REBUILDING I-93 SALEM TO MANCHESTER

PROJECT FACT SHEET

Chloride Surface Water Quality Study

From 2002 through 2005, the NH Department of Transportation (DOT), NH Department of Environmental Services (DES), and the US Environmental Protection Agency (EPA), have worked jointly to conduct surface water quality monitoring in the I-93 Corridor. This monitoring has indicated that, during various times of the year, chloride levels do not meet State water quality standards in four streams. The four streams where violations of the standard have been observed are Beaver Brook, Dinsmore Brook, the tributary to the western embayment of Canobie Lake, and Policy Brook. These watersheds are located in Salem, Windham, Derry, Londonderry, Auburn, and Chester.

Under the Clean Water Act, the violations triggered the requirement for a total maximum daily load (TMDL) study for chlorides in these watersheds. The study, which will recommend reductions in road salt use to restore the water quality, is being conducted by DES and funded by DOT.

The largest source of chlorides in these watersheds is presumed to be road salt. However, winter road maintenance on I-93 may not be the primary source of chloride. Other chloride sources include deicing activities on other state, municipal, and private roads and commercial parking lots, as well as the discharge from septic systems and water-softening systems.

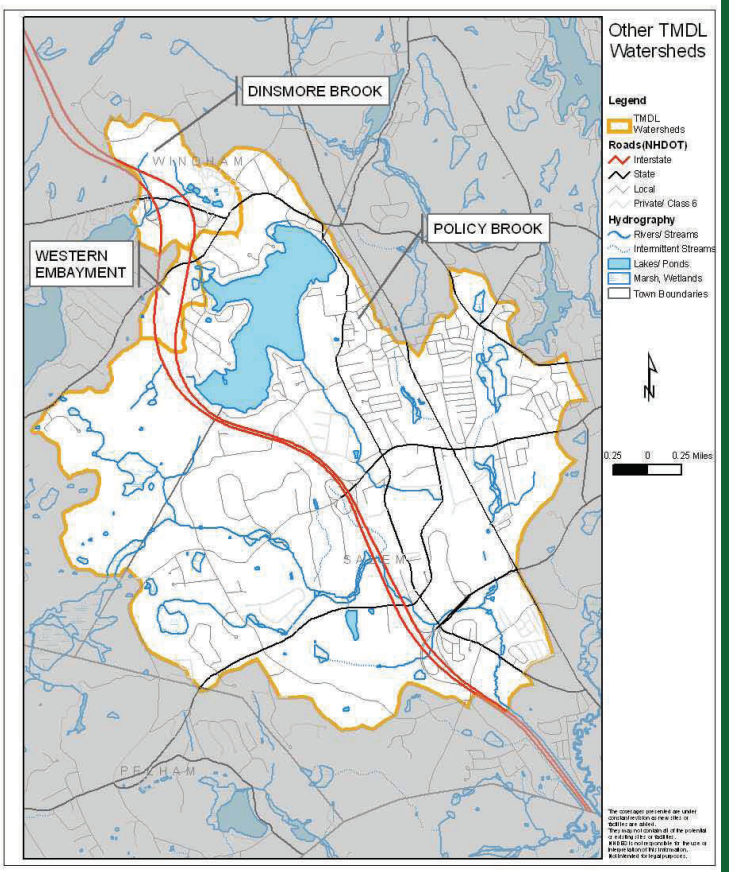
What is a TMDL? The term "total maximum daily load," or TMDL, refers to the calculation of the maximum amount of a pollutant that a water body can receive, and attain or maintain water quality standards for its designated use.

In an effort to implement a regional solution to a regional issue, and in coordination with the TMDL study, DOT and DES will:

- Establish a Salt Reduction Working Group, comprised of local selectmen & DPW personnel, private winter road maintenance contractors, Regional Planning Commissions, as well as DOT, DES & EPA representatives.
- Conduct a training/outreach program to promote the best practices for the storage and application of road salt.

What areas are affected by the study?
The study is being conducted in four small watersheds in the I-93 expansion corridor. Figure 1 shows the boundaries of the watersheds for Policy Brook, Dinsmore Brook and the tributary to the western embayment to Canobie Lake in Salem and Windham. Figure 2 shows the Beaver Brook watershed in Derry, Londonderry, Chester and Auburn.

