



2015 – 2016 West Branch Restoration Project in Rochester, Vermont

Project background: After Tropical Storm Irene in August 2011, extensive gravel mining to rebuild Vermont Route 73 devastated in-stream and river-side habitat along the West Branch of the White River in Rochester. From 2011 – 2014 the Green Mountain National Forest (GMNF) designed an on-the-ground project to restore the impacted reaches of the West Branch; recruited the White River Partnership (WRP) to secure private landowners’ consent and help oversee project implementation; worked with Trout Unlimited (TU) to apply for local, state, and federal permits; and secured project funding from multiple sources.



Photo 1

From 2015 – 2016 the GMNF worked with WRP, TU, and other partners, 10 private landowners, and a local contractor to restore 1.75 miles of the West Branch, installing large rock, “engineered wood structures” (see Figure 1), and “riparian” or river-side trees to improve water quality, flood resilience, and in-stream, riparian, and wetland habitat. Phase 1 was completed in 2015 (the upstream 1 mile) and Phase 2 was completed in 2016 (the downstream .75 miles). This innovative project is the first of its kind on the east coast.

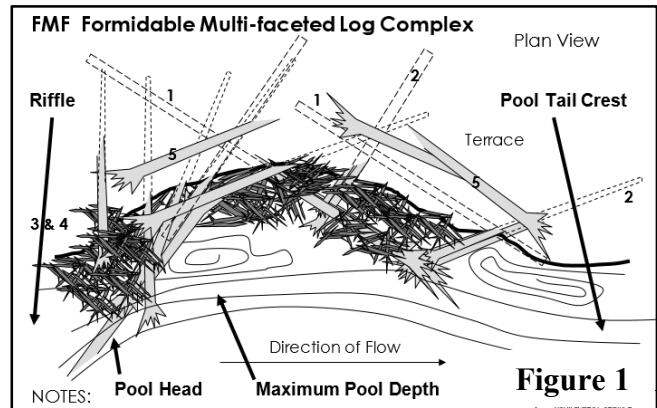


Figure 1

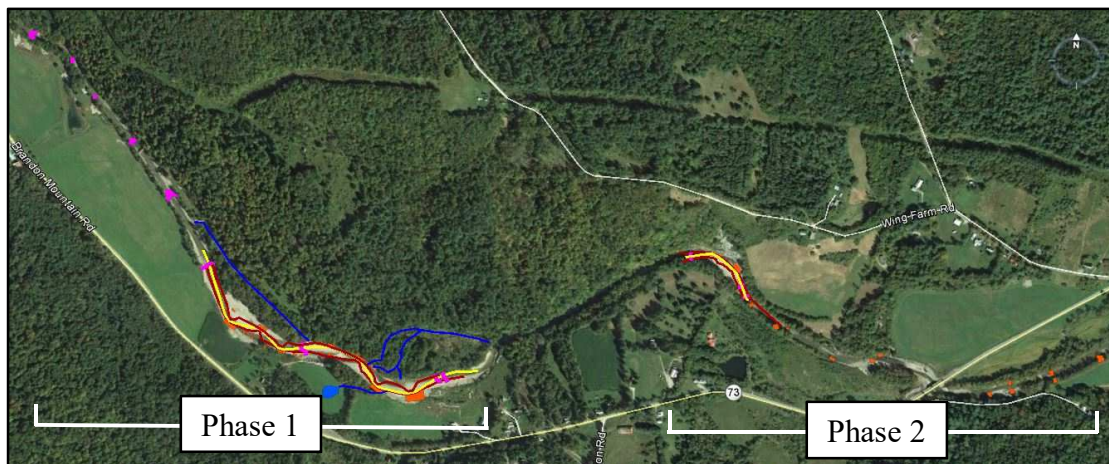


Figure 2 – The project restored 1.75 miles of the West Branch in Rochester. Phase 1 restored 1 mile at the upstream end in 2015; Phase 2 restored .75 miles at the downstream end in 2016.

Project description: Gravel mining to restore VT Route 73 left the West Branch wide, shallow, and devoid of riparian vegetation and channel roughness (see Photo 1).

To restore 1.75 miles of the West Branch, the project utilized 4 restoration techniques (see Figure 3):

1. Installing large rock to re-establish channel dimension, slope, and profile;
2. Installing “engineered wood structures” along the outside river bends to stabilize the banks, capture sediment, and create diverse habitat for fish and wildlife;
3. Building a wetland and opening flood chutes to provide off-channel habitat; and
4. Installing willow stakes, willow fascines, and riparian plantings to stabilize the new banks.

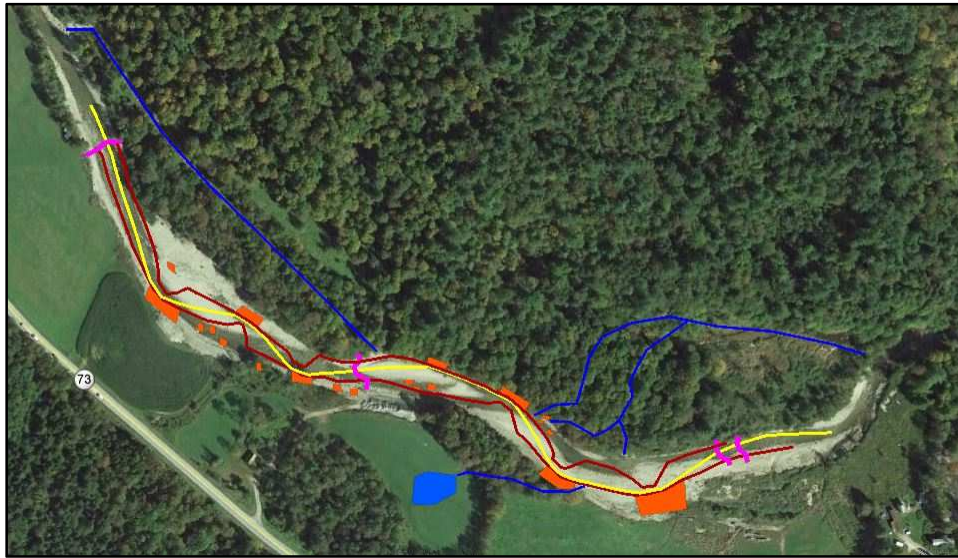


Figure 3 – A top-down view of Phase 1 project design components: new channel dimensions (red lines), new “thalweg” or deepest part of the channel (yellow line), rock veins (pink lines), engineered wood structures (orange boxes), new wetland (blue circle), and re-opened flood chutes (blue lines).



Photo 2 – Phase 1 engineered wood structure, looking downstream

Project partners: Green Mountain National Forest, White River Partnership, Trout Unlimited, Natural Resources Conservation Service, US Fish & Wildlife Service, Vermont Agency of Natural Resources, Vermont Agency of Transportation, 10 private landowners, Harvey’s Plumbing & Excavating (contractor), Vermont Youth Conservation Corps, community volunteers

For more information: www.whiteriverpartnership.org or www.facebook.com/WhiteRiverPartnership