

Conservation planning project highlights collaboration and decision-support tools

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Decision makers of all stripes, in all kinds of jurisdictions, are asked every day to analyze multiple information sources, evaluate trade-offs, and show transparency in decision making related to sustainable land uses that will affect Indigenous cultures, other jurisdictions, and various stakeholders. In making these decisions, managers and politicians are asked to balance social, economic, and environmental considerations—or weigh one over the other—while meeting the needs of those that live on and use the land (and water). In many cases, decision makers are mandated to consider: “What is the highest and best use for this parcel of land?” The decision-making process has become infinitely more complex as we gradually understand the true value of our land and water resources and as societies increasingly demand decisions that also consider our human impacts on species and ecosystems. In British Columbia, First Nations’ stewardship of the land over millennia also means that any parcel of land has significant cultural value. As well, our awareness has grown of the valuable ecosystem services provided by the natural environment, such as pollination, freshwater provisioning, flood mitigation, and carbon storage. Add the impacts of climate change and the infinite possibilities of what future ecosystems may look like and you can appreciate the difficulty and uncertainty decision makers now face in formulating sustainable land use and resource management policy.

But hope is alive! Widely accessible online and open-source decision-support tools, coupled with a vast amount of provincial species and ecosystem data used as inputs to these tools, can aid and support the decision-making process by quickly assembling and analyzing data and making it easier to understand the implications of any decision. Gone are the days of paper maps and mylar overlays—instead, numerous data sets, geographic information systems software, and scenario-planning tools can propel a decision maker to very quickly answer any set of “what if?” questions and to see the results spatially. To do this manually would take days and weeks, if not years. Nevertheless, these tools don’t actually make the decisions; ultimately, these determinations boil down to social choice.

The British Columbia Central Interior Ecoregional Assessment appearing in this issue of the *BC Journal of Ecosystems and Management* represents the culmination of a body of work first pioneered by The Nature Conservancy in the 1970s and further refined by Reed Noss, Bob Pressey, Craig Groves, Hugh Possingham, and a whole host of conservation practitioners around the globe. The Nature Conservancy of Canada, in partnership with other organizations and agencies, further refined this conservation-planning methodology. Indeed, this assessment project owes a great deal of its uniqueness to its multidisciplinary and multi-agency nature, which engendered a high degree of collaboration. It brought together several teams with a wide range of expertise drawn from government agencies, non-government organizations

and programs, academia, and the private sector. It was supported and funded by British Columbia's Ministry of Forests, Lands and Natural Resource Operations and Ministry of Environment, the national GeoConnections initiative, the provincial Fraser Salmon and Watersheds Program, and the Nature Conservancy of Canada. Everyone graciously gave of their time (and in many cases data) and contributed to analyses and reviews of drafts and final products. We worked with, and financially supported, graduate students and their supervisors at the universities of British Columbia and Northern British Columbia, and we added value to data and decision-support tools such as Hectares BC. The products developed by this project are useful on their own as well as in conjunction with other data sets and analyses. We strove to be transparent with our methods and data in the belief that anyone can understand what we did and repeat or run other analyses with a fair degree of ease.

The assessment served numerous objectives around conservation planning, species-at-risk assessment, terrestrial and freshwater conservation, climate change scenarios, and the spatial quantification of ecosystem services. The Central Interior provides an excellent case study because of the social, economic, and ecological impacts of the mountain pine beetle outbreak and the context and history of this region regarding previous land use decisions and the repercussions today. The current beetle outbreak is attributed to past and current forestry decisions, land use patterns, and the effects of climate change. As the impacts of climate change become increasingly evident, these types of scenarios and decision-making considerations will become more common. We sincerely hope that this project can help to inform land use and conservation planning in other jurisdictions.