

# Lower Merrimack River Continuity Assessment

## Project Overview

The Lower Merrimack River Continuity Assessment was a 1-year project conducted by the Nashua Regional Planning Commission (NRPC) in 2012. The project took place in the Lower Merrimack River Corridor, a 15-mile segment of the Merrimack River beginning at the northern borders of Merrimack and Litchfield, New Hampshire, flowing south through Hudson and Nashua to the Massachusetts border.



NRPC began by determining culvert locations within the municipalities of Hudson, Litchfield, Merrimack, and Nashua. Next, NRPC prioritized culverts to receive field assessments based on the following criteria:

1. Culvert is located in one or more of the following Wildlife Action Plan tiers—highest ranked habitat in NH, highest ranked habitat in biological region, supporting landscapes
2. Culvert is located in close proximity to identified NH Natural Heritage Inventory Fish location
3. Culvert is located within the  $\frac{1}{2}$  or  $\frac{1}{4}$  mile buffer of Merrimack River
4. Culvert is accessible for field assessment, does not involve crossing private property, and is not located within a public water supply.

NRPC staff were then trained by the NH Geological Survey to conduct field assessments of the prioritized culvert locations using the NH Stream Crossing Protocol. Field work was conducted over the summer of 2012 and included: 2 culvert assessments in



Hudson, 4 culvert assessments in Litchfield, 6 culvert assessments in Merrimack, and 2 culvert assessments in Nashua. The data was then analyzed by staff at NH Geological Survey using their Geomorphic Compatibility Tool. Each culvert was assigned a score ranking it on a scale from “fully compatible” to “fully incompatible.” These rankings provide guidance on the long-term ability of culverts to handle flow and sediment transport processes and their risk of failure. The following report summarizes the results of this analysis.

**Nashua Regional Planning Commission | [www.nashuarpc.org](http://www.nashuarpc.org) | 603-424-2240**

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## Hudson Culvert Assessments

**NRPC ID—H50**    **Road Crossing—Radcliffe Drive**    **Latitude—42.45163**    **Longitude—71.26165**

**Geomorphic Compatibility—Mostly Compatible**

**Aquatic Organism Passage—No AOP except adult salmonids**



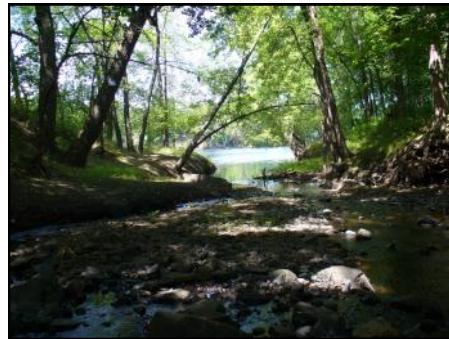
Culvert Inlet looking Downstream



Culvert Outlet looking Upstream



Culvert Inlet looking Upstream



Culvert Outlet looking Down stream

**NRPC ID—H12**    **Road Crossing—Kenyon Street**    **Latitude—42.46268**    **Longitude—71.26542**

**Geomorphic Compatibility—Mostly Incompatible**

**Aquatic Organism Passage—Reduced AOP**



Culvert Inlet looking Downstream



Culvert Outlet looking Upstream



Culvert Inlet looking Upstream



Culvert Outlet looking Down stream



## Litchfield Culvert Assessments

**NRPC ID—L5**    **Road Crossing—**Albuquerque Ave (north end)    **Latitude—**42.52508    **Longitude—**71.27142

**Geomorphic Compatibility—**Fully Compatible

**Aquatic Organism Passage—**Full AOP



Culvert Inlet looking Downstream



Culvert Inlet looking Upstream



Culvert Outlet looking Upstream



Culvert Outlet looking Down stream

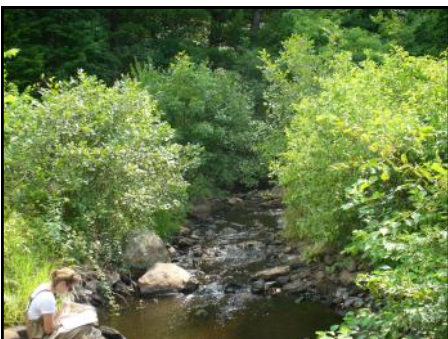
**NRPC ID—L8**    **Road Crossing—**Rt. 3A (near Pinecrest Rd)    **Latitude—**42.50088    **Longitude—**71.28258

**Geomorphic Compatibility—**Fully Compatible

**Aquatic Organism Passage—**Reduced AOP



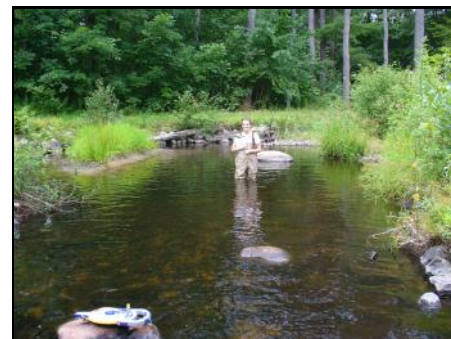
Culvert Inlet looking Downstream



Culvert Inlet looking Upstream



Culvert Outlet looking Upstream



Culvert Outlet looking Down stream



## Litchfield Culvert Assessments continued

**NRPC ID—L18**    **Road Crossing—Brickyard Drive**    **Latitude—42.50083**    **Longitude—71.28034**

**Geomorphic Compatibility—Partially Compatible**

**Aquatic Organism Passage—Reduced AOP**



Culvert Inlet looking Downstream



Culvert Inlet looking Upstream



Culvert Outlet looking Upstream



Culvert Outlet looking Down stream

**NRPC ID—L4**    **Road Crossing—Albuquerque Ave (near Pinecrest Rd)**    **Latitude—42.50316**    **Longitude—71.26591**

