



## ADVICE AND GUIDANCE

### 5.1. Climate Change and Biodiversity Monitoring and Information Network

Support the establishment of a climate change and biodiversity monitoring and information network throughout Canada. This network will provide:

- (a) a transect of scientific expertise and/or on-the-ground monitoring across chemical, climate and ecological gradients to allow for unique investigations into the impacts of climate change on forest biodiversity and improve understanding of its adaptive capacity;
- (b) mechanisms for the sharing and communicating of information, data and science on climate change and biodiversity;
- (c) training on monitoring tools and methodologies, analysis techniques, data management and verification tools needed to support adaptation options and decision-making; and
- (d) a network secretariat, located at Environment Canada, for overall coordination of the Canadian Action Network in Climate Change/Biodiversity Monitoring.

### 5.2. Climate Change and Biodiversity Research Network

Support the establishment of a climate change and biodiversity research network throughout Canada. This network will provide:

- (a) integrated research on climate change and biodiversity, including new global and regional climate change models, hazards and extremes, and other human pressures impacting forest biodiversity;

- (b) expert scientific advice on adaptation options and opportunities to reduce the impacts of climate change on biodiversity;
- (c) an exchange of scientists, environmental managers and community leaders to increase the scientific capacity, training and development of new study methods and monitoring techniques for both climate change and biodiversity; and
- (d) interlinking of research groups, such as Environment Canada's Adaptation and Impacts Research Division and the Smithsonian Institution, to take advantage of new scientific developments (e.g., [www.cccsn.ca](http://www.cccsn.ca) and [www.hazards.ca](http://www.hazards.ca)) to support the next generation of model development, transfer functions and adaptation science for effective decision-making.

### 5.3. Research Activities

Support the development of research activities as outlined in a recent Royal Society ([royalsociety.org/](http://royalsociety.org/)) report on climate change and biodiversity. The chief aim of this research would be to improve our understanding of biodiversity in underpinning ecosystem structure and function, climate regulation and human livelihoods. The interrelationships between biodiversity and climate change call for further research and evaluation by the scientific community. In particular, the hypothesis that systems with high biological diversity are more resilient to global change than less diverse systems requires testing.

### 5.4. Impact Scenarios

Support the development of scenarios for impacts on biodiversity and ecosystem “goods and services” under different degrees of climate change. Such scenarios are urgently needed now to identify adaptive management priorities and potentially dangerous levels of biodiversity loss.

## 5.5. Seasonal Climate Forecasts

Support the articulation of the benefits, needs and applications of seasonal climate forecasts for adaptation to mitigate the effects of climate change and biodiversity loss in preparation for the World Climate Conference (WCC-3) in Geneva in 2009.

([www.wmo.int/pages/world\\_climate\\_conference/index\\_en.html](http://www.wmo.int/pages/world_climate_conference/index_en.html)).

