

Cianfrani, Christina, 2002, Assessment of Urban Streams In Fairmont Park, Philadelphia, PA. (to be submitted to the Journal of the American Water Resources Association)

In her paper, Christina poses a strategy for assessing the effects of urbanization upon a watershed in Fairmont Park, Philadelphia, PA. This strategy facilitates a number of methods in order to examine and quantify geomorphic, habitat and riparian features of 426 stream reaches along 6 major streams running through six parks within Fairmont Park, PA. Analysis of the data produced an overall Stream Quality Index with which restoration planning and overall management strategies of the Fairmont Park System can hopefully be accomplished. The end goal of the study is to restore streams and other natural areas within the park to a state typical of less urbanized areas.

Overall, I find the organization and writing of this paper to be sound. There are grammatical issues in several places, most of which I assume you will find with a few more edits. Major ones will be dealt with below. Figures, tables and captions are well done and helpful. (Nice job on figure 1) In my eyes, some the big issues that should be addressed are as follows: 1) justification for all these methods, 2) self-contained nature of the *Screening Level Assessment* and SQI and, 3) discussion and conclusions are weak.

At this point, I would not recommend this paper for publication to the Journal of the American Water Resources Association. As I said earlier, I think the overall layout is fine but I am left wondering what the overall implications of the study are. Could this strategy for stream assessment be applied to other watersheds...? You employ a large variety of methods to assess these streams, but as you mention in your discussion, water quality is not taken into consideration. I have never done this type of work before, but I would think that this would be an integral part of any assessment of the effect of urban development upon a water system. As it reads to me, the SQI seems to be self-contained. No comparisons to non-impaired streams were made so I don't understand how you can assess the level of impairment of stream reaches in any way other than relative to each other. Along the same lines, the divisions between severely impaired-impaired etc. are arbitrary and again show impairment relative to each other. I don't doubt for a second that the effects of urbanization are glaring and obvious, but I am not convinced that these divisions necessarily represent exactly what they are labeled as. It seems to me that the SQI is a great baseline data set that future replicate studies can be compared to in order to quantify either restoration efforts or possible further stream quality degradation. Overall, I find the *detailed level assessment* more believable because of the comparison to undeveloped channels. A topic that is never mentioned is what are these rivers incising into. Are there differences in lithologies or alluvial materials that could affect the width and depth etc. of the urban streams as compared to the undeveloped rural streams.

Specific comments keyed to numbers in manuscript:

- 1) Maybe a bit of discussion on why sed. supply is reduced in urbanized watersheds. I assume you are referring to the decrease in erodible surfaces through urbanization.
- 2) Along the same lines. Don't know why I have another number here, ignore.
- 3) Don't know if you want to stay in active or passive voice or use both to keep flow of paragraph. You jump between them.
- 4) This section is a bit choppy, may want to reword and condense it.
- 5) Arbitrary ranking, discussed in preceding paragraph
- 6) Are restoration strategies (or discussion) for the 4 tribs out of the park outside the scope of this study.
- 7) What goals?
- 8) What *are* the causal factors
- 9) Why didn't you look at the water quality? Also, I don't think this is the best place for your future studies.
- 10) Why not rearrange data to remove grassland reaches when making these comparisons?
- 11) Why is bankfull discharge difficult to measure especially in urban streams?