

Presenter	Scott Lowe McCormick, Taylor & Associates, Inc.
Type	oral presentation
Category	Innovative Watershed and Stream Restoration Approaches/Methods
Title	<i>A Method to Develop Site Specific Design Tools to Guide Stream Restoration Design and Monitoring</i>
Abstract	<p>In order to logically identify advantageous treatments for stream restoration, it is imperative to identify localized geomorphic, hydraulic and habitat adjustment needs while still evaluating the system in a reach context. Those needs then must be compared with site goals and the functions of the proposed restoration strategy including in-stream structures and other restoration alternatives. To facilitate this process a graphical tool was developed that described the existing channel hydraulic variables generated from hydraulic modeling, as well as geomorphic condition and habitat deficiencies. The proposed condition was overlain on the existing conditions to graphically assess changes and allow for an iterative design approach to maximize benefit and to assess if goals are capable of being met prior to construction. The hydraulic variables and WSEL were depicted in profile and the habitat deficiencies, bank erosion estimates, tree stability assessments, and identified geomorphic instabilities were depicted on plan form drawings at the bottom of each sheet. This allowed the designer to consider multiple variables simultaneously when selecting design alternatives. The design tools also aid monitoring, allowing for a direct comparison of the anticipated proposed conditions and the as-built condition for hydraulic, geomorphic and habitat considerations. The designer can also easily modify the variables and approaches to be assessed and placed on the graphic according to site conditions.</p>