



Summary of the 2008 SISCO Winter Workshop, Part 1:

Defining, designing, and planning for

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by Kathie Swift, *Early Stand Dynamics Extension Specialist*

This year's Winter SISCO workshop took us for a little walk on the wild side. Entitled, "The Resilient Forest: Defining it, Designing it, Planning for It," the sessions offered speakers with insight into how practitioners deal with this concept in their everyday practice of silviculture. Many of the messages presented went beyond silviculture and spoke to how humans manage the environment—this provoked much discussion and food for thought. Because of the wide range of topics that were brought forward during this two-day workshop, this article will summarize the first day of the workshop only, with the other day's presentations featured in the next issue of *LINK*.

Del Meidinger (Research Scientist, BC Ministry of Forests and Range) started the discussion by providing participants with tools to help them define the resilient forest. One of the tools was a link to the Resilience Alliance website, a site that provides "research on resilience in social-ecological systems—a basis for sustainability" (<http://www.resalliance.org>). According to ecological theory, "Ecosystem resilience is the capacity of an ecosystem to tolerate disturbance without collapsing into a qualitatively different state that is controlled by a different set of processes. A resilient ecosystem can withstand shocks and rebuild itself when necessary." Resilience also has temporal and spatial connections and what happens at one scale will influence what happens at the next. Meidinger also pointed out some of the challenges forest managers face when trying to deal with the concept of resiliency such as: the difficulty in identifying the controlling variables on ecosystem thresholds, the issue of resiliency versus desirability, and finally, the effects of climate change and determining the rate at which these changes are occurring. Consequently, past practices may not be the best way to manage for the future, and without looking at the landscape level effects of our stand decisions, we could be missing some important shifts.

Richard Hebda (Curator, Botany and Earth History, Royal BC Museum) followed up Meidinger's definition of resiliency with his thoughts on how the resilient forest will respond to climate change. According to Hebda, our British Columbia forests will be transformed by the end of this century. As

one who studies the earth's history, Hebda suggested that the forests of the future could be similar to those that existed between 10,000 and 7,000 years ago. At that time, Southern Interior forests were much less extensive with sageland occupying valley bottoms and grasslands extending upslope to mid elevations. High-elevation forests were generally drier with more pine and less spruce and true fir. Fires burned more frequently and widely, and drought was more widespread and intense.

If we are using history as a guide, we are facing ecological transformation; Hebda said that the traditional concept of forest resilience, which is the capacity to withstand stress without transformation, may not be an effective strategy. Instead he suggested that strategies focus on landscape resilience—including maintaining widespread ecosystem connectivity, sustaining and fostering native biological diversity at all levels, increasing our understanding and conservation of key processes such as soil formation, and limiting disturbance such as invasions by exotics species. We must prepare for opportunities through experimentation and monitoring as well as for the inevitable challenges, said Hebda. Accepting that the future forest won't be the same as the past doesn't mean we lose our wide range of timber values (water quality, timber, carbon storage) it just means that where we get those values from may be different.

Craig Sutherland (Assistant Chief Forester, BC Ministry of Forests and Range) and **Werner Kurz** (Research Scientist, Canadian Forest Service) presented views on how to manage the resilient forest for its diverse values, such as carbon. From the provincial government's perspective, the Future Forest Ecosystems Initiative is working to ensure that the current forest management framework is flexible enough to encourage a diversity of management outcomes and meets the research needs around the uncertainties of the future. When it comes to managing the land base for carbon, Kurz said that if we don't reduce our dependence on fossil fuels, our forest management solutions in BC won't help the climate change situation. He also pointed out that when managing for carbon, it is important to look at the bigger picture locally (including non-forest land use) and internationally (deforestation in the tropics is creating a huge carbon problem). There are many opportunities within the forest sector for



the resilient forest in everyday silviculture

mitigation options such as: increasing the forested area, increasing stand-level carbon diversity using such tools as partial cutting and avoiding others such as slash burning, increasing landscape-level diversity, and better understanding the time dynamics of carbon benefits resulting from mitigation activities to ensure a diverse portfolio that includes activities over time and space.

The serious consequences of past and present human activities on our environment were further articulated by **Rob Kozak** (Associate Professor, University of British Columbia). Kozak presented his perspective of what products and services we could expect from resilient forests in the future; his message also held a note of concern for our future. Our forest industry is competing in a global commodity market and it is showing strong signals of being in distress. How long will this distress last and who will survive it? According to Kozak, as we approach the future we need to look at new uses or smarter uses of our forests—but we must also consider whether we as a species will survive an increasing global population that is living beyond what the earth can provide. During his presentation, Kozak pointed out that we cannot consider a resilient forest without considering that people and humans are part of the natural world. We depend on ecological systems for our survival and we continuously affect the ecosystems we live in from the local to the global scale.

This concept of a linked social-ecological system was discussed further with presentations from **Cindy Pearce** and **Gary Merkel**. Cindy Pearce, a private consultant from Revelstoke, illustrated the strong link between her community of Revelstoke and the water that is generated by the surrounding landscape. Pearce used stories to illustrate how she believes local communities will address future water challenges and the important role rural communities will play in finding solutions. Gary Merkel (Negotiator, Ktunaxa Nation Council Forest Innovations) echoed Pearce's views and presented an "earth-based" view of resiliency.

According to Merkel, we as a community need to shift our way of thinking—we can't regulate resiliency or sustainability. "The earth is a big place and we will never understand it," he said. If we really wish to address issues such as resiliency then it is important for us to start "taking care of the mother tree" and learn from what our surroundings

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—Gary Merkel, Ktunaxa Nation Council Forest Innovations

are telling us. Merkel indicated that there are case studies looking at First Nation's Elder-driven forest management models and that we can learn important lessons from this holistic way of thinking and managing.

This morning session of SISCO set the stage for the afternoon discussion and plenary sessions that gave participants additional views on the resilient forest. For example, a wildlife perspective of the resilient forest was offered, as well as discussions on the possible movement of conifer species northward from the United States, invasive plants, and reducing wildfire risks in the urban interface.

Following a successful Winter SISCO, this year's Summer SISCO will be held in Clearwater, September 8–10, 2008. Summer SISCO will explore silviculture and small tenure operations in the Headwaters Forest District on Crown land and private woodlot lands. For more information on this event or to register, please go to <http://www.siscobc.com> 