

# Environmental Trends in British Columbia: 2007





We depend on a healthy environment for clean air and water for our livelihoods, as well as for recreation and cultural pursuits. At the same time, our activities have altered the environment we depend upon, resulting in the need for measures to protect our air and water, wildlife and natural environment.

Through regular state of the environment reports, the Ministry of Environment provides an overview of the progress society as a whole is making towards sustainability. The reports aim to provide the information that governments, businesses and individuals need to make informed decisions on environmental issues.

The indicators presented in this edition of Environmental Trends in British Columbia: 2007 provide an update on measurable conditions in the province and the impacts of measures taken to address problems. This year's report consists of a web site and a set of detailed reports on seven subject areas:

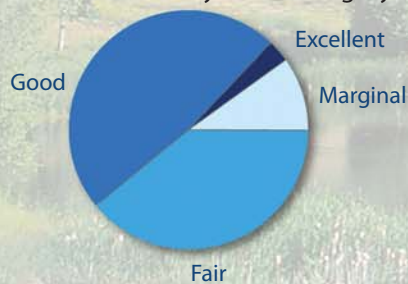
## Population and Economic Activity

Many indicators in this report show pressures or impact from B.C.'s expanding population on the surrounding environment. According to recent estimates, the B.C. population is expected to grow to over 5.5 million by 2030. While the most visible impacts may be the permanent loss of habitat in areas with the highest populations, there are also pressures from building roads, using land for homes, agriculture and industry, generating waste and releasing pollutants to the air and water. Despite our increasing population, however, recycling and waste diversion programs in B.C. have managed to keep the total amount of waste disposed today to essentially the same volume as in 1990.



PHOTO: Jared Hobbs

Percentage of B.C. water bodies in each Water Quality Index category



## Fresh Water

The overall quality of most surface water bodies monitored is good or stable and most of the mapped aquifers in the province are not heavily developed. However, the indicators also show that fresh water resources in British Columbia are under pressure, especially in areas with increasing populations and economic activity. The indicators show the need for careful stewardship of water resources to ensure the sustainability of our fresh water supply.



## Air Quality

There has been a long history of regulatory efforts to address the problem of smog and other air pollution in B.C. With very few exceptions air quality is generally good in the province. In 2006, all communities with air monitoring were well below the Canada-wide Standard for fine particulate matter in the air (a key indicator of air pollution). Most communities were also below the Canada-wide Standard for ground level ozone, which is a component of smog.



PHOTO: Ministry of Transportation and Highways

## Climate Change

Warming is evident over the whole province and the rate at which temperatures are changing is slowly increasing. Most of the province appears to have become dryer in winter and wetter in the summer. The ocean is also slowly warming along the coast and sea level is rising. These changes have been accompanied by observable and in some cases, profound, effects on ecosystems, such as the devastating outbreak of mountain pine beetle in the interior of the province. The climate is changing because the concentrations of greenhouse gases from fossil-fuel combustion are increasing in the atmosphere.





## Species Conservation

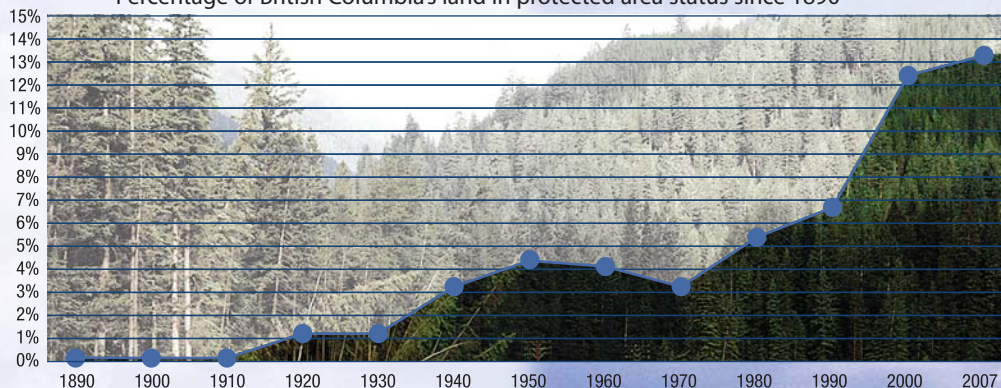
Our complex geography, ranging from fiords and islands on the coast to rain forests, mountains and the grasslands of the interior, makes B.C. one of the most biologically diverse areas in Canada. In 2007, the B.C. Conservation Data Centre listed 490 species on the provincial red list of species most at risk. Although there are natural factors that contribute to the decline of a species, most species are at risk because of the impact of human activities on their habitat.

