

TENNESSEE 2012 SWPBA UPDATE

Thank-you Alabama!

Tennessee would like to thank Alabama for hosting this year's SWPBA meeting. A good time was had by all and we even learned a thing or two! As always, it was great to get together with all the other state biologists, compare notes, commiserate, solve some problems and discover others we didn't know we had.

Good-bye Water Pollution Control!

As many of you may be aware, the TDEC water programs are undergoing a re-organization. The Division of Water Pollution Control has been merged with the drinking water and ground water programs. We are now the Division of Water Resources, so if you see that on presentations, papers or at the bottom of emails it is still the same old Tennessee biologists you are used to. So far, our responsibilities haven't changed although the central office will be in a new location next time we meet.

Coalfields

Last year we mentioned we were doing a coalfields project. Well the sampling and analyses are done thanks to TVA's assistance, but sorry to say I am behind on data analysis and interpretation (so much to do, so little time and so few people to do it!). So if you were waiting for the report I promised this year, you'll have to wait a little longer.

Tennessee has a history of surface coal mining in the Cumberland Plateau and Cumberland Mountain regions. Several of the streams draining these regions are on the 303(d) list for active or abandoned mining based on macroinvertebrate samples and appear to be improving. Fish tissue samples have not been collected at the majority of these sites. Forty 3rd order or larger streams draining abandoned and active coalfields as well as three reference streams were selected for fish tissue, ovary, water quality and benthic monitoring.

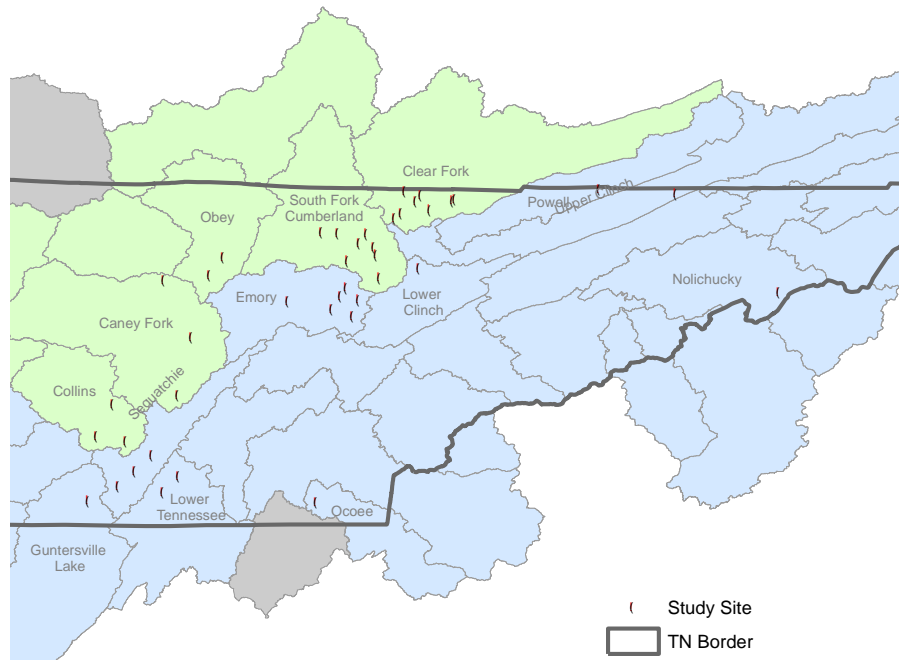


Figure 1: Tennessee Coalfields Study Sites

Headwaters

We are in year 4 of our 5 year project to identify and monitor headwater reference streams in each of our 31 ecoregions. We have 77 candidate sites so far and hope to target an additional 26 this year, although some of the ecoregions we have left are the tough ones like 7b (If Mississippi or Kentucky have any reference streams of any size in this region we would love to share.) We have developed preliminary regional guidelines for some bioregions by calibrating the multi-metric index we use for larger streams. Once we have enough data, we hope to develop an index specific to headwater streams. Any suggestions on metrics you folks have already found work (or don't) on these small systems would be appreciated.

