



## Vermont Rivers and Roads Training Program 5-Years of Progress

### Show Me and I'll Remember the River

#### Considering the River in the Design, Construction and Maintenance of Transportation Infrastructure in Vermont

There is a saying "*Tell me and I'll forget, but show me and I'll remember*". This saying has been a common theme heard from folks attending the Vermont Rivers and Roads Tier II Training Program in the first five years of the training workshops held throughout the state from 2012 to 2016.

Vermont mandated the development of a Rivers and Roads Training Program in Act 138 of 2012 as an outcome of the 2011 Irene flood devastation and response in the aftermath. The state Rivers Program, Department of Fish and Wildlife and VTrans took this mandate to heart and developed the training program for three-tiered workshops on how to better achieve flood resiliency when rebuilding devastated roads, culverts and bridges.

#### **Response of Participants**

Now five years later, the comments from over 350 attendees have been unanimously positive with many folks saying this "show me and I'll remember" comment in various ways in their own words such as "*the afternoon field trips really brought home the message from the morning class and river flume presentations, and now I have a better understanding of what to do after the next flood hits Vermont.*"

Participants leave the Tier Two training with the basic knowledge and skills to distinguish between stable and unstable rivers, identify various types of river instability, understand a rivers response to alternative structural elements and designs and build those treatments for more robust repairs to our roadway infrastructure. The workshops are open forums for participants to share their experiences in the Irene recovery and other floods and discuss what did work well and what did not work well in reconstruction efforts.

*Participants included 183 VTrans staff and 98 Town road crew staff who are our frontline in flood recovery and are working on rivers and roads in daily operations all year round.*

A *summary review of Evaluation forms* submitted by participants at the end of each training event was compiled for the 5-year period to assess the recent success and future needs of the Rivers and Roads training program. This summary shows a marked improvement in the message reaching the audience in just 5 years. More people report strong agreement that the event was a good use of their time and applicable to their job, and more people report strong agreement that the content will help them rebuild more flood resilient roads while recognizing the importance of providing for aquatic habitat.

The training program has proven to be very successful in the past 5 years in building good relationships between the River Management Engineers (RME) and the participants who will respond to the next flood. The good rapport established in the training has already improved the working relationship on the ground between the RMEs and VTrans operations staff as proven in the aftermath of the July 28, 2014 flood in southeastern Vermont. The improved rapport expedited a great road repair project for flood recovery on Route 11 in Andover in 2014.

The participants recognize that the workshops identify the best ways to reconstruct roads, culverts and bridges to better withstand the next flood. The participants can understand that flood resilient repairs meet their budgets and can better stabilize those projects and that they can minimize the consequences and costs of future repairs.



**Classroom**



**River Flume Table**



**Field Trip**

The Vermont Rivers and Roads Training Program has been developed to promote community flood resiliency because of our common “Lessons Learned” after Tropical Storm Irene hit Vermont in 2011. The training is presented in Tier One, Tier Two and Tier Three levels to reach a wide range of state, municipal and private sector transportation staff; and starting in 2017, will also be offered to consultants, construction contractors, Select Boards, Conservation Commissions, foresters and loggers, etc. working with roads and flood recovery work.

### **Future Training Schedules**

The Tier One Training will continue as an online self-guided training that creates a general awareness and understanding of the societal value of rivers, the terms and concepts of physical river processes, the importance of aquatic habitat, the implications of historical river management, and how transportation infrastructure affects and is affected by physical river processes. The web link below provides access to the Tier One information.

The future Rivers and Roads Tier Two Training schedule will be 2 workshops in each spring and fall for a total of 4 workshops per year. The future training schedule will be open for all entities with staff whose job duties are related to transportation infrastructure and flood recovery work. The future workshops will be scheduled around the state giving consideration for driving times to afford a broader participation by those living around the Green Mountains. These Tier Two workshop schedules will be set annually in mid-winter and distributed broadly.

The Tier Three Training began in 2016 as a series of 4 modules addressing stream alteration practices focused on advanced engineering and construction topics in the design and construction of the stream alteration practices outlined in the 2014 *Vermont Standard River Management Principles and Practices* document. These annual Tier Three workshop schedules will also be set mid-winter each year and distributed broadly.

Questions, comments and training schedule inquiries can be directed to Todd Menees at (802) 345-3510 and/or by email sent to [todd.menees@vermont.gov](mailto:todd.menees@vermont.gov) The following web link will bring you to a brief general overview of the Rivers and Roads Training Program informational flyer on the Rivers Program web page where you can read more about how the program is offered to “show me and I’ll remember the river” and see Tier One for yourself.

[http://dec.vermont.gov/sites/dec/files/wsm/rivers/docs/Rivers\\_and\\_Roads\\_Flyer\\_2016-08-29.pdf](http://dec.vermont.gov/sites/dec/files/wsm/rivers/docs/Rivers_and_Roads_Flyer_2016-08-29.pdf)

For full report see: [http://dec.vermont.gov/sites/dec/files/wsm/rivers/docs/rv\\_Rivers\\_and\\_Roads\\_2016\\_Progress\\_Report\\_Final\\_2016-12-12.pdf](http://dec.vermont.gov/sites/dec/files/wsm/rivers/docs/rv_Rivers_and_Roads_2016_Progress_Report_Final_2016-12-12.pdf)