

# Wetlands: Mitigating Effects of Climate Change

Habitats for Healthy Waters-Fact Sheet #6

## What is the Greenhouse Effect?

The “greenhouse effect” is a natural process that allows the planet to capture heat from the sun, warming the Earth. Gases such as carbon dioxide, methane, and nitrous oxide, when present in the upper atmosphere, trap the sun’s heat and prevent it from escaping back into space. Increased gas levels trap more heat, and just like a greenhouse, gradually raise the average temperature of the surrounding environment, in this case, causing global warming our planet.

Natural processes on the Earth have historically captured and released these gasses in a delicate balance. Human activity such as the burning of fossil fuels and destruction of habitats release additional amounts of stored carbon into the atmosphere and impair the Earth’s ability to bind or “sequester” it. The result is an increase in levels of atmospheric “greenhouse gases” that causes the earth to become warmer. This has an impact on the delicate balance of the Earth’s ecology.

## The Effects of Climate Change!

Great amounts of research have been conducted to estimate what might happen as the planet gets warmer. To a large degree the effects will depend on where you are. Some areas may become more habitable, while others are at much greater risk. Extreme weather conditions such as heat waves, significant changes in precipitation and storms, as well as an increase in insects can all be traced to the effects of global warming.

## Wetlands Absorb Carbon.

Wetlands are the most diverse habitat types found in Canada. Wetlands are generally defined as areas of permanent or seasonal shallow water which contain vegetation adapted to the wet or moist conditions. Whether the wetland is a bog, fen, swamp or marsh, they all absorb greenhouse gases – keeping it out of our atmosphere.

Although wetlands cover a small portion of the world’s land surface, they may store over 20% of the global terrestrial carbon. Peat lands and forested wetlands are especially important because they can store significant amounts of carbon and methane. Draining or otherwise altering wetlands will release stored carbon and may contribute to rising levels of atmospheric greenhouse gasses.

## Climate Change Mitigation Strategies are Key.

Research efforts must continue so that we can mitigate the effects of greenhouse gases and learn how to adapt to a changing climate. In the meantime, we must avoid draining, altering, or stressing our existing wetland areas. This is an important strategy in dealing with climate change. Additionally, creation, restoration, or enhancement of degraded wetlands will immediately assist us in these efforts by providing wetland benefits such as carbon sequestration and improved water quality.

### **Other sources of information:**

- Ducks Unlimited Canada website : [www.ducks.ca](http://www.ducks.ca)

**For more information on wetlands or “Habitats for Healthy Waters”, please contact:**

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