Here's another bit of input on whether acidity/aluminum or thermal might explain why some swampy sgl 127 tribs have brookies but others don't.

I looked up the pH (6.0) and alkalinity (0-4) of Kistler run, which has brookies, in the detar wbtep study. These numbers are both among the lowest for about two dozen wbtep and comparison streams in the detar paper. and Kistler had much lower aluminum (.04) than Tripup (.08 alum, when 2.0 is lethal), a 127 trib that doesn't seem to have brookies.

So I'll guess that Kistler is close to the edge of acidity and released aluminum that brookies can handle in a big rain or snowmelt, but some of the other swampy 127 streams just get too acidic for trout.