

I fully support the removal of the dam on Ellick Run in the Fernow Experimental Forest. While the dam once provided a valued ecosystem service to the city of Parsons, its continued existence has resulted in substantial long-term negative effects to stream condition and health. Aquatic organism migration has been restricted by the dam, particularly for fish, thereby limiting their genetic diversity. The dam also has interrupted sediment routing by slowing water velocity in the reservoir, causing sediment to settle out rather than continuing its transport downstream of the dam. In turn, the excess stream power has eroded the streambed to bedrock through most of the entire downstream length of Ellick Run. This condition was documented in multiple past hydrology NEPA-monitoring reports on file at the Timber and Watershed Laboratory. The bedrock streambed has created exceptionally poor refugia and reproductive habitat for fish, aquatic salamanders, and aquatic insects. Fish studies in Ellick Run by researchers at WVU have shown poor brook trout populations. The negative aquatic effects carry through to the surrounding terrestrial ecosystems via food chain disruptions.

The excess stream power that is created by the lack of material transport by the water column also increases streambank erosion. Streambank erosion is problematic due to the close proximity of Forest Road 701 to Ellick Run. Bank erosion can destabilize the roadbed, especially during high flows. There are several areas with steep streambanks between FS701 and Ellick Run that have experienced failures over the past several decades.

Stream restoration, particularly in the form of large wood placement in the streambed, must be a part of the dam removal project to reduce the recovery time of the stream. Designed wood placement should be undertaken before the dam is removed. Doing so will allow a meaningful portion of the sand-, gravel-, and cobble-sized materials that will be released when the dam is removed to be captured and retained by the large wood. The placed wood will increase log jam development throughout the channel which will further improve stream condition in the long-term. Wood placement design should include consideration of potentially unstable streambank conditions to avoid directing streamflow toward unstable or failing banks. Riparian restoration in unstable locations also could include vegetative plantings to help improve long-term streambank stability.

Some people have expressed concern that several past research studies (in particular herbicide studies from the 1960s on watersheds 6 and 7) could affect water quality if sediment stored in the reservoir is exposed or released. However, the dam is located upstream of the studies of concern, so water flowing into and sediments captured by the reservoir were never exposed to those chemicals. Consequently there is no danger of exposing those chemicals/residues or releasing contaminated sediments from the dam when it is removed. Chemical testing of sediment samples collected from the dam reservoir in approximately 1990 confirmed no evidence of herbicide residues in the reservoir.

Dam removal should be conducted in a manner to ensure that the water and sediments are released in a relatively controlled manner. Controlled release will reduce negative effects from excessive pulses of sediment on aquatic organisms and negative effects of very high flows on both biological organisms and physical channel conditions. As long as water and stored materials are released in a controlled manner, the long-term ecological results should be very positive, creating much healthier conditions and greater longitudinal connectivity throughout the channel and extending to the Black Fork River.

Thank you for the opportunity to provide comments during this scoping period.

Pamela J. Edwards
Research Hydrologist, Retired
US Forest Service, Northern Research Station