

Stream symposium addresses complex restoration challenges

VERMILION RIVER streambed has been destabilized by historic uses. Symposium discussed how to restore it to support endangered native trout.

by Carolyn Hidy (Sanders County Ledger 5/6/10)

“For every complex problem there is an answer that is clear, simple, and wrong,” goes the quote from H.L. Mencken. In recognition that stream restoration is one of those problems, 120 scientists, land managers, heavy equipment operators, regulators and interested public gathered at a symposium in Trout Creek last week. The “Stream Restoration Project Design in Northwest Montana” symposium was sponsored by the Lower Clark Fork Watershed Group, coordinated by Mike Miller, of Heron, and partially funded with a grant from Montana Dept. of Environmental Quality (DEQ).

Though a lay person could get overwhelmed by the expert discussions on the first day, it was clear that the attendees care a great deal about the down-to-earth realities of our streams and fish. From the big picture of precipitation patterns and flood regimes to the technical details of yarding trees into the creek and revegetating banks, these people showed why science matters in the real world.

Looking at a stream with damaged banks, devoid of logs, willows and pools, someone without a trained eye might think it was natural, or assume that it could be fixed with some riprap or logs against the bank. But the evidence is in, after decades of such attempts. The fact is, stream channels are incredibly complex physical systems that are easy to mess up and very difficult and expensive to put back together. Processes have developed in each stream for everything from log recruitment and pool formation, to handling flash floods and flushing sediment through the system. Native fish have not only adapted to these processes - they rely on them. Disrupting them usually has dire consequences for the fish.

The symposium used the Vermilion River as an example of a stream where historic human disturbances to the streambed are still causing problems. The focus was on the two stretches (reaches) that are contributing most to sedimentation and unstable channels. These conditions affect bull trout and other fish habitat, and until these types of problems are fixed, bull trout have little chance of recovering from “Threatened” status on the federal endangered species list.

Planning for bull trout restoration is a big process. “You have to start with a guiding image,” said speaker Peter Skidmore, private stream restoration consultant. “It must be inspiring, realistic, and clearly articulated.” From there, data is gathered to understand why the stream is the way it is, and then alternative approaches are proposed and evaluated.

Craig Neesvig, hydrologist at Cabinet Ranger District, along with a team of area watershed and fisheries specialists, led about 60 people on a field trip to view the two highly disturbed areas. Historic placer mining in the streambed, mainly from the 1870s – 1930s, was implicated as the original damaging influence to the stream’s natural function. At a site farther upstream, a large landslide was discussed. While a landslide might be dismissed as a natural occurrence, historic aerial photos of the watershed upstream from it tell a different story. An entire drainage was roaded and clearcut, causing increased runoff and higher peak flows (floods) in the river, leading to the mountainside being undercut.

Money is available for watershed restoration this year through the federal economic stimulus program, and Neesvig is ready to get to work. But the enormity of the task at this site warrants an in-depth analysis. On site, he explained the area’s history and described some of the challenges ahead. For one thing, the channel has downcut enough that the water table has dropped, making it a drier site no longer ideal for cedar and willow. For another, now that the stream is straighter and faster, large trees are washed downstream instead of caught and recruited to help make pools. Also, the channel now shifts position regularly, so structures added to the channel could be rendered useless after the next spring runoff.

Neesvig made good use of the gathering of dozens of experienced professionals to discuss options, new ideas, and things to watch out for. Tradeoffs between such ideas as building a road to get equipment to the creek were weighed against other possibilities of yarding in large whole trees. Some of the “lighter” techniques that work in drier parts of Montana where large, fast runoff is more rare, such as willow planting and grass seed, were recognized as likely only useful as “finishing touches” on the steeper, faster streams here. Many of the permitting agencies were represented here, such as DEQ and the Army Corps of Engineers. They will have first-hand knowledge of the project when plans arrive for approval.

“The discussion here was unique in the twenty years I’ve been in this field,” said Skidmore. It brought together all the players not just to tout successes but to acknowledge that the science is relatively new and there is much yet to learn. This kind of coordination is really needed.” Now starts the decision-making and getting the permits. Work is expected to start this summer.