



DEFENDERS OF WILDLIFE
PRESIDENTIAL TRANSITION WHITE PAPER

GLOBAL WARMING AND WILDLIFE

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CHALLENGE

Human-induced global warming is emerging as the greatest threat facing the planet today. Reports from the Intergovernmental Panel on Climate Change and the U.S. Climate Change Science Program confirm that climate change already is causing serious damage and disruptions to wildlife and ecosystems, including loss of crucial habitat in polar and high mountain ecosystems, acidification of the oceans, increased drought, warming of rivers and other waters, increased threat from invasive species, and more frequent catastrophic fires. These impacts threaten the natural systems that provide communities with drinking water, flood protection, food, medicine, timber, recreational opportunities, scenic beauty, jobs, and numerous other services.

The success of our efforts to conserve and recover fish, wildlife, and other natural resources for future generations of American citizens will depend on how well we respond to the challenge of global warming. We must act immediately to substantially reduce greenhouse gas pollution emitted when we burn fossil fuels, which is the primary cause of human-induced global warming. Legislation needs to be enacted to achieve science-based greenhouse gas reduction targets and lessen the impact of the global warming that we have already set underway.

Even with immediate action to reduce greenhouse gas emissions, threats to wildlife, fish, plants and their habitats are predicted to accelerate and deepen for decades as global warming continues to alter climate patterns. Existing federal, state, tribal, local and private conservation efforts, ranging from land management and acquisition to regulatory and grant making programs, will face unprecedented challenges in coping with currently unpredictable species and ecosystem responses to a changing climate.

Federal agency scientific research programs currently are woefully inadequate to address the unprecedented nature of climate change and the magnitude of wildlife adaptation needs. These programs will have to be greatly enhanced to build improved predictive models and

associated monitoring networks, develop new decision support tools, design experimental approaches to management, and foster the innovative analytical capacity needed to formulate appropriate and adaptive responses to global warming.

Land management and wildlife conservation programs will have to adopt a new paradigm that employs innovative approaches and strategies if we are to help species survive and adapt in the future. This new paradigm will have to be resilient and adaptive to the complex and dynamic threats from global warming and incorporate strategic planning at a large scale. By assembling a framework that considers the national picture of our changing climate, we can ensure that approaches at federal, state and local levels are coordinated and that funds provided for wildlife adaptation to global warming are spent wisely.

According to a 2007 report by the Government Accountability Office, federal land management agencies are not currently addressing global warming because of a lack of guidance and capacity. Consequently, an effective response to the impact of global warming on wildlife will require a reliable commitment of federal funds sufficient to dramatically enhance federal scientific capacity, to develop a coordinated national strategy, and to carry out measures implementing the national strategy by federal, state, and tribal authorities.

ACTION

First 100 days:

The new administration should request, and Congress should provide, significantly increased funding for the U.S. Geological Survey's National Global Warming and Wildlife Science Center to ensure that it is properly established and responsive to research and management needs of federal and state agencies.

The scientific capacity of federal agencies is inadequate to address the magnitude of this global threat for which we have no analogous experience. The unprecedented nature of climate change will demand new tools, new skills and the analytical capacity to consider appropriate and adaptive responses:

- From a research and management perspective, the way forward, must be built upon a solid foundation of species and ecosystem inventories, as well as a system of monitoring to determine changes in species numbers or distribution, or declines of ecosystem structure and function.
- The coverage of biological inventories across federal, state and private lands provides a baseline to build upon, but is inadequate in many areas. In addition, there is a pressing need for the development of rigorous monitoring protocols, to be able to evaluate the effects of management decisions, and to adapt management responses accordingly.
- Both the inventory and trends analysis generated through a comprehensive monitoring program can then be applied to analytical and predictive models.

