



CHANGE THE FORECAST FOR WILDLIFE
SOLUTIONS TO GLOBAL WARMING

Global Warming and MINNESOTA

Minnesota, known as the “land of 10,000 lakes,” is also home to more than 15,000 miles of fishable rivers, all of which could be vulnerable to changes if global warming continues unabated. The Union of Concerned Scientists and the Ecological Society of America estimate that by 2100, average summer temperatures in the state could increase between 7-16 degrees Fahrenheit depending on the extent to which greenhouse gas emissions are curbed. Likely consequences could include earlier ice breakups and snowmelts, causing stream flows to peak earlier in the spring and reduce summer flows. This would lower water levels, degrade water quality and endanger aquatic habitat throughout Minnesota’s waterways. Warmer average temperatures could also contribute to drier conditions in the state’s boreal forests and Boundary Waters Canoe Area Wilderness, making both susceptible to wildfires, pests and disease. We can solve global warming and revitalize our economy by rebuilding America with clean energy.



NPS

Global warming effects on Minnesota wildlife

Minnesota is home to an incredible diversity of native wildlife species, including 308 birds, 80 mammals, 135 fish, 29 reptiles and 20 amphibians. Rising temperatures in the state will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt.

- Moose population is in decline due to milder winters that are not killing off parasites.. There has been almost a 75% reduction in the moose population of northwest Minnesota.
- As water temperatures in the region increase, populations of cold-water fish such as lake trout, brook trout and whitefish may decline dramatically.
- By the 2080s, warmer weather could reduce up to 91 percent of the wetlands in the Prairie Pothole Region, an area in the northern Great Plains that stretches through parts of

Minnesota. This could lead to a 9-69 percent decline in the number of ducks breeding in the region, affecting waterfowl populations across the country.



Global Warming Pollution

Burning coal, gas and oil produces carbon dioxide, which is a greenhouse gas that warms the planet as it builds up in the atmosphere. Some of the carbon dioxide released today remains in the atmosphere after even 100 years, trapping more and more heat.

Since the mid-1800s, emissions of carbon dioxide have skyrocketed, causing global temperatures to rise by about 1° Fahrenheit in the last century. Earth has not experienced such a rapid change in temperature in thousands of years.

A Global Solution

The U.S. must lead the world by passing global warming legislation at home and working with other nations at the Copenhagen climate summit at the end of 2009 to sign a new climate treaty that keeps further warming below 2° Fahrenheit. With a global solution, we can avoid the worst impacts of global warming.



What's at stake for Minnesotans?

Global warming will not only likely affect Minnesota's wildlife recreation economy, it could also bring more frequent and more extreme weather-related disasters and cause more disease and respiratory problems.

- According to the EPA, a 3-degree rise of temperature in Minneapolis could triple heat-related deaths in summer from 60 to 180.
- The lifespans of disease-carrying insects are projected to expand with warmer conditions, likely causing more cases of West Nile virus and Lyme disease in Minnesota.
- Minnesota accounts for about 5 percent of the United States' farmed acres, producing mostly corn, soybean and wheat. Global warming could contribute to a decline in the number of acres farmed by up to 18 percent. In turn, farm-dependent income could decrease up to 25 percent.
- Warmer average temperatures could increase concentrations of ground-level ozone, which is known to aggravate respiratory problems such as asthma, especially in children and seniors.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2006, more than 4 million people spent more than \$3.6 billion on hunting, fishing and wildlife viewing in Minnesota. The industry in turn supported 67,764 jobs in the state.* (*Jobs are an average of 2001 and 2006 data.*)

“Global warming poses an overriding challenge to our responsibility to protect wildlife for our children’s future. We must advance balanced solutions that work for people, wildlife and the economy to overcome this challenge.”—

Larry Schweiger
President, CEO
National Wildlife Federation

GLOBAL WARMING NATIONAL POLICY SOLUTION:

A federal legislative solution can drive American ingenuity, create millions of green jobs, and restore America's global leadership on global warming. Legislation should:

- * Include ambitious targets to reduce America's global warming pollution as swiftly and deeply as possible. Scientists say that developed countries as a whole need to reduce their global warming pollution by at least 80% from 1990 levels by 2050 to avoid the worst impacts of global warming.
- * Move America toward a 100% clean electricity future by maximizing energy efficiency, modernizing the electric power grid, expanding power generation from renewable energy resources, and investing in clean transportation infrastructure.
- * Invest in natural resources. Forests, coasts, wetlands, clean air and clean water are already being impacted by global warming. Funding is needed to safeguard the natural resources that are critical to wildlife populations and human health.
- * Lead a worldwide effort to finance clean energy technology, forest conservation, and adaptation to unavoidable impacts of global warming.

For more information, visit: www.nwf.org/globalwarming.



NWF

Minnesota's solutions to global warming

Minnesota is becoming a leader on the renewable energy front, tapping into its enormous wind potential and developing alternative fuels—strategies that reduce carbon pollution and help to slow global warming.

- Minnesota's Renewable Energy Objective encourages energy companies to make a good faith effort to use renewable energy sources for 10 percent of their output by 2015. Xcel Energy has pledged to use 19 percent renewable sources by 2015.

Midwestern Governors Association Energy Platform and Greenhouse Gas Accord

Nine midwestern states, Wisconsin, Minnesota, Illinois, Iowa, Michigan, Kansas, Indiana, Ohio, South Dakota, and the Canadian Province of Manitoba, have signed the Midwestern Regional Greenhouse Gas Reduction Accord. The Accord will establish greenhouse gas reduction targets and a market based cap & trade mechanism to help achieve these targets. Part of the agreement by these Midwestern states is an aggressive energy security and climate program that includes major steps forward on renewable energy, energy efficiency, next generation biofuels, and carbon capture and storage.

To support the shared goal of reducing greenhouse gases, the Midwestern states launched new cooperative regional initiatives to address the following:

- CO2 management to create a regional transportation and storage infrastructure;
- Electricity transmission adequacy to support thousands of new megawatts of wind energy;
- Low-carbon energy transmission infrastructure that will provide a cost-effective way to supply the Midwest with sustainable and environmentally responsible energy.

Danielle Korpalski
National Wildlife Federation
KorpalskiD@nwf.org
734-887-7138

Barb Prindle
Minnesota Conservation Federation
651-865-1553