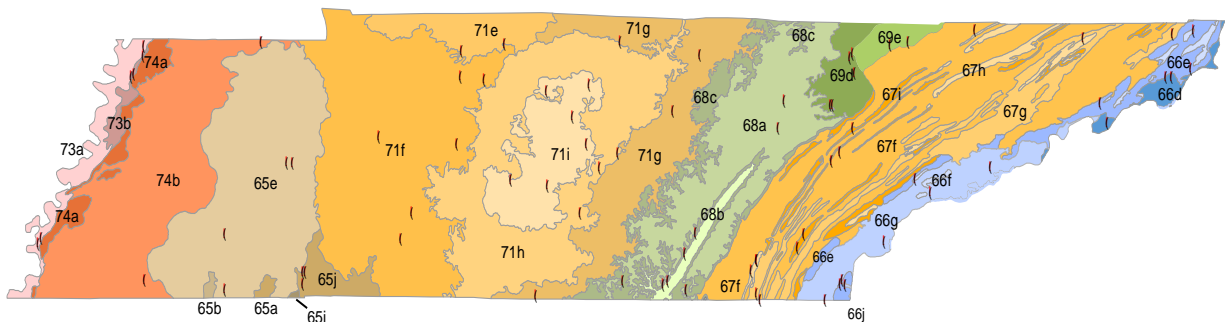


Figure 2: Tennessee Candidate Headwater Reference Sites.

SE Water Monitoring Network

Tennessee is really excited to partner with Kentucky, Alabama, Georgia, North Carolina, South Carolina, TVA and EPA to establish a southeast sentinel stream monitoring network.

Continuous monitoring of water depth and temperature as well as annual monitoring of macroinvertebrates, fish, diatoms, water quality and habitat will give all of us a detailed regional data set that can be used for a wide range of purposes. Some anticipated goals are information on any variations in hydrology, temperature, riparian or aquatic communities over time in the absence of human disturbance.

During the Alabama SWPBA meeting we agreed on consistent methodologies and a start time of April 2013. We currently have 38 stations targeted for monitoring in five states. Kentucky may add another one to bring us up to 39. Selected sites were in moderate to high gradient streams ranging from 1 to 56 square mile drainage. The majority are in protected watersheds with a minimum of 90% forest. The remainder are in relatively undisturbed watersheds where land-use is not expected to change significantly in the next 20 years.

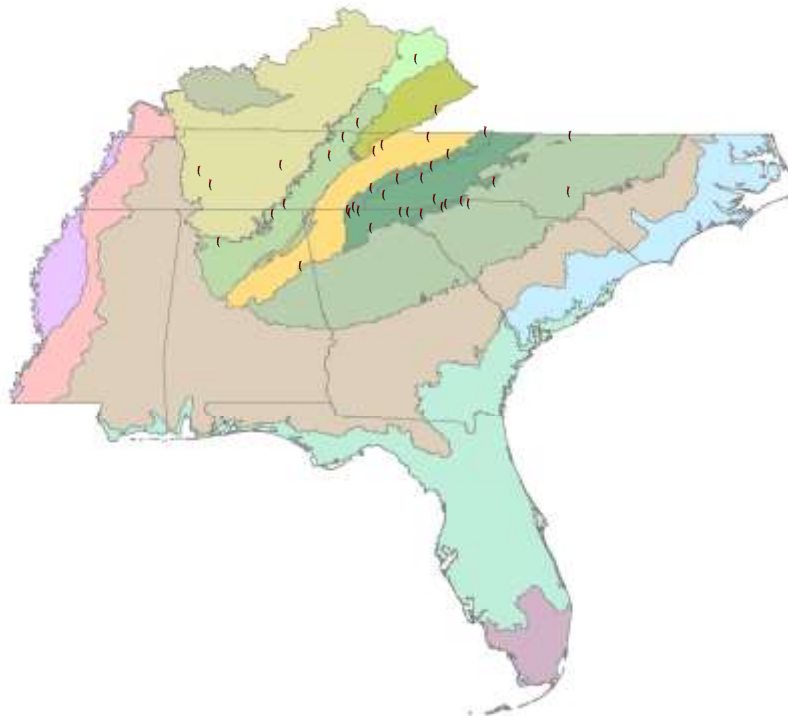


Figure 3: Southeast monitoring network sites.