- Based on the trends and predictions, federal and collaborative researchers can then propose new tools, practices, and strategies on a limited pilot or experimental basis to help identify promising approaches to assisting wildlife and habitat adapt to climate impact due to global warming.
- A number of different types of responses have already been proposed by the scientific community including the protection and restoration of habitat corridors to assist species in shifting their ranges and the protection of climate “refugia,” areas that are not as vulnerable to the whims of a changing climate and are better able to preserve biodiversity in the face of climate change. These and other strategies will need to be further developed and tested.

Although during the last two years funding has been provided by Congress to establish the Center and initiate research, significant increases will be needed to ensure science capability at the scale needed to help the nation’s wildlife and ecosystems survive the numerous and diverse impacts of global warming. It is important to increase the amount of funding available to continue development of the Center and accelerate initiation of high priority research. USGS should prioritize this important new center and expedite its efforts to get it up and running. The Bush administration dedicated \$1.5 million to the Center for FY 2008 and requested the same amount for FY 2009. We recommend that the new administration request \$10 million for the Center in its initial budget request to operate the Center and to develop and fund Requests for Proposals for research projects. This is the level provided in the FY 2009 House version of the Department of the Interior, Environment, and Related Agencies appropriations bill passed by the subcommittee in June 2008 and awaiting completion. We further recommend that the new administration seek at least \$10 million per year in succeeding years for operation of the Center, preferably increasing funding to \$50 million per year by FY 2013.

First year:

The new administration should propose, and Congress should enact legislation to require development and implementation of a national strategy for helping wildlife navigate the bottleneck of global warming impacts over the next century.

The new administration should propose legislation incorporating the principles of the Global Warming Wildlife Survival Act, as subsequently refined in numerous House and Senate climate bills in the 110th Congress.. The Global Warming Wildlife Survival Act creates a comprehensive framework for a coordinated national response to address the impacts of global warming on wildlife. The Survival Act:

- Ensures that federal and state agencies develop and implement plans to reduce the impact of global warming on wildlife and its habitat.
- Coordinates a national strategic response to enable wildlife to adapt to the current and future impacts of global warming that will occur over the next century as we work to reduce emissions.

- Establishes a national scientific advisory council to determine likely impacts of global warming on wildlife.
- Establishes a framework through which significant levels of federal funding can be allocated to help wildlife survive global warming.

The Survival Act was introduced in 2007 as H.R. 2338 by Representatives Norm Dicks (D-WA-6), Jay Inslee (D-WA-1) and James Saxton (R-NJ-3), and passed by the House in July 2007 as part of the energy bill. Although the Survival Act was dropped in conference on that bill, it was introduced in the Senate as S. 2204 by Senator Sheldon Whitehouse (D-RI) and Senator Barbara Boxer (D-CA), Chair of the Senate Environment and Public Works (EPW) Committee. The Lieberman-Warner-Boxer Climate Security Act (S. 3036) also incorporated the Survival Act's principles in its natural resources adaptation provisions and provided the dedicated funding necessary for implementation.

A key provision of the Survival Act is the requirement for development and implementation of a national strategy to assist wildlife and habitat adaptation to the impacts of global warming. This strategy should examine management issues common to geographic areas and threat type (e.g. coastal, desert and arctic habitats, sea level rise, and shifts in precipitation patterns). It should ensure that federal agencies develop and implement plans to reduce the impact of global warming on wildlife and habitat by including specific prioritized goals and measures related to those wildlife populations and habitats likely to be adversely affected by global warming. State wildlife action plans should be revised to incorporate adaptation strategies, integrated with the national strategy.

To accomplish these objectives, the Survival Act directs the President, working with the federal land and water management and wildlife agencies, the states, tribes, and other stakeholders, to prepare and implement within 3 years a national strategy for conserving fish and wildlife and its habitat threatened by global warming or ocean acidification. The national strategy must be based on the best available science, and updated every 5 years to respond to growing understanding of the impacts of global warming. Funding for state agencies is tied to preparation by each state of a detailed strategy for wildlife adaptation to global warming to be incorporated into the state's comprehensive wildlife strategy, also known as state wildlife action plans.

