Disruption of Wildlife Populations Forecast in Wildlife Society Report

Global Warming; Profound Threat to Wildlife as We Know It

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WASHINGTON, DC -- **In the first comprehensive assessment of global warming's likely consequences for North American wildlife from the nation's leading group of wildlife professionals, comes a warning of possible major shifts in the ranges and the restructuring of entire plant and animal communities, and the disappearance of some forest types in the United States.**

The Wildlife Society report finds that "there is sufficient evidence to indicate that many species are already responding to warming, and that animals and plants are already exhibiting discernible range changes consistent with changing temperatures."

The report also details the disruption of essential ecological processes, displacement or disappearance of coastal wetlands species, significant loss of coastal marshes and disruption of alpine and Arctic ecosystems. Direct threats to many species are reported, including polar bears, migratory songbirds and waterfowl and alpine amphibians.

"Global warming presents a profound threat to wildlife as we know it in this country," says Douglas B. Inkley, National Wildlife Federation Senior Science Advisor and chair of the eight-person review committee of The Wildlife Society that wrote the report. "Decades of conservation progress and our responsibility to assure a wildlife legacy for future generations rest upon our determination to overcome this threat."

"We're concerned about the effects of global warming on wildlife in North America, and this assessment verifies that some species already are responding to climate change," said Tom Franklin, acting Executive Director of The Wildlife Society.

Founded in 1937 and currently with nearly 9,000 members, The Wildlife Society is the nation's preeminent association of wildlife professionals, including wildlife biologists and research scientists, habitat managers, field technicians, educators and wildlife agency administrators.

"The Wildlife Society is the gold standard for wildlife professionals," says Larry J. Schweiger, President of the National Wildlife Federation. "The evidence marshaled in this report is a message to every American who cares about wildlife to awaken to global warming's threat and to rally to the cause to confront it."

Previous reports from The Wildlife Society have played a significant role in determining major trends in wildlife conservation and influencing public policy. Reports from The Wildlife Society on wolf restoration (1991), acid rain (1993) and conservation opportunities in the national Farm Bill (1995), for example, articulated a consensus among wildlife professionals that ultimately played out in national policy reform and innovation.

Global Climate Change and Wildlife in North America is the distillation of a two-year review by a professional panel of hundreds of peer-reviewed scientific reports examining the wildlife implications of global warming.

The report's major findings include:

- During this century "the ranges of habitats and wildlife are predicted to generally move northward as temperatures increase." The ability of plants and animals to shift to new ranges in response to climate change, however, will be limited by several factors, including migratory pathways, pollinator availability and the concurrent movement of forage and prey.

"One of our concerns is that many plant and animal populations may not be able to make the shift as their ranges move northward because migratory corridors may already be closed off by urban sprawl, cities and agriculture," Inkley says.

- Diverse responses to climate change by interdependent species "could cause significant restructuring of existing plant and animal communities." Changes in the timing and length of seasons due to global warming may cause closely interacting species to become out of phase, disrupting essential ecological

processes such as pollination, seed dispersal and insect control by birds.

- Effects of global warming on populations and range distributions of wildlife are expected to be species specific and highly variable, with some effects considered negative and others considered positive. "In plain language, restructuring existing wildlife communities means we face the prospect that the world of wildlife that we now know and many of the places we've invested decades of work in conserving as refuges and habitats for wildlife will cease to exist as we know them, unless we change this forecast," Inkley says. "The case of a pollinator bird being able to make the range shift while the plant it pollinates cannot may be replicated in innumerable interdependent relationships, leaving us a world of wildlife diminished beyond our current capacity of prediction. Wildlife refuges and other areas protected for their wildlife values may simply no longer support much of the wildlife that is currently there as wildlife ranges shift in response to climate change."

- In the southeastern United States, the range of the dominant pine and hardwood forests is projected to expand northward while the conifer forests of New England and much of the Northeast are expected to change to temperate deciduous forests similar to those today found in southeastern Pennsylvania and northern Virginia. "Some forest species such as sugar maple are projected to disappear entirely from the United States over the next century."

- Projected sea level rise due to global climate change may cause some wildlife species to be displaced inland or disappear entirely if their lowland wetlands are rapidly inundated, "critical mudflats used by migratory shorebirds" may be flooded, and "submergence of coastal marshes is expected to be most severe along the U.S. Gulf and Atlantic coasts."

- "Even a small amount of warming may eliminate some wetland plant and animal species in alpine regions because there is little opportunity to disperse among these isolated habitats."

- "Loss of sea-ice will likely directly affect marine mammals and seabirds dependent upon ice shelves and flows as platforms for reproduction, pupping, nesting and migration." Polar bears, walrus, ringed seals and bearded seals are considered particularly vulnerable to loss of sea-ice.

- In areas where warming is greatest, "changes in forest dynamics due to disease and insects are very likely." In conjunction with rapid Arctic warming from 1992 through 1996, the report notes, a sustained outbreak of spruce bark beetles has caused over 2.3 million acres of tree mortality in Alaska. "This was the largest loss to spruce bark beetles ever recorded in North America."

- "Amphibian populations and distributions are likely to change significantly as air and water temperatures change," with species inhabiting high-altitude areas being particularly at risk.

- "Climate change may cause a mismatch in the timing of breeding between birds and their prey."

- In the Prairie Pothole Region from northern Iowa to central Alberta – the duck factory of North America – "most scenarios and models projected significant declines in wetlands, and thus declines in the abundance of breeding ducks in this region by the 2080s." Projected declines in duck breeding range between nine and 69 percent.

"In this report, The Wildlife Society has fulfilled the great purpose of laying out for the first time the full dimensions of global warming's forecast for wildlife," Schweiger says. "Now, it is incumbent upon us to change that forecast. The talent and resources of the National Wildlife Federation are pledged to that end.

"We look especially to the nation's hunters and anglers, who have been America's frontline for conservation for more than a century, to rise to this challenge."

Based on the report, The Wildlife Society will consider adopting formal policy recommendations at its March meeting. In draft form, those recommendations now include measures such as reduction of carbon dioxide and other greenhouse gas emissions and that state and federal wildlife agencies consider climate change in developing long-range wildlife management plans and strategies.

"We need to build support for a workable, market-based approach that will first cap and then begin to reduce this nation's carbon pollution emissions," says Jeremy Symons, manager of the National Wildlife Federation's Climate Change and Wildlife program. "That is the approach taken in legislation sponsored in

Congress by Senators John McCain and Joe Lieberman."

In addition to Inkley, The Wildlife Society panel responsible for the report includes Michael G. Anderson, Institute for Wetland and Waterfowl Research at Ducks Unlimited, Canada; Andrew R. Blaustein, Department of Zoology, Oregon State University; Virginia R. Burkett, National Wetlands Research Center, Lafayette, La.; Benjamin Felzer, The Ecosystems Center, Marine Biological Laboratory, Woods Hole, Mass.; Brad Griffith, Biological Resources Division Alaska Cooperative Fish and Wildlife Research Unit and Institute of Arctic Biology, University of Alaska; Jeff Price, American Bird Conservancy in Chico, Ca.; and Terry L. Root, Center for Environmental Science and Policy, Institute for International Studies, Stanford University.

National Wildllife Federation is America's conservation organization protecting wildlife for our children's future.

Global Climate Change and Wildlife in North America
www.nwf.org/nwfwebadmin/binaryVault/Wildlife_Society_Report1.pdf

1 p. summary www.nwf.org/nwfwebadmin/binaryVault/WSR_Summary.pdf

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