

<b>Presenter</b>	Austin Byers KCI Technologies, Inc
<b>Type</b>	oral presentation
<b>Category</b>	<b>Effectiveness of Monitoring Protocols</b>
<b>Title</b>	<i>Quantitative Evaluation of Rapid Stream Channel Stability Assessments</i>
<b>Abstract</b>	<p>Stream channel instability impacts riparian habitat, water quality, and the safety of bridges. This has led to the development of many qualitative and quantitative methods for the assessment of stream channel stability. However, few of these methods have been evaluated for their accuracy. Two commonly used qualitative (Pfankuch 1975; Johnson 2005), one semi-quantitative (Rosgen 2001), and two quantitative (Olsen et al. 1997; Doyle et al. 2000) stream stability assessment methods were evaluated using 44 re-surveyed cross-sections in 15 stream reaches over a span of eight/nine years in the Gwynns Falls Watershed, MD. The evaluation of these five stream channel stability assessment methods against changes in channel geometry over time has shown that limitations exist within all of the methods. It was determined that quantitative methods were better indicators of “actual” stability, and that the Olsen et al. (1997) RBS method provides the most accurate depiction of channel stability, but on a cross-section, not reach scale. When attempting to quantify changes in channel geometry over time, it was found that the percent change in total erosion and aggradation area relative to the original cross-section area is the best measure.</p>