New Hampshire Stream Crossing Initiative
Stream Crossing Assessments (2019)
Suncook River Watershed Area

Summary:

The New Hampshire Geological Survey (NHGS) at the Department of Environmental Services (NHDES) is host to four interns this summer who have been hired to conduct stream crossing assessments in New Hampshire, to continue to add data to the stream crossing (culvert) module of the Statewide Asset Data Exchange System (SADES), hosted by the Technology Transfer Center at UNH. One of the areas that NHGS interns will be working in during the second half of summer 2019 (July and August) is the Suncook River watershed. Collected data can be utilized to prioritize and support the application for funding culvert replacements and upgrades and provide data to enhance community inventories.

Background:

The Suncook River watershed includes all, or a portion of 5 towns within the central New Hampshire region: Allenstown, Chichester, Epsom, Pembroke and Pittsfield. NHGS performed select stream crossing assessments in Allenstown and Pembroke in 2017. As with locations throughout New Hampshire, the Suncook River watershed is prone to flooding rains that can overwhelm infrastructure and pose public safety risks. Culverts play a key role in flood risk management, and when they are functioning properly, they can provide passage for aquatic organisms within and throughout stream networks, which is critical for healthy populations of these organisms. Assessments also document existing structural conditions of culverts. In response to statewide floods of the 2000s, the state agencies of this document worked to develop a procedure and database for standard culvert assessment data collection, which started in 2009 and continues today. Culvert assessments, either within a watershed or subwatershed or a town, present a framework that permits greater understanding of culvert infrastructure challenges. Further, collection of standardized data across towns and watersheds will enhance the ability to apply for funding, from multiple sources in the future. New Hampshire Stream Crossing Initiative member agencies will be maintaining this data in the long term.

Schedule:

Field Assessment (July and August 2019)
NHGS interns will perform stream crossing (culvert) assessments at locations within the Allenstown, Chichester, Epsom, Pembroke and Pittsfield, using the statewide stream crossing assessment protocol developed by the agency members of the New Hampshire Stream Crossing Initiative. Culvert assessments focus on those located on public roads. Culverts located on private roads, driveways and drainage culverts (catch basins and related infrastructure) will not be assessed.

Data Analysis and Reporting (Fall 2019)
NHGS will utilize the collected data to score each assessed culvert for its compatibility with stream form and process (geomorphic compatibility), and ability to pass aquatic organisms (aquatic organism/fish passage compatibility). Once scored, the data and scores become available to the public and town officials via an online portal (Aquatic Restoration Mapper). NHGS will also process each culvert for its hydraulic vulnerability to flood impacts (ability to pass a range of flows), and this data will become available via the online portal as processing and reporting are complete, typically within one year of assessment completion.

Benefits:

- Assessments of stream crossings (culverts), incorporating structure conditions and stream characteristics. Assessment data will be available via the Aquatic Restoration Mapper, found at https://bit.ly/2tXNoiq.
- Information and scores to (1) assist in inclusion and update of Hazard Mitigation, Master Plans and other local planning documents; and (2) provide an aid to support potential grant applications for financing culvert upgrades, such as to the Aquatic Resource Mitigation fund, or Hazard Mitigation Assistance Grant Programs.
- Data can help communities create or revise their own culvert maintenance and inventory programs, which is a goal of many communities in New Hampshire.

New Hampshire Stream Crossing Initiative Partners:

- New Hampshire Geological Survey, Office of the Commissioner, NHDES
- Wetlands Bureau, Water Division, NHDES
- New Hampshire Department of Transportation
- New Hampshire Fish & Game Department
- New Hampshire Division of Homeland Security and Emergency Management
- University of New Hampshire, Technology Transfer Center

Contact Information:

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