows:

Achieve downstream passage performance of no more than 5% through project mortality and debilitating injury that needs to be assessed on project level basis, and a time to pass of 24 hours or less for fish actively migrating within 1 km of a project facility.

The LIHI Low Impact Hydropower Certification Handbook (2nd edition) March 2025, in Section 3. Certification Criteria, states that the eight listed criteria and supporting goal statements, "*all of which must be met for a hydropower facility to qualify as Low Impact Certified*" with the following downstream fish passage criterion.

3.2.4 Criterion D - Downstream Fish Passage

> ***Goal:*** *The facility allows for the safe, timely, and effective downstream passage of migratory fish. For riverine (resident) fish, including resident potamodromous fish, the facility minimizes loss of fish from impoundments and upstream river reaches affected by facility operations. Migratory species can successfully complete their life cycles and maintain healthy populations in the areas affected by the facility.*
> ***Introduction to Standards:*** *The applicant shall list all fish species (riverine, anadromous, catadromous, and potamodromous) that occur now or have occurred historically in the area affected by the facility. To pass the downstream fish passage criterion, the applicant must demonstrate compliance with one of the following standards (D-1 through D-4). Note that the downstream reach (but not a bypassed reach) typically qualifies for Standard D-1 unless there are additional facility-related barriers to downstream passage once fish have passed below the dam and/or bypassed reach.*

MassWildlife agrees and supports USFW recommendations that the project applicant should be held to achieve **Standard D-2**. "***Resource Agency and Tribal Government Recommendations:*** *The facility is in compliance with science-based resource agency and, if applicable, science-based or indigenous knowledge-based tribal government recommendations for downstream fish passage and/or fish protection in the applicable Zone of Effect and which may include provisions for appropriate monitoring and effectiveness determinations; or*" to adequately protect fisheries resources interacting with the project.

Current and future LIHI applicants should seek to meet the FERC definition of fish passage to provide safe, effective, and timely passage throughout its projects. Specifically in the Chicopee River, protection measures for out-migrating American eel should follow the USFWS Fish Passage Engineering Design Criteria, Region 5 (2019) for LIHI certifications. The following standard measures are recommended to reduce negative impacts on out-migrating adult eels in the Chicopee River and at other projects throughout the state of Massachusetts.

- ¾ inch clear space, trash rack spacing, full depth, all turbine intakes
- Maximum velocities at racks not to exceed 2 fps
- Low-level entrances are recommended when providing safe downstream passage for adult eels, otherwise vertical guidance (e.g., ramp) towards a surface bypass would be helpful

- Bypass conduit, to move eel from in front of turbine racks to a safe depositional/release area, requiring sufficient depth (depending on volume and height of bypass flow) and egress route, to continue downstream migration.
- Seasonally defined period of installations and/or operations from August 15 to November 15 in Connecticut River basin

Thank you for the opportunity to respond to these questions. Please feel free to contact me with additional questions or comments.

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