Subject: : Conservation
Topic: : Yellow Breeches Dam Removal
Re: Yellow Breeches Dam Removal
Author: : crs5942
Date: : 2010/3/11 17:11:05
URL:

The few that I am most familiar with are the Pumping Station dam on Hammer Creek, the Millport Conservancy Dam on Lititz Run, and Bender Mill dam on West Branch Little Conestoga Creek, all of which are in Lancaster County. I know that at least two were removed within the past 10 years. Hammer Creek was an excellent example because basically nothing was done to prevent erosion. The dam reservoir sediments were washed downstream to the estuary and slack water of Speedwell Forge Lake. Unfortunately, sediment has buried most of the stream gravel downstream from the dam removal site. I do not know of any stream surveys that have been done but I used to catch many wild brook and brown trout downstream from the dam removal site. I have not caught any in the past few years. Maybe it is just bad luck; however, I would wager that at least 75% of stream bank erosion in the Piedmont is directly related to the previous removal of a dam. Some of the erosion that exists today is from dams that were breeched in the 70s. 40 years and the system has still not reached equilibrium. Certainly storm water runoff plays a role, but the big player in erosion is the sediment that was stored in the reservoir. Huge boulders, rock vanes, and natural stream channel design help to slow erosion on Piedmont streams but they do not prevent it. Unfortunately, it is impossible to fix most of our flood plains due to modern infrastructure or financial limitations. That is why I think there are some cases where dam removal should not be done unless it is absolutely necessary. Hammer Creek is much wider and shallower than it was before the dam removal. IMO, the fishing has not improved and may have gotten slightly worse. There are wild trout in the waters upstream from the old dam, but they were there prior to the dam removal.

The big picture is that most of the sediment going into the Chesapeake Bay is a direct result of erosion in old dam reservoirs. The erosion does not occur until the dam is breeched or lowered. The solution is simple, removed the sediment and put it back on the hill tops where it came from hundreds of years ago. Unfortunately, it is extremely expensive and in some cases impossible due to infrastructure limitations like bridges, sewer lines, parking lots, etc. 10 years ago PFBC and PA TU seemed to be on a dam removing binge. I think they are slowly starting to understand the cost:benefit with regard to low head dam removal, especially in the Piedmont. I am not opposed to dam removal; however, I do not believe that removal is always in the best interest of fisheries conservation due to the fact that there is not enough money spent to prevent downstream sedimentation. I will say that it is remarkable that some of the best wild trout streams in the Piedmont are severely impaired. Valley Creek, Letort, Codorus, Spring Creek, and the upper sections of Penns Creek are all excellent examples of wild trout fisheries that flow through reservoir sediments.

The reality is that if most of the Piedmont streams were restored to their native state it would drastically alter the valley bottoms and fly-fishing tactics would need to be completely different. Most limestone or spring creeks that exist today were more like multiple channel marshlands prior to European arrival. Dense, wetland thickets with shallow cold water and deeper pools behind beaver dams. The first thing that Europeans did was channelize the wetlands, drain the valley bottoms, and burn the thickets. After agriculture was established on higher ground, mills and dams were built, the valleys flooded, and the native floodplains buried under 3-20 feet of sediment. The entire floodplain system in the Piedmont (and much of the state) is completely the result of human

manipulation on the landscape. If we pull a dam out of the system, the only way to make it function naturally is remove everything else that we have put into the system. This is why no dam removal will ever be completely successful and why most do not even come close to being successful. Most people still believe that natural stream channel design is appropriate for use on mid-Atlantic Piedmont streams; however, this model was created using western river systems that transport gravel and thus has no merit in Piedmont streams that are not suppose to transport gravel. Science is slowly changing floodplain restoration protocol in the Mid-Atlantic Piedmont. Unfortunately, significant change will probably not come before Pennsylvania gets hit with billions in fines due to our pollution of the Chesapeake Bay.