

Climate Wildlife Adaptation Collaborators

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Federal Agencies

Agency: DOI Bureau of Indian Affairs (BIA), Division of Natural Resources

Role: The division provides coordination, management, planning, oversight, and monitoring for development and protection of trust natural resources, protection of Indian water rights, water development projects, litigation support, attorneys fees, and fish and wildlife resources.

Adaptation function: Provide direction and guidance for all activities related to the planning, management, conservation, development, and utilization of soil, water, farmland, rangeland, fish and wildlife resources, and endangered species. Lead programs that both assess and restore the Bureau's natural resources.

Agency: DOI Bureau of Land Management (BLM)

Role: Under the Federal Land Policy Management Act (FLPMA), the term “principal or major uses” includes, and is limited to, domestic livestock grazing, fish and wildlife development and utilization, mineral exploration and production, rights-of-way, outdoor recreation, and timber production.

Adaptation function: Give protection, in the form of designated areas, to places of environmental concern, which will shift and expand with the effects of climate change. It will also protect scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment when granting rights-of-way.

Agency: DOI Bureau of Reclamation

Role: Includes within its vision statement: “Managing Reclamation's facilities to fulfill water user contracts and protect and/or enhance conditions for fish, wildlife, land, and cultural resources.”

Adaptation function: Research and collect data by the expertise of professional fisheries scientists, wildlife biologists, environmental regulatory specialists, and environmental chemists, on a wide variety of multidisciplinary environmental field and laboratory studies concerning aquatic and terrestrial habitats, wildlife, water quality, and environmental impacts. As climate change alters these landscapes and species and their associated data, up to date collection of information and distribution of new findings will become increasingly important.

Agency: DOI Minerals Management Services (MMS)

Role: The Outer Continental Shelf Lands Act (OCSLA) requires examination of environmental sensitivity and marine productivity in potential lease areas for the 5-Year Program.

Adaptation function: Decide on size, timing and location of future lease sales depending on environmental sensitivity and marine productivity of areas. The MMS will be able to alter their decisions and data as climate change effects occur.

Agency: DOI National Park Service (NPS)

Role: In addition to being responsible for the fish and wildlife in national parks, NPS has a Biological Resource Management Division (BRMD) that is part of the NPS Natural Resource Program Center and the Natural Resource Stewardship and Science Directorate. Its mission is to provide the Service with expertise and leadership needed to preserve, protect, and manage biological resources and related processes in the National Park System.

Adaptation function: Provide specialized scientific and technical assistance to three organizational levels of the National Park Service: to individual parks, to the park system as a whole, and to the Park Service leadership. Its staff can provide program leadership for the management of biological resources and ecosystem processes. Also, offer expertise in conservation biology, wildlife health, social services, rare and endangered species, integrated pest management and invasive species management.

Agency: USDA Cooperative State, Research Education Extension Service

Role: Seeking to achieve a balance that sustains wildlife populations while minimizing wildlife impacts on human endeavors.

Adaptation function: Lead partnerships with educational institutions such as land-grant universities, state and federal natural resources agencies, and private conservation organizations.

Agency: USDA Animal and Plant Health Service (APHIS)

Role: APHIS includes the National Wildlife Research Center which is the federal institution devoted to resolving problems caused by the interaction of wild animals and society.

Adaptation function: Apply scientific expertise to the development of practical methods to resolve problems associated with climate change and to maintain the quality of the environments shared with wildlife.

Agency: USDA Natural Resource Conservation Service (NRCS)

Role: Priorities of NRCS include promote the restoration of declining or important native fish and wildlife habitats, protect, restore, develop or enhance fish and wildlife habitat to benefit at-risk species, reduce the impacts of invasive species on fish and wildlife habitats, protect, restore, develop or enhance declining or important aquatic wildlife species' habitats

The Wildlife Habitat Incentive Program (WHIP) is a voluntary program for landowners who want to develop and improve wildlife habitat on agricultural land, nonindustrial private forest land, and Indian land.

Adaptation function:

Provide technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner, provides assistance in complying with Federal, State, and tribal environmental laws, and encourage environmental enhancement by private landowners.

Offer landowners the opportunity to protect, restore, and enhance wetlands on their property by establishing long-term conservation and wildlife practices and protection. NRCS provides technical and financial support.

Agency: DOI U.S. Fish and Wildlife Service (FWS)

Role: FWS carries out a multitude of statutes (see <http://www.fws.gov/laws/lawsdigest/ResourceLaws.html>) related to the protection of fish and wildlife, as well as managing the National Wildlife Refuge System and implementing the Endangered Species Act.

Adaptation function: Adapt strategies and design best-use practices to deal with the effects of climate change on federally managed land throughout the United States in the face of climate change.

Agency: USDA U.S. Forest Service

Role: The Multiple-Use Sustained Yield Act of 1960 directed that the national forests be administered for outdoor recreation, rangeland, timber, watershed, and wildlife and fish.

Adaptation function: Provides a variety of use opportunities adapted for a changing climate, while maintaining wildlife diversity, supplies of wood products, energy sources and transmission infrastructure, wildlife and domestic livestock forage, water supplies, and other goods and services.

