



CHANGE THE FORECAST FOR WILDLIFE

SOLUTIONS TO GLOBAL WARMING

Global Warming and OHIO

From fishing on Lake Erie to hunting in the state's forests, Ohio offers outdoor enthusiasts wonderful opportunities to experience wildlife in the Great Lakes region. However, on top of ongoing problems associated with urban and industrial development, logging and agriculture, Ohio's rich wildlife heritage faces an added threat from global warming. The Union of Concerned Scientists and the Ecological Society of America estimate that by 2100, average summer temperatures in the state could increase between 7-9 degrees Fahrenheit depending on the extent to which greenhouse gas emissions are curbed. This could contribute to more extreme weather events such as droughts and floods and bring new challenges to people dependent on industries such as wildlife recreation, agriculture and timber.



Global warming effects on Ohio wildlife

Ohio is home to an incredible diversity of native wildlife species, including 280 birds, 66 mammals, 148 fish, 40 reptiles and 39 amphibians. Rising temperatures and drops in lake levels in the state will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt.



- Although there is uncertainty in forecasting the impact of global warming on the water levels of the Great Lakes, there is a clear risk as global warming increases evaporation and alters precipitation patterns. In 2002, the Bush Administration published a global warming report that warned: "Lake levels are likely to decline due to increased warm-season evaporation, leading to reduced water supply and degraded water quality."
- Global warming is also expected to contribute to higher water temperatures in the region's lakes and streams. This is likely to cause a significant decline in viable habitat for many cool- and cold-water fish species, including northern pike and rainbow trout. Warmer winter water temperatures could also increase populations of non-native species such as white perch, which could displace native fish species.
- The types of trees dominating Ohio's forests could change from eastern hardwoods to less valuable southern pine and scrub oaks if global warming continues unabated. This change would affect the wildlife adapted to the current ecosystem.

What is Global Warming?

When coal, gas and oil are burned, they produce carbon dioxide that builds up in the atmosphere and traps the sun's heat. Much of this greenhouse gas 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, and subsequently global temperatures have risen by about 1 degree Fahrenheit in the last century. Earth has not experienced such a rapid change in temperature in thousands of years.

Unless we reduce the pollution that causes global warming, temperatures could climb between 2-10 degrees Fahrenheit this century. Such a rapid rise in temperature would fundamentally reshape the planet's climate, forever changing the landscape and water resources people and wildlife depend upon.



What's at stake for Ohioans?

Whether it's fishermen on Lake Erie, manufacturers along the Ohio River or urban dwellers in Cleveland and Columbus, Ohio residents will feel the effects of global warming in a number of ways in the coming decades.

- Scientists have found that warmer temperatures caused by global warming can lead to higher concentrations of ground-level ozone pollution, a leading cause of respiratory problems, especially in children and seniors. By mid-century, "good" air quality days could drop from 45 to 27 per summer in Cincinnati. "Red alert" air quality days could increase from 3 to 6 per summer.
- In addition to their adverse effects on aquatic habitats, lower average water levels in Lake Erie would have costly implications for the shipping industry, marina operators and other lake users.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2001, nearly 3.7 million people spent nearly \$2.3 billion on hunting, fishing and wildlife viewing in Ohio, which in turn supported 48,730 jobs in the state.

"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

THE CLIMATE STEWARDSHIP ACT:

The Climate Stewardship Act is a bipartisan plan of action in Congress that sets achievable goals for reducing global warming pollution in the United States. The bill requires power plants, oil companies and other major sources to collectively reduce emissions of carbon dioxide and other greenhouse gases to what they emitted in the year 2000. The bill also allows businesses to implement their own solutions, using a flexible emissions trading system that has successfully reduced air pollution under the Clean Air Act at a fraction of the anticipated costs. The Act will:

- Create more than 27,000 new energy technology jobs in Ohio by the year 2020.
- Provide Ohio with at least \$14.6 million each year in additional wildlife conservation funding to help protect the state's wildlife from the impacts of global warming.
- Provide new income to Ohio's farmers by rewarding environmentally friendly farming and forestry practices.

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



WHAT IS BIOMASS?
Much of Ohio's renewable energy potential comes from biomass, organic matter such as plant fibers and animal waste which can be converted into electricity and fuel.

Warren Greitz (NREL)

Ohio's solutions to global warming

Ohio has developed several programs on the local and state level to begin addressing global warming through renewable and alternative forms of energy.

- Since its passage in 2002, the Ohio Fuel Cell Initiative has provided more than \$38 million to fuel cell projects focused on expanding research, project demonstration and job creation in the state. The Initiative is an integral part of Gov. Bob Taft's Third Frontier Project.
- The city of Dayton has instituted a "Cops on Bikes" program that saves \$27,000 per year in reduced fuel and maintenance costs, while at the same time reducing carbon dioxide emissions from police transportation by 7.5 tons per year.

Following some simple guidelines, you can cut your global warming pollution, become more energy efficient and give something back to nature.

- **Plant shade trees:** The Department of Energy says planting three trees strategically around your home to block the sun in summer and wind in winter can reduce your annual heating and cooling costs by an average of 40 percent.
- **Convert to compact fluorescent bulbs:** If every household in America replaced its next burned out light bulb with a compact fluorescent, we would prevent more than 13 billion pounds of carbon dioxide from being emitted. That's the same as taking 1.2 million cars off the road for an entire year.
- **Become a Green Tag subscriber:** Many states now offer options for homeowners to buy electricity from clean, renewable sources such as wind, solar and biomass that produce little or no global warming pollution. Green energy can also be purchased through the National Wildlife Federation by visiting www.nwf.org/energy.

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