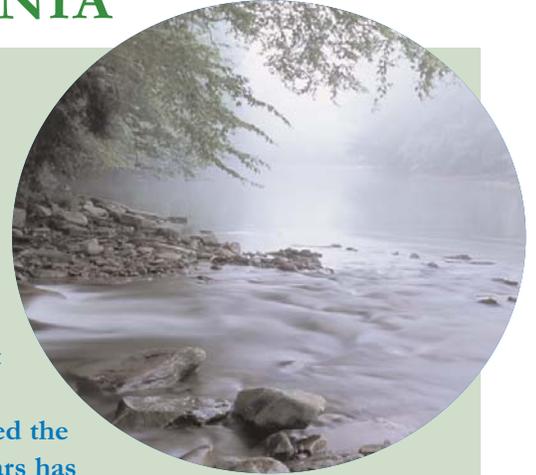




## CHANGE THE FORECAST FOR WILDLIFE SOLUTIONS TO GLOBAL WARMING

# Global Warming and WEST VIRGINIA

The Environmental Protection Agency estimates average temperatures in West Virginia could rise 3-4 degrees Fahrenheit by 2100 if global warming continues unabated. Just the slightest increase in water or air temperature could alter river streamflow, force animals and plants to shift ranges and create for our children an environment filled with more extreme weather events, increased health problems and repercussions today's scientists haven't even begun to explore. Since 97 percent of West Virginia is forested, the most obvious changes in the state will happen in the woods. Already, warmer temperatures have increased the number of invasive pests like the gypsy moth, which in recent years has attacked valuable hardwoods. Trees sensitive to climate may shift their range northward. Those located on the Appalachian peaks, such as the red spruce, may have no place to go and be overrun by more heat-tolerant species.



## Global warming effects on West Virginia wildlife

West Virginia is home to an incredible diversity of native wildlife species, including 237 birds, 68 mammals, 39 reptiles, 151 fish and 47 amphibians. Rising temperatures in the state will likely change the makeup of entire ecosystems, forcing wildlife to shift their ranges or adapt.

- Higher temperatures in West Virginia's Ice Mountain Preserve already have caused ice to melt earlier in the year. Continued warming could make conditions unfavorable for the area's unique boreal plants and reduce habitat for species such as the endangered Virginia northern flying squirrel, which lives at altitudes above 2,860 feet.



- Some 38 songbird species may no longer breed in West Virginia due to warmer temperatures. These could include the purple finch, black-capped chickadee, tree swallow and 12 species of warblers.
- Higher average temperatures are projected to significantly reduce habitat for trout and other cold-water fish.

## 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 West Virginians?

Residents of West Virginia may soon feel the heat of global warming, from poorer air quality in cities to shrinking forestry and wildlife recreation industries.

- West Virginia's agriculture industry experienced losses of more than \$80 million in 1999, the driest growing season on record in the eastern United States. Continued warmer, drier conditions projected with global warming could increase such droughts.
- Duck hunters already are seeing a direct relationship between warmer winters and decreased duck numbers. Not only are waterfowl not needing to migrate as far south, but global warming is likely to decrease habitat in important breeding grounds such as the Prairie Pothole Region in the northern U.S.
- Loss of wildlife and habitat could mean a loss of tourism dollars. In 2001, more than 843,000 people spent nearly \$503 million on hunting, fishing and wildlife viewing in West Virginia, which in turn created 9,802 jobs in the state.
- Global warming could increase the lifespan of disease-carrying insects such as mosquitoes and ticks, causing more cases of Lyme disease and West Nile virus.

**“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 650 new energy technology jobs in West Virginia by the year 2025.
- Provide West Virginia with at least \$4.8 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 West Virginia's farmers by rewarding environmentally friendly farming and forestry practices.

Visit [www.nwf.org/globalwarming](http://www.nwf.org/globalwarming) or [www.climateaction.org/csa](http://www.climateaction.org/csa) for more information.



Warren Grez (NFEL)

## West Virginia's solutions to global warming

West Virginia has a number of incentive programs and tax breaks to encourage businesses and individuals to become more energy efficient and use renewable energy sources such as wind and solar power, a key step to reducing harmful carbon pollution.

- The 44 wind turbines at West Virginia's Mountaineer Wind Energy Center generate enough energy to serve about 20,000 homes, cutting 162,000 tons of carbon dioxide emissions and contributing more than \$700,000 to the local and state economies.
- According to the U.S. Department of Energy, West Virginia has the potential to generate an estimated 5.4 billion kilowatt-hours of electricity using fuel from biomass—organic matter such as plant fibers and animal waste. This would supply the annual needs of 543,000 average homes, or 61 percent of the residential electricity use in the state.

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 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.
- **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](http://www.nwf.org/energy).

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