

## **B13 - Climate Change & Forest Impacts In BC**

**Presentation # 1 title:** Ecosystem-based Conservation Planning to Mitigate the Effects of Climate Change across Forest Landscapes and Patches

**Presenter:**

Herb Hammond - Registered Professional Forester

**Abstract**

Most land uses--from the expansion of towns and cities to forestry and agriculture--homogenize, or simplify ecosystem composition, structure, and function. This loss of intact ecosystems and ecological integrity across spatial scales makes it difficult for ecosystems and their species to adapt to climate change. For example, genetic diversity necessary for species to adapt to warmer conditions is reduced. Loss of intact forests, particularly old and late successional forests, fragments landscapes, making it more difficult for species to migrate to favourable climatic conditions. Maintaining biological diversity and ecological integrity are essential aspects of a thoughtful strategy to mitigate the impacts of climate change. Achieving this goal requires maintaining natural assemblages of species and ecological processes in connected patterns across the range of spatial and temporal scales. Natural reflects pre-industrial ecological conditions, and includes Indigenous management systems. Ecosystem-based conservation planning (EBCP) designates networks of ecological reserves at multiple spatial scales as the primary technique to maintain and, where necessary, restore biological diversity and ecological integrity across spatial and temporal scales. Core ecological reserves and linkages are designated at the subregion/territory—large landscape scale. These reserves are large enough to withstand large natural disturbances, while retaining sufficient pre-disturbance composition, structure, and function to re-establish natural conditions through successional pathways following a disturbance. Additional ecological reserves and linkages are defined at finer planning scales, for areas outside of previously established reserves and linkages. Using this process of ecosystem-based design results in “nested” networks of ecological reserves across a landscape within which human activities may be conducted in ways that respect ecological limits and the maintenance of ecological integrity. EBCPs span ecological time frames as an important way to maintain, and/or restore biological diversity and ecological integrity across temporal scales. An ecosystem-based pattern of conservation and land use provides landscapes and ecosystems best able to adapt to the challenges of climate change, while providing for diverse, stable economies that meet human needs.

**Speaker Biography**

HERB HAMMOND is a Registered Professional Forester and forest ecologist with 30 years experience in research, industry, teaching and consulting. He holds a Bachelor of Science in forest management from Oregon State University and a Masters of Forestry from the University of Washington. Hammond is well known for his development and application of ecosystem-based conservation planning, which he defines as the protection and ecologically responsible use of ecosystems through all scales of time and space. He has worked for many years with First Nations and other rural communities to develop ecosystem-based conservation plans. Hammond is a founding member of the Silva Forest Foundation, a non-profit organization devoted to research and education in ecosystem-based planning and ecologically responsible forest use. He also heads Silva Ecosystem Consultants Ltd. In 2003, Herb received the Gold Award for Sustainable Living at the Canadian Environmental Awards. Hammond delivers keynote speeches, slide presentations, and workshops throughout North America and around the world. He is the author of the award-winning book 'Seeing the Forest Among the Trees: The Case for Wholistic Forest Use' (Polestar Press) and co-author of 'Community Guide to the Forest.' His new book, 'Maintaining Whole Systems on Earth's Crown: Ecosystem-based Conservation Planning for the Boreal Forest' was released in March, 2009.

**Presentation # 2 title:** Climate Change and Forest Impacts in BC

**Presenter:**

Richard Hebda

**Speaker Biography**

Richard Hebda has a Ph D. in Botany from the University of British Columbia and has been a Curator (Botany and Earth History) at the Royal British Columbia Museum for more than 28 years and an adjunct faculty member (Biology, Earth and Ocean Sciences, Environmental Studies) at the University of Victoria for more than 24 years. He curated the Dragon Bones (Chinese dinosaurs) and Climate and Climate Change exhibits at the Royal BC museum. He was the first faculty coordinator of the Restoration of Natural Systems Program at the Univ. of Vic. and the Province of B.C.'s expert advisor on Burns Bog (purchased as a globally unique ecosystem). His research areas include understanding vegetation and climate history of British Columbia, Ethnobotany of BC First Nations, climate change and its impacts, restoration of natural systems and processes, ecology and origins of Garry oak and alpine ecosystems and botany of grasses. Richard Hebda, with his graduate students, is author of 90+ scientific papers; 200+ popular articles mainly on bulbs and native plants, climate change; (co) author of four books and major reports, (co)editor of three books. He appears often on TV and radio, in newspaper interviews, and speaks to a wide range of public audiences.