To ensure that the national strategy is grounded in the best available science, the bill establishes a Science Advisory Board, made up of 10 to 20 scientists recommended by the National Academies of Science and appointed by the Secretary of the Interior. The Science Advisory Board will advise the President and affected federal agencies on the impacts of climate change and ocean acidification on fish and wildlife and its habitat, as well as develop and build upon existing scientific strategies and mechanisms for adaptation.

The new administration should propose, and the Congress should provide, in any federal climate cap-and-trade system that a portion of the generated revenue is dedicated to federal, state, and tribal efforts in the amounts necessary to assist fish, wildlife, plants and associated ecological processes in becoming resilient and adapting to the impacts of climate change and ocean acidification.

Another key provision of the Survival Act is the establishment of dedicated funding, derived from cap-and-trade revenues, for federal, state, and tribal efforts to implement the national strategy for wildlife and habitat adaptation. Significant resources will be needed to address the unprecedented challenges wildlife face as a result of global warming.

Federal legislation to reduce greenhouse gas emissions has the potential to generate billions of dollars in revenue from the auctioning of credits under a federal carbon trading system. By dedicating a portion of the revenues from these carbon trading measures to conservation and planning efforts of federal and state agencies, we have the ability to prepare for the current and future effects of global warming on ecosystem integrity and design and implement strategies to help mitigate its impacts on wildlife and habitat. This investment should be grounded in the best-available science, guided by national or state adaptation strategies, and consistent with provisions contained in the Global Warming Wildlife Survival Act, as subsequently refined in numerous House and Senate climate bills in the 110th Congress. The Survival Act establishes an accountable and balanced framework through which significant levels of federal funding can be allocated.

The Survival Act allocates funds through existing programs with a proven track record of success in on-the-ground conservation of both species and habitats. Also, it requires that all funds be spent in accordance with federal and state adaptation strategies to ensure that federal funds are appropriately committed to serve the national interest in protecting fish and wildlife and ecosystems impacted by global warming.

Federal natural resources agencies will play a critical role in protecting the lands and waters needed for future habitat, buffers, and migration corridors for species movement through habitat acquisition and easement programs and partnering with private landowners and public land and water managers. The Land and Water Conservation Fund (LWCF), Forest Legacy Program, and other appropriate mechanisms will be central to land conservation and addressing species needs as they shift due to climate change. The Department of the Interior's cooperative endangered species conservation fund, cooperative programs through the U.S. Fish and Wildlife Service, and aquatic, coastal and estuarine conservation and restoration programs administered by the Environmental Protection Agency, the Corps of Engineers, and the National Oceanic and Atmospheric Administration will also be essential to addressing conservation and restoration needs.

The Survival Act provides funding to the 56 States and Territories through the Wildlife Conservation and Restoration (WCRP) subaccount under the Pittman-Robertson Wildlife Restoration Account. Funds are to be allocated by a formula based on state land area and population, and will require states to provide only a 10% match, rather than the 50% WCRP match required by current law. This change will ensure the states can utilize these funds immediately to implement conservation actions, planning, and research; putting needed habitat on the ground; and providing tools and technical expertise to private landowners.

Federally-recognized tribes, which have sovereign rights to natural resources under the Constitution, treaties and legal precedents, are currently experiencing some of the most severe negative impacts of global warming. Melting of sea ice threatens the natural resources of native villages in coastal Alaska and the disappearance of snowpack could cause Pacific

Northwest tribes to lose salmon runs that are central to their cultures and economies. The Survival Act dedicates 1% of wildlife funding to the tribal wildlife grants program (TWGP), administered by the Interior Department. This amounts to between roughly \$40 and \$90 million each year through 2030, or approximately four to nine times more than the TWGP has been receiving through annual appropriations over the past several years.

