DEFENDERS OF WILDLIFE
PRESIDENTIAL TRANSITION WHITE PAPER

ENSURE SCIENTIFIC INTEGRITY OF DECISIONS

Revised October 28, 2008

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CHALLENGE

Effective and efficient federal natural resource agency efforts to conserve wildlife must have a strong scientific foundation and continuing scientific support. Unfortunately, during the past eight years the voice of science in federal conservation decisions has been fiscally sidelined, politically undermined and, at times, altogether silenced to the detriment of wildlife and essential habitat. Conservation of these resources has suffered greatly from the compromised scientific capacity and integrity of federal natural resource agencies.

Ecological research funding at the Environmental Protection Agency has declined nearly 26 percent just since 2004. The U.S. Geological Survey (USGS) Biological Research Discipline, which generates information needed to manage and conserve fish and wildlife, has experienced significant declines in funding and number of scientists and has been unable to build expertise in increasingly important subjects, such as genetics. The highly productive and cost-effective USGS Cooperative Fisheries and Wildlife Research Unit program, for example, has lost approximately one fifth of all its Research Grade Evaluation (RGE) scientists.

The loss of federal research funding and scientists has been compounded by unprecedented political interference with scientific processes. The independently documented efforts by political appointees in the outgoing administration to distort scientific methods and findings so that they would support the administration's policy preferences has greatly undermined the integrity and credibility of federal natural resource agencies.

A substantial and sustained effort will be needed to restore the capacity of federal natural resources agencies to conduct the research and provide the scientific expertise, analysis and information necessary for conservation of fisheries and wildlife populations and habitat. Funding levels will need to be increased to conduct research, fill vacant positions, and provide information analysis and sharing. Measures will be needed to assure that current

scientific staffing and expertise is adequate in the subject matter areas, scientific disciplines and analytical skill areas that are necessary to support agency operations and decisions.

A major effort will be necessary to safeguard scientific input and restore public confidence in decisions through measures to prevent politicization of science, to increase opportunities for public involvement in agency analyses and decisions, to improve disclosure, and to provide greater oversight and accountability.

Successful conservation of fisheries and wildlife populations and habitats in an era of global warming and increased climate variability also will depend as never before on integration of science and scientific methods into natural resources management. Federal agencies will need to make budgetary and institutional commitments to scientifically rigorous management that adheres to adaptive management principles and techniques. The iterative adaptive management processes of decision-making, monitoring, and assessment are key to determining the effectiveness of conservation actions and to modifying those actions to address scientific uncertainty.

ACTION

First 100 days:

Secure significantly increased funding for federal natural resources agencies to conduct research, fill vacant positions and provide information analysis and sharing.

The core of scientific expertise regarding fish, wildlife and plants within the Department of the Interior is found within the Biological Research Discipline (BRD) of USGS. BRD scientists are responsible for research, development of analytical tools, and sharing of information needed to manage and conserve these biological resources. However, support to carry out these activities and to ensure adequate scientific staff and expertise has steadily eroded over the last eight years. For example, although demands to address declining or stressed biological resources have increased dramatically over the last decade, funding for the Biological Research and Monitoring program of BRD has declined 12 percent when adjusted for inflation since FY 1999. BRD also has suffered significant declines in the number of its RGE scientists who are, in effect, the Interior Department's "seed corn."

The erosion of funding and scientific expertise within BRD has had particularly negative consequences for the wildlife and ecosystems research programs. Restoration of funding and staff for the Wildlife Resources program is needed to: (1) identify factors that contribute to or limit conservation and recovery efforts for terrestrial plant and wildlife species-at-risk; (2) institute an adaptive science approach to support the management of terrestrial plants and wildlife and; (3) provide technical assistance to natural resource managers. Restoration of funding and staff also is needed for the Ecosystems Resources program, which is the focal point for research on the effects of wildland fire outside of forested areas and for restoration and rehabilitation of these fire-impacted, non-forest ecosystems and watersheds. Consequently, we recommend that the new administration request $155 million for FY 2010 for the BRD Biological Research and Monitoring Program, an increase of approximately $14 million above the FY 2008 level.

