Using Benthic Invertebrates for River Bioassessment in British Columbia: Where are we at?

Shauna Bennett and John S. Richardson

Dept of Forest Sciences, University of British Columbia, Vancouver, BC.
< Shauna.Bennett@telus.net >, Cell: 604-786-0100

Aquatic impact assessment has historically focused on point sources. As land use impacts overlap due to development increase, a focus on the biota and ecosystem integrity is broadly considered to be the key to conservation of species. In the last 25 years, efforts in the UK, Australia and the US have turned to using fish, invertebrate and algal populations for bioassessment and biomonitoring. Biological impact assessment is suitable for both point and non-point sources. Increasingly sophisticated methods for predicting invertebrate community structure, species presence, and various community metrics (e.g., taxa richness) have been developed to aid traditional chemical and physical impact assessment tools. Some of these methods are being implemented in BC by various agencies (e.g. RCA in Fraser Basin, B-IBI in Skeena Region). Are benthic invertebrates sensitive to all types of non-point source impacts? Does biomonitoring lead to changes in land management? One of the more challenging applications will be to detect cumulative impacts, a commonly assumed impact that has resisted being demonstrated with simple methods. Examples from the literature will be presented to illustrate the effectiveness of these bioassessment tools around the globe (e.g, RIVPACS, AUSRIVAS, B-IBI), and situations where biomonitoring has lead to changes in land management.