thanks franklin  I like this stuff. map scan of union county bedrock from bucknell linked below; burnt-orange = tuscarora (low buffering) and tan = juniata (better sign for fish).

http://www.bucknell.edu/Images/Depts/...gy/UnionCountyGeology.jpg

p 255 of kirby paper discusses buffalo and n branch buffalo creeks there:

"Fig. 5 shows several phenomena commonly found in this study. Panther Run and the North Branch of Buffalo Creek originate in the Juniata, with initially low pH values in the extreme headwaters (in organic-rich boggy areas) rising (pH>6.5 for most of their lengths) as the water flows for longer distances through the Juniata. Below the confluence of these two streams, the North Branch of Buffalo Creek flows through the Tuscarora, but its pH remains near neutral due to the Juniata-influenced headwaters. In contrast to most Tuscarora streams, the North Branch of Buffalo Creek is in an “exceptional value watershed” (PA DER, 1996) and is a Class A wilderness brook trout stream (PA F&BC, 2006) in a roadless area.

In contrast, the main branch of Buffalo Creek flows through an essentially roadless area (it is crossed by one gravel road that does not parallel the stream) in the Tuscarora for 7 km. The pH is less than 5 for at least 9 km. The main branch of Buffalo Creek is officially listed as impaired due to atmospheric deposition (PA DEP, 2004) and has no brook trout. The stream historically supported a brook trout population and had a pH of 7.0 and alkalinity of 61 mg L⁻¹ as CaCO₃ (Robbins, 1953). By 1970, this location had a pH of 5.5, and the stream was judged to have too few brook trout to be stocked due to “natural acidity” (Reed and Hoopes, 1970), which was actually the impact of atmospheric deposition that continues today (pH= 4.5 and no alkalinity)."

http://www.facstaff.bucknell.edu/kirb ... byEtAl2008STOTEN10392.pdf