The 40 Cooperative Fish and Wildlife Research Units (CFWRUs) located at universities in 38 states, which make up the USGS Cooperative Research Unit program, are crucial to successfully addressing the natural resource management challenges posed by global warming, energy development needs, imperiled species conservation, invasive species, infectious diseases, wildfire, and increased demand for limited water resources. Because each of the CFWRUs is a true federal-state-university-private partnership, this program is able to build on its partner contributions to leverage more than three dollars for every dollar appropriated to the program by Congress.

CFWRUs also will play a critical role in meeting the challenge natural resources management agencies face in replacing the unprecedented number of scientists and other professionals who will be retiring over the next 10 years. CFWRUs have established a record of educating new natural resource professionals who are management-oriented, well-versed in science, grounded in state and federal agency experience, and able to assist private landowners and other members of the public. Annually, CFWRUs engage in over 1,000 research projects for state and federal agencies and other entities and, at full staffing in a typical year, CFWRUs graduate 120 new natural resource professionals through host university departments, publish 300 articles in peer-reviewed scientific literature, and teach 120 graduate level university courses.

Although all CFWRU scientist positions were filled in FY 2001, seven years of steady erosion in funding has resulted in approximately one-fifth of all scientist positions (23) now being vacant. To restore the necessary capacity in the CFWRU program to meet the nation's research and training needs, the new administration should request $20 million for the CFWRUs in FY 2010, an increase of $3.8 million above the FY 2008 funding level.

Support for ecological research also has waned at the Environmental Protection Agency (EPA). Funding for the agency's Ecosystem Research Program has declined more than 25 percent since FY 2004. This program (1) defines ecosystem services and their implications for humans; (2) measures, monitors, and maps ecosystem services at multiple scales over time; (3) develops predictive models for quantifying and forecasting the changes in ecosystem services under alternative management scenarios; and (4) develops and adapts methodologies for decision makers to use to protect and restore ecosystems. Each of these areas of emphasis has become increasingly important in this era of global warming. Therefore, we recommend that the new administration request $100 million for EPA's Ecosystem Research Program for FY 2010, an increase of $25 million above the FY 2008 funding level.

First year:

Incorporate scientific adaptive management requirements into federal fish and wildlife conservation programs.

The coming decades of global warming will be one of uncertainty and variability. The new administration should make a budgetary and institutional commitment to ensure that federal natural resources agencies approach conservation of fisheries and wildlife populations and habitats in a manner designed to cope effectively with this uncertainty and variability. This approach, in part, will demand a scientifically rigorous approach to management that adheres

to adaptive management principles and techniques. The iterative adaptive management processes of decision-making, monitoring and assessment are essential to determine the effectiveness of conservation actions and identify modifications that will successfully respond to changing conditions and scientific uncertainty.

As initial steps to fully incorporate scientific adaptive management requirements into federal natural resources management, the new administration should assess the extent to which federal natural resources agency programs and management of lands and waters adhere to adaptive management principles and techniques, and it should identify any necessary measures to increase scientific rigor in existing use of adaptive management or to expand its application.

The new administration should require and provide the necessary funding and personnel for federal agencies to manage wildlife, habitat and other natural resources in rigorous accordance with the Interior Department's Adaptive Management Technical Guide or other comparable, scientific guidance. Land and resource management plans for National Forest, National Wildlife Refuge, National Park, Bureau of Land Management and Defense Department lands should incorporate the scientific adaptive management practices as set forth in the required guidance. A budgetary and institutional commitment should be made by the FWS and NMFS to include scientific adaptive management, wherever appropriate, in ESA recovery planning, habitat conservation planning, identification of section 7 reasonable and prudent alternatives, safe harbor agreements, candidate conservation agreements, and post-delisting management plans.

First term:

Restore scientific capacity to the federal agencies entrusted with stewardship of the nation's fish and wildlife resources.

