



# 6<sup>th</sup> North American Forest Ecology Workshop



## **Assessing uncertainty in expert knowledge of forest succession**

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Volunteer Oral Presentation

Expert knowledge of forest succession is used widely in forest management in North America but the uncertainty of this knowledge is largely unknown. Using boreal Ontario as an example we investigated the uncertainty in expert knowledge of forest succession and linked it to possible sources. We elicited expert knowledge of forest succession using a workshop approach. Forestry experts expressed their confidence in forest succession knowledge and perceived complexity of associated ecological processes. A rank-weighted combination of expert confidence and perceived complexity provided an estimate of individual expert uncertainty and disagreements among experts provided an estimate of expert group uncertainty. We estimated composite uncertainty of expert knowledge from uncertainties in individual expert and expert group uncertainty. Furthermore we examined associations of confidence and perceived complexity with forest cover types and site conditions. We found that expert knowledge uncertainty of forest succession was mostly high though variable. Expert knowledge uncertainty was high for processes under weaker environmental control such as moderate site conditions or after less drastic disturbances. Expert knowledge uncertainty also was high for more complex forest cover types. This uncertainty in expert knowledge of forest succession must be recognized and accounted for when it is used in forest management and policymaking. As well researchers must consider this information to recognize critical knowledge gaps in designing forest succession research studies.