



6th North American Forest Ecology Workshop



Environmental Baselines for Riparian Forest Restoration

Audrey F Pearson, Warren Warttig, Brad Seely, J.P. (Hamish) Kimmins
Volunteer Oral Presentation

Restoration of riparian forests is one of the key management challenges we face in coastal BC. We have extensive areas of riparian forests that were logged prior to modern riparian guidelines where logging extended to the stream bank. In-stream restoration for salmon habitat has proven to be successful and restoration efforts are now expanding to riparian forests both for their functional contributions to streams and their value as habitat. However we have not yet determined the best methods both for restoring second-growth riparian forests or monitoring its effectiveness. The Kennedy Flats Restoration project in Clayoquot Sound BC is a long-term project and therefore an excellent candidate to contribute to resolving these questions. Ideally we would document improvements created by restoration through comparisons with original old-growth forest conditions but such baseline conditions are often unknown. However with the historical air photo record and early forest cover maps it is possible reconstruct the pre-harvest forest conditions. We present the feasibility of determining original old-growth forest cover from historical data and deriving measures from historical and field sources which in turn can be used as metrics to measure restoration success (e.g. increases in structural complexity). Finally we present results of using historical old-growth and modern second-growth forest information as input variables for modelling baseline riparian conditions and changes in successional trajectories with and without restoration. With these techniques riparian restoration efforts can be quantified which in turn helps convince management agencies of the value of their investments.