Decisions affecting conservation of wildlife and habitat should be made on the basis of the best scientific data available. For this reason, it is critically important that the FWS and other federal natural resources agencies restore and enhance the scientific capacity and integrity of their programs, and adopt scientifically sound approaches to management. This effort will require that funding levels for FWS and other key federal natural resources agencies are sufficient to sustain biologist positions, research initiatives, monitoring and information analysis and sharing. It will require that agencies hire and retain biologists who have expertise in the subject matters, scientific disciplines, and analytical skills that are necessary to support conservation of wildlife. Further, it will require clarification of the role of science in agency decision-making processes and establishment of measures to safeguard scientific input in the implementation of agency actions.

FWS and other federal natural resources agency staff entrusted with stewardship of the nation's fish and wildlife resources must have the necessary skills and expertise for this important job. To administer natural resources programs as efficiently and effectively as possible, the FWS Director and the heads of NMFS, Forest Service, BLM and National Park Service should each conduct an assessment to identify expertise and skill needs within their

agency. The assessment should address and make recommendations in relation to the following aspects of scientific capacity:

- The adequacy of current levels of scientific expertise relative to effective conservation of fish, wildlife and habitats, and any measures that may be needed to improve that level of expertise.
- Whether current expertise is available in the subject matter areas, scientific disciplines and analytical skill areas that are necessary to support agency operations and decisions and any measures to enhance the breadth of scientific expertise.
- The extent to which current levels of training for staff are sufficient to assure that they will be able to reliably interpret available scientific information in meeting future conservation challenges.
- The number of positions allocated to science-related work and to what extent, if any, an increase is needed in the number of those positions.
- Funding levels to sustain research, positions, and information analysis and sharing and to what extent, if any, increases are needed in the level of that funding.

The assessment also should include implementation of a plan to meet those identified needs through training, reallocation of personnel and other existing resources, establishment of qualifications for vacant or new positions, and other means. FWS and the other agencies also should set standards of expertise and training for individuals who are responsible for making recommendations or decisions related to conservation of wildlife.

FWS and other federal natural resources agencies should assess the extent to which agency policies and attitudes in relation to wildlife conservation issues may impair use or development of unbiased scientific information. To further ensure sound conservation of imperiled species and other wildlife and restore public confidence in agency decisions, measures should be put in place by FWS and other federal natural resources agencies to prevent politicization of science. These measures should include implementation of policies for maintaining scientific integrity that identify prohibited personnel practices, guide internal and external communication, ensure science-based setting of research agendas, improve disclosure and increase oversight and accountability, and provide measures to increase public participation opportunities in agency analyses and decisions.

Scientific peer review is a key method to ensure that decisions regarding conservation of wildlife and other natural resources are based on sound scientific analysis. FWS and NMFS have ESA procedures in place to utilize peer-reviewed studies or undertake peer review of unpublished graduate theses, reports of state and federal agencies, documents prepared by consultants, and other studies that have not previously been peer-reviewed. Nevertheless, establishment of additional broader procedures for particularly important or controversial decisions may provide benefits not only for ESA-listed species but also for conservation of other wildlife and habitats. Related to this recommendation, the new administration should ensure that selection of scientific advisory committee members and contractors is unbiased (or at least balanced), based on demonstrated expertise, and adheres to conflict of interest rules and other ethical requirements.

The new administration should establish an independent, standing science advisory board to provide scientific peer review and advice regarding conservation of fish, wildlife and plants at the request of the Director of FWS or the Assistant Administrator of NOAA Fisheries. The board should be empowered to provide its expertise, comments and recommendations in circumstances in which significant scientific uncertainty impedes decision-making, new methodologies are being implemented, or the science is particularly complex or controversial. The board should consist of members who are qualified by education, training, and experience to evaluate scientific and technical information on matters referred to the board.

Finally, the new administration should restore some capability within FWS to conduct research and carry out other science functions. FWS is the key federal agency with responsibility for conservation of migratory and imperiled wildlife. However, in 1993 all of FWS research and science programs were transferred first to the National Biological Survey and then to its successor, the BRD component of USGS. While this transfer has provided many benefits for agencies within the Department of the Interior, including FWS, it has left the nation's leader in wildlife conservation without the scientists and funding it needs to effectively interact with USGS and augment its efforts. Strong, scientific capability within FWS is essential to efficient and effective endangered species and wildlife conservation.