	# of Species in B.C.	# on B.C. Red List	% on B.C. Red List
Plants	2,346	322	13.7%
Birds	371	43	11.6%
Mammals	146	28	19.2%
Amphibians	20	5	25.0%
Freshwater Fish	90	33	36.7%
Reptiles & Turtles	17	7	41.2%

## Contaminants

As efforts to control and eliminate releases of PCBs, dioxins and furans and other persistent chemicals have taken effect, the levels in the general environment have also dropped. About 70 percent of the thousands of known contaminated sites in the province have been cleaned up or are in the process. Persistent chemicals are still present, however, in the tissues of wildlife at the top of the food chain and will remain so for many years. The flame retardant PBDEs, used widely in consumer goods, are an increasing concern because levels in people and wildlife have been rising rapidly since the 1980s.

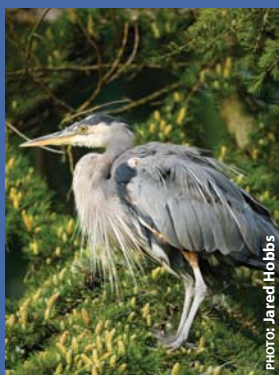
Percentage of British Columbia's land in protected area status since 1890



## Ecosystems

Activities such as logging, agriculture, and urban and industrial development have modified and even eliminated rare ecosystems. Ecosystems most at risk in B.C. include grasslands, antelope brush steppe, old growth forests, Garry oak meadows and habitat for wildlife. The legally designated protected area of the province now covers 13.4 percent of the land area (higher than the national average of nine percent).

Trends in toxin levels



The trend for levels of toxins measured in eggs of three species: the Great Blue Heron, the Double Crested Cormorant and the Osprey all point down EXCEPT for PBDE's which show rising levels.

**Note:** Levels of Chlordane in Osprey showed mixed results. In some areas, there was a measurable decrease, while in other areas levels actually rose.

See the entire report at:  
[www.env.gov.bc.ca/soe/et07](http://www.env.gov.bc.ca/soe/et07)





## What is being done about these issues?

Governments at all levels, businesses and industry, stewardship groups and individuals all have a role in addressing these issues. Each Environmental Trends report outlines the current state of regulations and initiatives to address the problems. These encompass provincial programs, such as the provincial government's far-reaching commitment to address climate change, as well as federal initiatives, community actions and business leadership.

Because there are many things individuals can do, the web site and reports provide information on actions you can take to ensure that future generations enjoy clean water and air and healthy ecosystems. While the actions of one person may seem small, when everyone helps out, the collective impact can be enormous.

[www.env.gov.bc.ca/soe/et07](http://www.env.gov.bc.ca/soe/et07)



Ministry of  
Environment

## About this report

This is the fourth in a series of Environmental Trends reports from the Ministry of Environment. This year's report contains 44 indicators and over 25 supplementary measures. It includes indicators showing pressures on the environment and indicators that show the impact of measures intended to respond to problems.

This edition of Environmental Trends updates previously reported indicators. It also introduces indicators developed since the last report to improve our understanding of environmental conditions. The data for the indicators came from a variety of sources, but mainly provincial or federal monitoring programs and from research projects.

More than 65 people from provincial and federal ministries and other organizations were involved in this project. They provided data, checked the accuracy of the analyses and reviewed the papers.

## Visit the Environmental Trends in B.C. web site to find out more:

It has everything from overviews and short summaries to the complete, in-depth reports and original data for all of the indicators. You will also find information on what is being done about environmental issues and what you can do to reduce your impact on the environment.

Front cover photos ~ Top: Forest damaged by mountain pine beetle in southeastern BC, PHOTO: Natural Resources Canada, Canadian Forest Service. Bottom left: Chilcotin grasslands, PHOTO: Jared Hobbs. Bottom centre: Vancouver. Bottom right: Sea lions.