Agency: DOI U.S. Geological Survey (USGS)

Role: USGS scientists supported by the Wildlife: Terrestrial and Endangered Resources Program (Wildlife Program) conduct research on diverse natural resource topics involving migratory wildlife, marine mammals, threatened and endangered species, wildlife disease, terrestrial plants, and amphibians focusing primarily on the information needs of Department of the Interior partners. The Wildlife Program supports the development of new information and tools for the management of wildlife on Federally managed lands.

Adaptation function: Support and provide the collection and analysis of biological data for use by natural resource managers, scientists, and the general public as climate change, invasive species, and human activities are causing natural resource management and conservation efforts to become increasingly challenging and complex. Additionally, the USGS Invasive Species Program will provide methodologies and information to address threats to ecological systems and native species due to the introduction and spread of invasive species.

Agency: Department of Commerce (DOC) National Oceanic and Atmospheric Administration (NOAA)

Role: NOAA's National Marine Fisheries Service (NMFS) is dedicated to the stewardship of living marine resources through science-based conservation and management, and the promotion of healthy ecosystems. NOAA NMFS conserves, protects, and manages living marine resources in a way that ensures their continuation as functioning components of marine ecosystems, affords economic opportunities, and enhances the quality of life for the American public.

Adaptation function: Manage, conserve and enhance habitats for fishery resources, protected species and other living marine resources. The Office of Protected Resources (OPR) will also protect marine mammals and endangered marine life. NOAA's OPR will conserve, protect, and recover species under the Endangered Species Act and the Marine Mammal Protection Act (MMPA) in conjunction with the Regional Offices, Science Centers, and various partners. The Office of Sustainable Fisheries is another NMFS program that will oversee and implement steps required to meet the objectives of the NOAA Fisheries Strategic Plan, which contains the following objectives: maintain healthy stocks important to commercial, recreational, and subsistence fisheries, eliminate over fishing and rebuild over fished stocks important to commercial, recreational, and subsistence fisheries, increase long-term economic and social benefits to the nation from living marine resources.

Agency: Department of Defense (DOD)

Role: Conservation Programs on Military Reservations. The Secretary of Defense is authorized to carry out a program of planning for, and the development, maintenance, and coordination of, wildlife, fish, and game conservation and rehabilitation in each military reservation.

Adaptation function: Develop cooperative plans that must accommodate fish and wildlife habitat improvements or modifications, range rehabilitation where necessary to support wildlife, control of off-road vehicle traffic, build specific habitat improvement projects and related activities, and offer adequate protection for species of fish, wildlife and plants considered threatened or endangered.

Agency: U.S. Army Corps of Engineers (Corps)

Role: The Corps' environmental programs fall under the umbrella of the Environmental Community of Practice, which provides the public with a central access to news and information about the environment.

Adaptation function: Support or manage numerous environmental initiatives including ecosystem restoration, Formerly Used Defense Sites, environmental stewardship and regulatory programs, support to EPA Superfund and Brownfields programs, Abandoned Mine Lands, Formerly Utilized Sites Remedial Action Program, Base Realignment and Closure 2005.

State Agencies

Agency: State Fish and Wildlife Agency

Role: State wildlife agencies are charged with managing the state's fish and wildlife resources. These agencies focus on land management and research and monitoring of species and habitats.

Adaptation function: Identify key adaptation strategies for species and habitats. This will require developing research programs that focus on species and habitat monitoring that integrates the impacts of climate change. Agencies will coordinate state response to these impacts with other key agencies. Also responsible for developing key predictive models for future impacts of climate change. Agency will develop management techniques for maintaining resilient natural landscapes. Agency will be critical player in developing educational programs explaining the threat of climate change on fish and wildlife resources. Promote understanding of resiliency and adaptation and promote new research and monitoring in these fields. Agencies will also analyze our future role as wildlife agencies in wildlife adaptation and how that will influence human adaptation responses to climate change. Help agencies develop new policy triggers for wildlife management in the face of climate change.

Agency: State Planning Agency

Role: State Planning Agency is typically the state's land planning and community development agency.

Adaptation function: Provide leadership to local government planning by making adjustments to existing activities and practices so that vulnerability to potential impacts associated with climate change can be reduced or future opportunities realized (adaptation). Areas of concern for local government adaptation planning: wildlife

protection, coastal management, parkland management and invasive species control.

Agency: State Coastal Commission/Agency

Role: Coastal Commissions, in partnership with coastal cities and counties, plan and regulates the use of land and water in the coastal zones.

Adaptation function: Coastal Commissions that have authorities within coastal areas are grappling with how to best prepare for the impacts of climate change, including sea level rise, increased storm frequency and intensity, coastal erosion and flooding. Those impacts could include damage to coastal and marine habitats, wetlands, public access to the coastline, and other environmentally sensitive habitat areas, agriculture, low-cost visitor-serving recreational uses, visual resources, commercial and recreational fishing, and community character.

Agency: Environmental Quality Agency

Role: Typically the lead agency in state government for environmental management and stewardship and is one of the more diverse agencies in state government, protecting air, water, and land resources.

