Area A Recovery Work on Upper Dead River

The project consisted of dredging sediment from the first 1,166 feet of river channel downstream of the AAO Bridge, installing a two-tier cross-vane, and installing one riffle.

UPPCO waited to complete the construction until the recovery work upstream was well-vegetated and stable and would not continue to pass sediment downstream of the AAO Bridge.

UPPCO has been monitoring this section of river since 2003. During the 2003 event, this stretch of river received large flows and large amounts of sediment, but the banks were not impacted. Only the stream channel was filled with sediment. It was expected that the sediment would continue to move downstream and the channel would recover on its own. However, in 2008, it was determined that it was not recovering at an acceptable rate and additional recovery work would be required.

The picture below illustrates how the river began to move sediment downstream, but it did not have the stream power to move all of it. As a result, the water flowed along the banks of the stream and a middle channel bar was formed.

When the mid-channel bar forms, it puts additional stress on the banks and they begin to erode as evidenced in the photo below.

In addition to dredging a channel down the middle, a two-step cross-vane was installed to direct the stream channel down the middle. The two-step cross-vane reduces the stress on the banks, deepens the channel, and keeps the deep channel from attempting to move upstream. A two-step cross-vane was used in this situation because the channel in this area is very deep. Too great of a drop on the cross-vane can undermine it and cause it to fall into the hole created by the water passing over the cross-vane.

The next photo illustrates the two steps constructed as part of the two-step cross-vane.

All dredging occurred from the shoreline with a specialized long-reach excavator. Crane mats were used to protect the bank and eliminate the need for extensive bank repair.

Approximately 2800 cubic yards of sediment was dredged from the stream channel. All of the dredge spoils were placed off-site approximately ¼ mile upstream in a spoil area that was utilized for the Dead River Recovery work upstream. The spoils were seeded and stabilized as illustrated in the next two pictures.

Downstream of the cross-vane, a riffle was established to control the velocity and depth of the channel to keep it from deepening and incising.

The two following pictures show the river before 2003 and after the event in 2003.

The two following pictures show the area before the 2010 work and after the 2010 work.