

Municipal Corner – The West Branch

The West Branch River is a very active and ‘flashy’ river. It drains Mt. Mansfield, which gets the most precipitation of anywhere in Vermont and can range from a quiet stream to a raging torrent. The river travels at a very high velocity after snowmelt or a high water event and has a natural tendency to continually meander. Unfortunately there is not a lot of bedrock or other bony material under large sections of the river, which makes it subject to erosion and scouring. Also, there is a lot of farmland and public and private infrastructure that runs along the West Branch, including the Stowe Recreation Path.

Over the years both private and public property owners, in order to try to protect their land and investment, have rip-rapped the banks to try to prevent further erosion. However, this has narrowed and incised the river channel, increasing its velocity and causing erosion downstream from where the banks are armored. Among other impacts, scouring led to the undermining of the Luce Hill Bridge abutments in 2011 and its temporary closure until they could be repaired.

In order to help to address erosion and scouring, the Town has adopted a Fluvial Erosion Hazard Overlay District into the zoning regulations, which limits further development in close proximity to the river. This allows the river to meander and take its natural course, which tends to slow the river’s velocity and prevent scouring. This helps to protect developed areas of the river where there is existing infrastructure. The Town only rip-raps river banks where it is necessary to protect essential infrastructure.

Because it carries a large amount of sediment, the West Branch also tends to build up gravel deposits at narrow choke points, particularly upstream of bridges. Accumulation of gravel deposits and other impediments in the river can greatly impact the course of the river channel causing increased erosion as in the case of the Bouchard Farm, which has experienced a dramatic increase in erosion since 2011.

This brings us to the stream bank failures along the Bouchard Farm and Stowe Recreation Path and what to do to correct them in order not to lose more farmland and to protect the Rec Path. The Town has hired Milone and MacBroom, who are stream engineers to evaluate solutions to the problem. They run from cheaper alternatives of rip-rapping along the existing stream bank, which is a shorter term solution. There are many places along the West Branch where the river has outflanked the rip-rap that had been placed there previously. A more long term, but much more expensive solution would be to remove impediments in this section of the river where the failures are occurring and allow the river to widen and return to a more natural state. This would allow for more flood storage capacity and slow the river down while reducing areas for sediment to build up.

Roy Schiff (P.E. & PhD) , will be at the December 8th Selectboard meeting to discuss the problem and potential alternatives. The public is invited and encouraged to attend.