THE WILDLIFE SOCIETY

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Revised Position Statement

In accordance with TWS policy, The Wildlife Society Council seeks member review and comment on the following revised position statement, Global Climate Change and Wildlife, prior to revising and finalizing it. **Comments must be received by 1 September 2011** to be considered in a final position statement.

Please send comments to: Terra Rentz, Assistant Director of Government Affairs, at the address above or via email to terra@wildlife.org.

Global Climate Change and Wildlife

In its 2007 report, the Intergovernmental Panel on Climate Change (IPCC) concluded, "Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level." Human activities over the past 100 years have caused significant changes in the earth's climatic conditions resulting in severe alterations in regional temperature and precipitation patterns that are expected to continue and become amplified over the next 100 years or more. According to the IPCC report, global temperatures have increased 0.74° C (1.3° F) over the past 100 years and are projected to increase by 1-6° C (2-10° F) by 2100.

Although climates have varied since the earth was formed, few scientists question the role of humans in exacerbating recent climate change through the increase in emissions of greenhouse gases (e.g., water vapor, carbon dioxide, methane). Human activities contributing to climate warming include the burning of fossil fuels, slash and burn agriculture, methane production from animal husbandry practices, and land-use changes. The critical issue is no longer "if" climate change is occurring, but rather how to address its effects on wildlife and wildlife habitats. Land use practices that have resulted in habitat fragmentation have also impaired the ability of many species to adapt to a changing climate. Climate change has, and will continue to, significantly impact wildlife and wildlife habitats directly and indirectly through land use changes responding to shifting climates. An approach involving mitigation, adaptation, and outreach is needed. Mitigation includes policies and actions that reduce the release or total amount of greenhouse gases in the atmosphere; adaptation is the development of policies and management actions to reduce impacts on wildlife resources under changing climatic conditions; and outreach involves communicating between scientists, managers, policymakers, and the general public.

The documented effects of climate change on populations and range distributions of wildlife are often species-specific and highly variable. Isolated habitats and fauna, rare species, ectotherms, and habitat specialists are particularly sensitive to such changes. As a result, there is likely to be an increase in generalist species and a decrease in specialist species, leading to a decline in overall diversity.

Other possible effects include an increase in invasive exotics, the potential for increasingly stressed ecosystems, an increase in some species populations and a decline in others, habitat shifts, loss of coastal habitats, altered disturbance regimes, a decline in snow, permafrost, and sea ice, and an increase in generalist species. In North America, the geographic ranges of plant communities and wildlife species are predicted to generally move northward (or upward, for montane species) as temperatures increase. Variations in this overall pattern will be dependent upon specific local conditions, changes in precipitation patterns, and the differential response of species to different components of climate change. Differential responses result from geographic variation in the magnitude of change in precipitation or temperature experienced by various species or the particular life-history characteristics of each species that make it relatively more or less vulnerable to changing climates. It follows that the composition of plant–animal communities will also likely change.

The policy of The Wildlife Society regarding global climate change is to:

1. Mitigate the accumulation of atmospheric greenhouse gases by:

    a. Recognizing the immediate need to work towards a conversion of fossil fuel energy sources to more carbon neutral forms of energy.

    b. Encouraging increased efficiency of existing energy uses and government incentives to encourage a transition to more efficient uses of energy, recycling, and reuse of materials.

    c. Encouraging natural resource management activities that increase carbon sequestration, such as extended rotation forest management, maintenance and restoration of native prairie, and wetland restoration.

    d. Encouraging the elimination of shifting or swidden agriculture in tropical areas for economic gain beyond sustenance, reversal of the conversion of prairie and forest to row crop agriculture, and maintenance of native ecosystems whenever possible.

    e. Encouraging terrestrial carbon sequestration projects that protect and restore natural ecosystems, such as bottomland hardwood forest, prairie grasslands, and seasonal wetlands.

2. Increase the ability of wildlife and wildlife habitats to adapt to a changing climate by:

    a. Encouraging proactive management programs to facilitate dispersal of sensitive species and maintenance of large intact ecosystems.

    b. Increasing resistance or resilience (the capacity to absorb climate change impacts or withstand change) of wildlife and their habitats to climate change impacts by advocating management activities that reduce factors that contribute to ecosystem stress (e.g. urbanization, pollution, habitat fragmentation and conversion, ozone

depletion, invasive species), thereby contributing to the ability of wildlife populations to adapt to future climate changes.

c. Increasing resilience of wildlife and their habitats (i.e. their ability to absorb and withstand change) by maintaining and managing for native wildlife populations and high quality wildlife habitat connected by strategic corridors whenever possible.

d. Encouraging implementation of state and federal monitoring programs for wildlife and wildlife habitats expected to be most sensitive to climate change and variability, such as alpine species, habitat specialists, slow reproducers, and nonvagile species.

e. Encouraging agencies to develop flexible budgetary processes to allow managers to act appropriately to manage the effects of climate change and variability.

3. Increase climate change outreach activities by:

a. Along with government wildlife agencies and wildlife educational institutions, educating wildlife students, biologists, managers, and the public about climate change, the potential effects of climate change on wildlife, and ways to account for climate change in wildlife planning and management.

b. Encouraging state and federal wildlife agencies, non-profit organizations, and private landowners to consider climate change impacts when developing long-range wildlife management plans and strategies.