Adaptation function: Also key regulatory body in most states for air pollution and will likely have a role in carbon monitoring and sequestration. Also key regulatory body for water quality, which has a substantial landscape management component.

Agency: Land Management Agency

Role: Sustains the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

Adaptation function: Provide management of large parcels of land. Responsibilities involved with doing a carbon audit of public lands. Agency will be a key player as public land is managed for resiliency from the impacts of climate change. These agencies typically have mapping responsibilities and this information can be used to identify key conservation land that factor in climate change.

Agency: Agriculture Agency

Role: Agency that conserves and protects the state's agricultural and natural resources by reducing wildfires, promoting environmentally safe agricultural practices, and managing public lands.

Adaptation function: Manages large parcels of land for forestry. Will be a key player in the development of carbon markets which could influence how land is managed on state lands. Potential conflict over land managed for wildlife habitat versus land managed for carbon sequestration.

Agency: University System

Role: To support and advocate for high-quality teaching, research and public service.

Adaptation function: Provide key research for climate change adaptation. Natural resource adaptation research should focus on habitat management and long term monitoring. Universities will be integral in developing downscaled models for climate change impacts. Universities will also develop new ecosystem service tools for land managers focusing on climate change impacts. These efforts will need to create awareness that carbon markets should not only focus on carbon mitigation, but also adaptation benefits. Help develop tools that will quantify the value of adaptation (migration corridors, buffer zones, protection against invasive species, etc.). Create innovative new funding mechanisms that will tap into the carbon markets, specifically how these funds can help with adaptation, e.g., ‘adaptation credits’.

Agency: Transportation Agency

Role: Develops transportation policies and programs that contribute to providing fast, safe, efficient, and convenient transportation and ensures the efficient use and conservation of the resources.

Adaptation function: As state transportation agencies plan for future transportation needs factoring in climate change, these transportation issues could have a substantial impact on land use planning. This planning needs to be integrated with other agencies land use planning based on downscaled regional climate models.

Agency: Health Agency

Role: Promote, protect and improve the health of the countries’ citizens.

Adaptation function: As habitat changes occur, this could have unintended consequences for the health of communities. Health agencies are getting involved with smart growth concepts which will be important vehicles for natural resource adaptation strategies. The spread of disease may overlap with land use changes.

Agency: Water Pollution Control Agency

Role: Responsible for the sustainable use of water resources.

Adaptation function: Agency manages water resources through permits to local governments and industry to discharge treated wastewater and to local governments, industry, farmers and subdivisions for surface water and groundwater withdrawals. Agency typically ensures that public water systems are operating properly to supply safe drinking water to citizens, works to control nonpoint sources of pollution, including erosion and sedimentation, and manages storm water discharges. Agency also conducts water quality monitoring and modeling of waterways. Adaptation role can be by managing water resources for the water quality enhancement provided by functioning ecosystems.

Agency: Education Agency

Role: Providing free and comprehensive education to the public.

Adaptation function: Concepts associated with adaptation are still difficult to

comprehend, even for those working in the field. Educating the public about the need to adapt to the impacts of climate change will require working within all areas of public education. Natural resource adaptation actions will be some of the first we see in response to climate change, so informing the public of these concepts will be critical for the long term support of these actions.

NGOs

Type of NGO: National Land Conservation/Management Organizations

Role: Sustain the health, diversity and productivity of private lands for conservation purposes, provide information and resources to land trusts and conservation organizations.

Adaptation function: Disseminate information to organizations to help inform land conservation decision-making, manage large tracts of private land, develop and implement data collection strategies in cooperation and coordination with state, federal and other NGO partners.

Type of NGO: National Fisheries/Wildlife Science-Based Organizations

Role: Research, data collection and dissemination

Adaptation function: Develop and implement data-collection strategies in cooperation and coordination with state, federal and NGO partners.

Type of NGO: National Fish and Wildlife Policy Organizations

Role: Environmental, wildlife and conservation policy advocates

Adaptation function: Educate federal, state and local decision makers about adaptation strategies, encourage input into local conservation planning.

Type of NGO: National Membership-Driven Fish and Wildlife Conservation and Sporting Organizations

Role: Pursue wildlife and land restoration and conservation strategies at federal, state and local levels, educating the public about key conservation and management challenges in the interest of both wildlife and people.

Adaptation function: Educate affiliates/chapters/members about adaptation strategies, encourage input into local conservation planning. Restore and develop habitat and implement data-collection strategies in cooperation with federal, state and other NGO partners.

Type of NGO: Foundations

Role: Fund wildlife and habitat conservation strategies

Adaptation Function: Leverage private, state, and federal dollars to implement adaptation strategies.

Private Sector

Type of Company: Ecosystem Services Development

Role: Acquire land with potential for significant cash flow from restoration and conservation of natural resources.

Adaptation function: Development of carbon markets, which could influence how land is managed.

Type of Company: Large-Scale Private Forest Land Managers

Role: Acquisition and sustainable management of forests

Adaptation function: Conserve large tracts of unbroken forest land.