



Pintail duck photo by Peter LaTourette

Climate Change, Wildlife, and Wildlands

Trail Talk

Great Lakes and Upper Midwest



This outline offers suggestions for the elements of a talk on the potential impacts of climate change on the Great Lakes and Upper Midwest region. You are encouraged to develop your own personal talk based on the materials in the *Climate Change, Wildlife, and Wildlands* toolkit; this outline is merely intended to provide ideas. You also may use the ideas in this outline to help you weave the topic of climate change into your talks on other subjects.

Visual Aids

- Trail cards of sugar maple, Kirtland's warbler, and Karner Blue butterfly from the *Climate Change, Wildlife, and Wildlands* toolkit
- Flash card of sugar maple's current and projected future range, printed out from the CD-ROM and laminated, if desired
- Global warming wheel card supplied with *Climate Change, Wildlife, and Wildlands* toolkit

Recommended Sites for Talk

Great Lakes shoreline, preferably forested (e.g., Voyageurs National Park or Isle Royale). Ideas and approaches in this outline also may be modified for classroom discussions on climate change and ecosystems in the Great Lakes and Upper Midwest region.



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Goals

- To help visitors appreciate that global climate change is a serious issue that may affect life and the physical environment in the Great Lakes region.
- To help visitors realize that they can be part of the solution, rather than only part of the problem.

Objectives

- Visitors will be able to explain the potential magnitude and significance of changes in nature.
- Visitors will be able to explain why many scientists believe that humans are contributing to changes in climate that may have significant and long-lasting impacts on plants and wildlife.
- Visitors will be able to name at least two species of wildlife and two natural features (e.g., lakes and boreal forests) that may be affected by climate change.
- Visitors will be able to decide whether they believe their actions contribute to climate change, and whether they want to help slow it.

- Visitors will be able to list at least two actions people can choose to take if they want to reduce greenhouse gas emissions.

Theme

Change is a natural feature of the environment, but not all changes are natural. Many scientists believe that human actions are exacerbating changes in climate that may have serious impacts on ecosystems in the Great Lakes and Upper Midwest.

Introduction

(sections in *bold italics* are suggested language for talk)

- Begin with an attention-grabber, such as a personal story or an anecdote that helps the audience relate personally to the landscape around them. Work in “universals”—values and concepts everyone can relate to, such as family, tradition, natural beauty, etc.
- Standing on or near the shore, point to the water and then to the forests along the shore and inland. ***Water and forests are two of the natural features that first spring to mind when people think of the Great Lakes region.***

- *These lakes and the forests on their shores have changed a lot over time, with the coming and going of glaciers; natural events such as droughts, fires, and floods; and, more recently, the impacts of pollution and human development.*
- *Today we’re going to take a look into the near future to explore some of the changes that many scientists believe may be in store for the lakes and forests, and the plants and animals that live in them, during the next 100 years.*

Transition

- Hold up the flash card showing the current geographic range of sugar maple compared with its projected range in 2100. ***Here’s an example of one change that many scientists believe may happen during the next 100 years. The yellow area on this map shows the current range of suitable habitat for the sugar maple in the United States. The small green areas represent the suitable habitat that scientists believe will be left by the year 2100. What could cause this kind of drastic wide-ranging change?*** (Correct answer: global warming.)

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Body of Talk

- **Changes in climate occur naturally. They have been happening for as long as the Earth has had a climate. But many scientists believe that the changes underway today are different. They believe that humans are accelerating the rate of change by contributing to a global warming trend.** Explain what global warming is and how it happens. (This information may be found in the Great Lakes and Upper Midwest case study and the basic and advanced fact sheets.)
- **The sugar maple is only one of many species in the Great Lakes region that may be affected by global warming.** Describe impacts on boreal forests, coldwater fish, ducks, and migratory birds. (This information may be found in the Great Lakes and Upper Midwest case study.) Use trail cards of sugar maple, Kirtland's warbler, and Karner Blue butterfly from the toolkit to show images of affected species and explain briefly why global warming would affect each of them.
- **Even the lakes themselves may be affected by a changing climate.** Describe how climate change may affect lake levels, water quality, and what those changes would mean for plants, animals, and people that use the lakes. (This

information may be found in the Great Lakes and Upper Midwest case study.)

- **Do you want to see the region change in these ways? Is there anything we can do about it?** Discuss how everyone contributes to global warming and everyone can be part of the solution. Explain that people's choices can have an effect on the atmosphere and climate for decades into the future.
- Ask the audience to suggest ways to reduce their own emissions. Be prepared with your own suggestions in case people have trouble coming up with ideas. Suggestions might include using energy more efficiently at home (e.g., buying energy-efficient ENERGY STAR® appliances, replacing incandescent light bulbs with compact fluorescents wherever practical), taking public transportation or walking when possible, buying products manufactured from recycled materials—such as recycled paper or fleece clothing made with recycled plastic bottles.
- Bring out the global warming wheel card and choose a volunteer to answer questions about his/her household's home energy use, transportation habits, and waste practices to come up with a rough estimate of the household's greenhouse gas emissions. Then flip over the card to show how the household

could reduce emissions by taking the actions shown on the wheel card.

Conclusion

- **Change is part of life, and some climate change is natural. But it appears that by burning fossil fuels, we humans are contributing to rapid changes that may take place faster—and perhaps on a greater scale—than the natural changes we would expect to experience in this region during the next several hundred years.**
- **We have to decide whether these human-induced changes are acceptable, and how much change we are willing to tolerate before we act.**
- **We can't look into a crystal ball and know for sure what the future will bring. But the majority of scientists today believe that human-induced global warming is for real and that many of the impacts we've discussed today will be caused by our actions, our choices.**
- **Climate change is a problem that can be alleviated by individual actions. Every one of us contributes to global warming, and every one of us can make a difference. This isn't just an issue for big companies and electric utilities and governments. If we all act to reduce our**

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emissions, we can help reduce the impacts of climate change on wildlife and beautiful places like this.

- *Is it important for you to know that future generations could still come to a place like this and find sugar maples in the forests and trout in the streams? Is it important enough to warrant changes in your lifestyle in order to avoid environmental changes in the future? The responsibilities of stewardship are becoming more complicated than they used to be. At one time, simply conserving land and water may have been enough. But now we need to start thinking about the atmosphere as well. Maybe our actions, and those of our neighbors,*

communities, and governments, can help keep the forests and waters of the Great Lakes region healthy for many years to come.

- *Do we want to experiment with our atmosphere and our planet to find out if our actions indeed have a long-lasting impact on the environment?*

Global Warming —

What's Your Score?

In the United States, a typical household of two people generates approximately 60,000 pounds of carbon dioxide (CO₂) emissions every year from household activities and personal transportation.

EMISSIONS SOURCE
On average, how much does your household spend on natural gas or fuel oil each month?
Pick closest amount.

- \$25
- \$50
- \$100

POUNDS OF CO₂ EMITTED PER YEAR

- 2,000 lbs./year
- 12,000 lbs./year
- 24,000 lbs./year

Home Heating

EPA United States Environmental Protection Agency
Office of Air Quality Radiation
Office of Air Quality
EPA-330-F-007
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Resources

- *Climate Change, Wildlife, and Wildlands toolkit*
- EPA's global warming site: www.epa.gov/globalwarming
- EPA state fact sheets: www.epa.gov/globalwarming/impacts/stateimp/