

Driftless Area Landscape Conservation Initiative



Pool, Riffle, Run . . . Pool, Riffle, Run *The Rhythm for Restoring Streams*



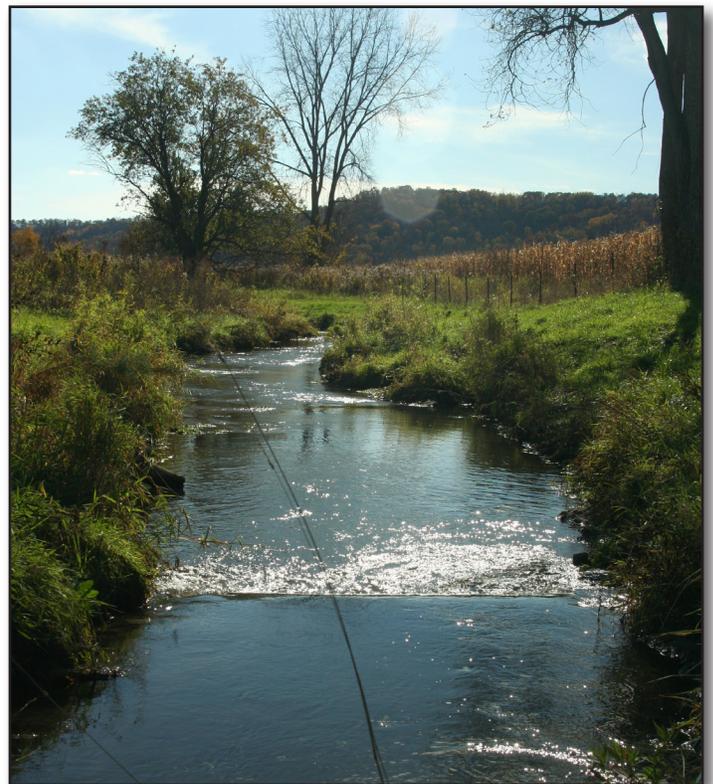
United States
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There is an art to restoring a stream which has been degraded through many years of pasturing, agriculture and sediment deposition. Getting the right combination of depth, flow, bottom, overhead cover, and bank shape takes skill and finesse.



Streambanks on much of Bear Creek were severely eroded, with flash flooding and cattle damage to banks. Sediment covered the stream bottom, preventing spawning. Slow moving shaded water did not offer basic needs for game fish, like trout, or the diversity of invertebrates needed for this type of habitat.



Restoring a natural shape and flow involves reshaping streambanks, flattening the slopes to dissipate the high water energy after storms to avoid undercutting and sloughing of the banks. Inserting rock weirs will create pools behind, then riffles and a run of faster water to recreate the ideal trout habitat.



Tony Pillow, NRCS Soil Conservation Technician, describes the snake hibernaculum, a rock structure which extends 6-10 feet below ground to provide reptile hibernation space that is deep enough to stay 40 degrees or more all winter long.

Tony Pillow, NRCS Soil Conservation Technician, and Brent Bergstrom, Project Director, Sauk County Conservation, Planning and Zoning Department, have been working to restore Bear Creek in southern Sauk County. They have provided the design and construction guidance for the instream and streambank practices. Tony's mantra is Pool – Riffle – Run as the combination for best trout habitat. Pools are deep, 3 feet or more, with LUNKERS (wooden underwater structures) for best trout habitat.

With over 4.25 miles of contiguous stream restoration, Bear Creek may now be poised to jump to Class I status. In the two years prior to the restoration, monitoring showed an average of 71 brown trout per 100 yards; two years after showed a 40 percent increase, to 100 fish per 100 yards. That adds up to about 1,150 brown trout per mile of stream.

The key to Bear Creek success is putting together a corridor of adequate length to support the fishery. Once the first landowner's project got underway, neighboring landowners saw and wanted their segment of stream restored too.

The Environmental Quality Incentives Program (EQIP) and Wildlife Habitat Incentives Program provided the means to restore such a long stretch of stream. Over the course of three years, NRCS District Conservationist Chris Miller tapped into several EQIP funds for \$436,000 in contracts with three different landowners, between 2011 and 2014. Additional funds came from Sauk County Conservation, Planning and Zoning Dept., Trout Unlimited, other grants, as well as hundreds of hours of volunteer labor from the Aldo Leopold Trout Unlimited Chapter.



Caddis fly larvae prove that the water and conditions are right to produce invertebrates to feed the burgeoning fishery.



New habitat is supporting the Brown Trout population.

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