**Geomorphic Compatibility—Mostly Compatible**

**Aquatic Organism Passage—Reduced AOP**



Culvert Inlet looking Downstream



Culvert Inlet looking Upstream



Culvert Outlet looking Upstream



Culvert Outlet looking Down stream



## Merrimack Culvert Assessments

**NRPC ID—M25**    **Road Crossing—Daniel Webster Hwy**    **Latitude—42.91004**    **Longitude—71.45843**

**Geomorphic Compatibility—Fully Compatible**

**Aquatic Organism Passage—Reduced AOP**



Culvert Inlet looking Downstream



Culvert Outlet looking Upstream



Culvert Inlet looking Upstream



Culvert Outlet looking Down stream

**NRPC ID—M9**    **Road Crossing—Cramer Hill Road**    **Latitude—42.48546**    **Longitude—71.33297**

**Geomorphic Compatibility—Mostly Incompatible**

**Aquatic Organism Passage—No AOP including adult salmonids**



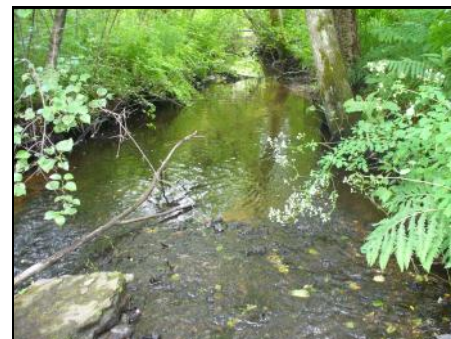
Culvert Inlet looking Downstream



Culvert Outlet looking Upstream



Culvert Inlet looking Upstream



Culvert Outlet looking Down stream



## Merrimack Culvert Assessments continued

**NRPC ID—M6**    **Road Crossing—Thornton Rd**    **Latitude—42.80684**    **Longitude—71.50669**

**Geomorphic Compatibility**—analysis not available because culvert is located in public water supply (limited access)

**Aquatic Organism Passage**—analysis not available because culvert is located in public water supply (limited access)



Culvert Inlet looking Downstream



Culvert Outlet looking Upstream



Culvert Inlet looking Upstream



Culvert Outlet looking Down stream

**NRPC ID—M22**    **Road Crossing—Thorton Road**    **Latitude—42.80462**    **Longitude—71.51211**

**Geomorphic Compatibility**—analysis not available because culvert is located in public water supply (limited access)

**Aquatic Organism Passage**—analysis not available because culvert is located in public water supply (limited access)



Culvert Inlet looking Downstream



Culvert Outlet looking Upstream



Culvert Inlet looking Upstream



Culvert Outlet looking Down stream



## Merrimack Culvert Assessments continued

**NRPC ID—M27    Road Crossing—Bedford Rd    Latitude—42.89336    Longitude—71.51428**

**Geomorphic Compatibility—Fully Compatible**

**Aquatic Organism Passage—Full AOP**



Culvert Inlet looking Downstream



Culvert Inlet looking Upstream



Culvert Outlet looking Upstream



Culvert Outlet looking Down stream

**NRPC ID—M8    Road Crossing—Landau Way    Latitude—42.49019    Longitude—71.33249**

**Geomorphic Compatibility—Mostly Compatible**

**Aquatic Organism Passage—Reduced AOP**



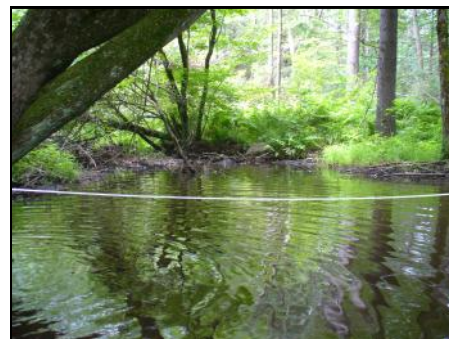
Culvert Inlet looking Downstream



Culvert Inlet looking Upstream



Culvert Outlet looking Upstream



Culvert Outlet looking Down stream



## Nashua Culvert Assessments

**NRPC ID—N7**    **Road Crossing—**Gilson Road    **Latitude—**42.43036    **Longitude—**71.31366

**Geomorphic Compatibility—**Mostly Compatible

**Aquatic Organism Passage—**Reduced AOP



Culvert Inlet looking Downstream



Culvert Outlet looking Upstream



Culvert Inlet looking Upstream



Culvert Outlet looking Down stream

**NRPC ID—N13**    **Road Crossing—**Gilson Rd (near Musket Dr)    **Latitude—**42.43065    **Longitude—**71.30576

**Geomorphic Compatibility—**Partially Compatible

**Aquatic Organism Passage—**Reduced AOP



Culvert Inlet looking Downstream



Culvert Outlet looking Upstream



Culvert Inlet looking Upstream



Culvert Outlet looking Down stream