Figure 1



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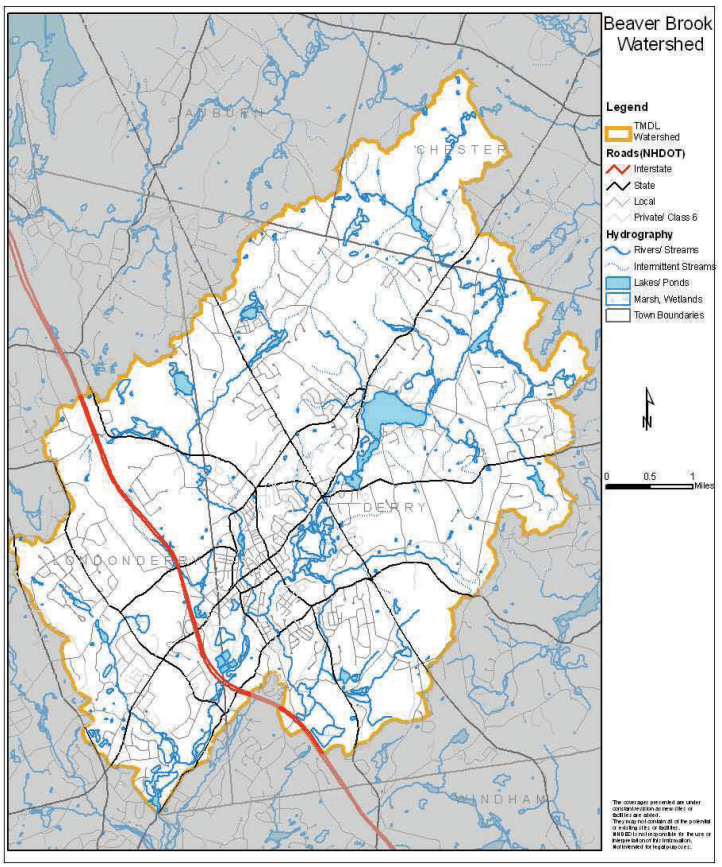
When will the study begin and end?
Monitoring for the study began on July 1, 2006. DES will compile a draft report on the TMDL study by September 30, 2007, with the final report and implementation plan being completed by September 30, 2008.

What are the objectives of the study?
The purpose of the TMDL study is to estimate chloride loads from all sources, determine the capacity of the water bodies to assimilate chloride without exceeding standards, and to develop an implementation plan to reduce chloride loads. Specifically, the study seeks to answer the following questions:

1. How frequently and by how much do chloride concentrations exceed water quality standards at the outlet of each watershed?
2. What are the critical conditions in terms of flow and seasons for chloride impairments?
3. Are there "hot spots" in the watershed with higher than average chloride concentrations where implementation actions would be most effective?
4. How much chloride is currently contributed annually by each major source category (e.g., local roads, parking lots, I-93, state roads) in the watershed?
5. What is the maximum load of chlorides that each of the impaired assessment units can assimilate without violating the water quality standards?
6. How much chloride loading should be allocated to each major source category in the watershed in order to meet water quality standards?
7. What actions are needed by state, municipal and private entities to reduce chloride loadings to the TMDL?
8. After the recommended actions are implemented, how will we know whether chloride concentrations are decreasing in the impaired assessment units?

Figure 2



Which agencies are involved with the study?
DES is the lead agency for the TMDL study. DOT, EPA, Plymouth State University, US Geological Survey, and the municipalities in the study area are contributing data. These partners plus the University of New Hampshire T^2 Program, and associated Planning Commissions (Southern, Rockingham, Nashua) all participate in the Salt Reduction Workgroup.

What happens after the study is complete?
The final TMDL report and implementation plan will specify the actions required by all of the organizations that use salt within the watersheds.

Who can I contact for more information?
For questions about this study, contact Phil Trowbridge, DES, at (603) 271-8872 or ptrowbridge@des.state.nh.us. Documents and information are available at www.rebuildingi93.com.