Funding for international conservation by federal agencies is also authorized by the Survival Act. This funding would be used to contribute to the conservation of international wildlife and natural resources threatened by global warming as well as the conservation of U.S. migratory species dependent upon Mexico, Canada, the Caribbean or Central and South America for summer or winter breeding and foraging. Examples of eligible programs include the Interior Department's multinational species conservation program, the neotropical migratory bird program, and the Wildlife Without Borders program. Similarly, funds provided to the Department of Agriculture can be used for adaptation activities under the Wings Across Americas Program and funds to the Commerce Department can be used for ocean and marine conservation activities.

The new administration should support the allocation of funding for wildlife adaptation contained in the Lieberman-Warner-Boxer Climate Security Act:

- 35 percent to state and territorial fish and wildlife agencies
- 19 percent to Department of the Interior wildlife programs, federal lands and waters under Interior's jurisdiction
- 10 percent to the Land and Water Conservation Fund, or \$900 million, whichever is less; if the 10 percent allocation exceeds \$900 million, the balance should be distributed pro rata among the other agencies using the same overall allocation formula
- 10 percent to the Corps of Engineers
- 10 percent to the National Oceanic and Atmospheric Administration
- 5 percent to Interior Department cooperative grants programs
- 5 percent to the Forest Service
- 5 percent to the Environmental Protection Agency
- 1 percent to tribal fish and wildlife agencies

First term:

To ensure that development of biofuels, wind power, and other renewable energy is compatible with protection of wildlife and conservation of habitats, the administration should fund research, development, and promotion of alternative energy options that are most consistent with conservation of wildlife habitat, protection of water quality, reduction of greenhouse gases, and avoidance of conflicts with food needs.

Biofuels can be a critical part of the solution as our nation works to reduce our dependence on fossil fuels and to reduce greenhouse gas emissions. If grown, harvested, and produced properly, biofuel crops can be beneficial for wildlife, the environment, rural economies, and

energy independence. But without adequate land protection measures, biofuel production will result in unintended pressure to break ground on forests, conservation lands, native prairie and critical wildlife habitat and result in a wholesale loss of habitat and other important ecological values.

Without proper safeguards, biofuel production threatens wildlife in the following ways:

- Making ethanol in the U.S using existing technology means converting millions of acres to corn production, and cornfields provide little habitat for wildlife. The impacts are especially detrimental if corn replaces native grasslands, which are already greatly reduced from their original size and provide critical habitat for grassland birds and other wildlife.
- Growing corn requires large amounts of fertilizers and pesticides that can be directly harmful to wildlife. Erosion on tilled cornfields washes soil, fertilizers and pesticides into local waterways, further threatening wildlife.
- Emerging technologies such as cellulosic ethanol could also harm wildlife if crops are grown in monoculture, require large amounts of pesticides and fertilizers, are harvested while birds are nesting, or replace native habitats.

The new administration should ensure that any programs or legislation expanding biofuel production:

- Promote advanced biofuels, including cellulosic ethanol, rather than expansion of corn-based ethanol.
- Exclude biofuel production on native prairie, Conservation Reserve Program and Grasslands Reserve Program acreage, and other lands that function as important wildlife habitat, control erosion, and sequester carbon.
- Direct biomass production toward agricultural lands and forest plantations already used or cleared for planting and restrict most other forest sourcing to pre-commercial thinning.
- Promote wildlife-friendly growing practices, such as mixed-species native perennial plantings, integrated pest management, minimal fertilizer use, harvest after nesting season on a wildlife-friendly rotation.
- Prohibit use of invasive species that can spread and damage natural habitats.
- Achieve significant greenhouse gas reductions as measured over biofuels' full life-cycle. Not tilling intact habitat, which would release carbon stored in soil, and limiting the transport distance to processing facilities are two ways to achieve such reductions.

The new administration also should support the development of properly-sited alternative energy projects that are reviewed under standards and procedures which ensure environmentally sound decision-making that do not result in avoidable harm to wildlife and wildlife habitat. As with any energy development project or generating facility, alternative energy generation facilities, including wind, solar, and geothermal facilities, should be located and operated in a manner that will minimize adverse impacts to wildlife and avoid fragmentation of important habitats or environmentally sensitive areas.