PUBLIC HAZARD

Road washout in Jackson, NH

Stream crossings – where the river meets the road

- Any location where a road intersects a waterway requires a stream crossing to convey the water under the road.
- There are approximately 20,000 stream crossings in New Hampshire.
- Many are old, damaged and undersized, and need to be assessed and replaced.

Undersized culverts present a public safety hazard

- Undersized culverts can't handle large stream flows and will cause flooding during heavy rain events or sudden snow melts. They are also prone to becoming blocked, further increasing likelihood of flooding.
- When water overtops a culvert, it can quickly erode road fill material, leading to washouts. This leads to stranded homes, expensive road repairs and impaired rivers and streams due to sediment being deposited into the water.

More information

Stream Crossings: https://www.des.nh.gov/organization/divisions/water/wetlands/streams_crossings.htm

ARM Program: https://www.des.nh.gov/organization/divisions/water/wetlands/wmp/

HSEM Hazard Mitigation Planning: https://apps.nh.gov/blogs/hsem/?page_id=839

NEW HAMPSHIRE STREAM CROSSING INITIATIVE

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WILDLIFE AND SAFETY – A ROAD TO SUCCESS

BEFORE

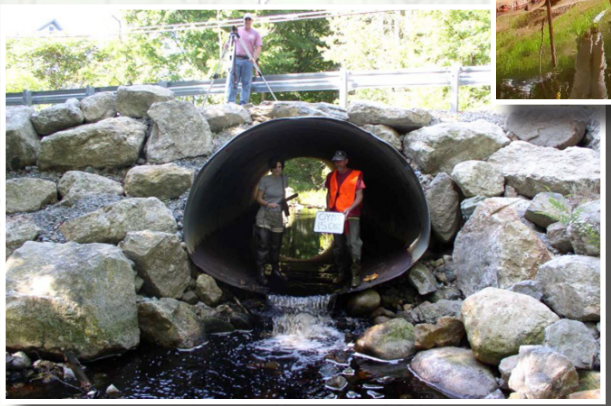
Improperly designed culverts create barriers to fish and other wildlife

- Under-sized culverts can increase water velocity and prevent a natural streambed from forming inside the structure. Fast-moving water and lack of natural eddies and protected areas can prevent passage for smaller aquatic animals.
- Elevated or perched culverts can prevent any animal passage – many local aquatic species need to move freely in a stream to complete their life cycles.

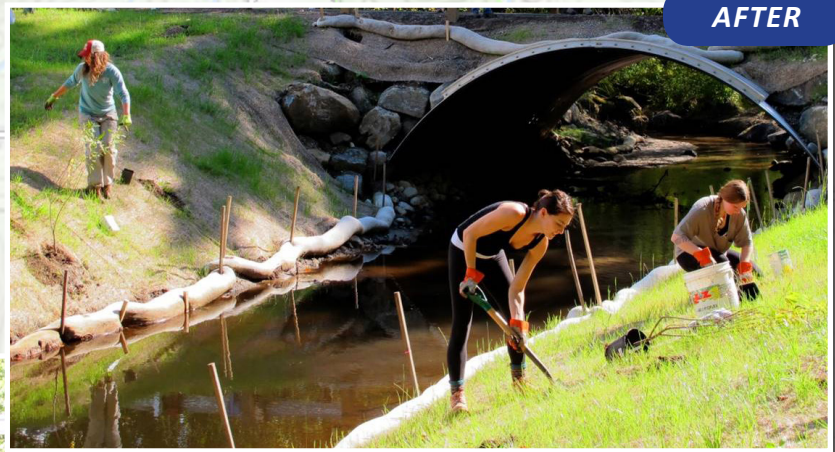
New Hampshire Stream Crossing Initiative

Project partners are working to address flood risks and make our infrastructure more resilient through a proactive approach by identifying and replacing problem culverts ***before*** they can fail and cause damage. Identifying crossings for replacement that will maximize ecological benefits while addressing infrastructure safety can save money and help to restore aquatic habitat in the long run.

The goal is to assess and prioritize which crossings are the best candidates for replacement to improve public safety, infrastructure resilience and aquatic habitat restoration.



AFTER



Replacing culverts for watershed restoration

- Removing crossings that are barriers to fish and wildlife contributes to watershed restoration goals. Waterways will be reconnected and both water quality and stream habitat will be improved.
- A suitable crossing will span the stream banks and have similar water flow, depth and substrate to the natural stream.
- A properly designed stream crossing can accommodate fish and wildlife passage and stream channel adjustments, while reducing flood hazards and expensive damage by allowing for flood flows.

Success Story – Falls Brook, Swanzey, NH

A six-foot corrugated metal culvert originally served as the crossing structure for Hale Road. It was identified as a priority replacement due to the amount of quality cold-water habitat within the stream reach and because it posed a potential hazard to the community during extreme storm events.

The goals of the project were:

- Improving aquatic organism passage.
- Improving geomorphic compatibility with the stream.
- Improving flood resiliency.

In 2016, the culvert was replaced with a 24-foot aluminum arch culvert, consistent with bankfull measurements. The streambed was restored and the downstream banks were planted with trees and vegetation to ensure stability.

The Falls Brook project was partially funded through a NHDES Aquatic Resources Mitigation (ARM) grant to the Cheshire County Conservation District, in partnership with Trout Unlimited, NH Fish and Game and others.