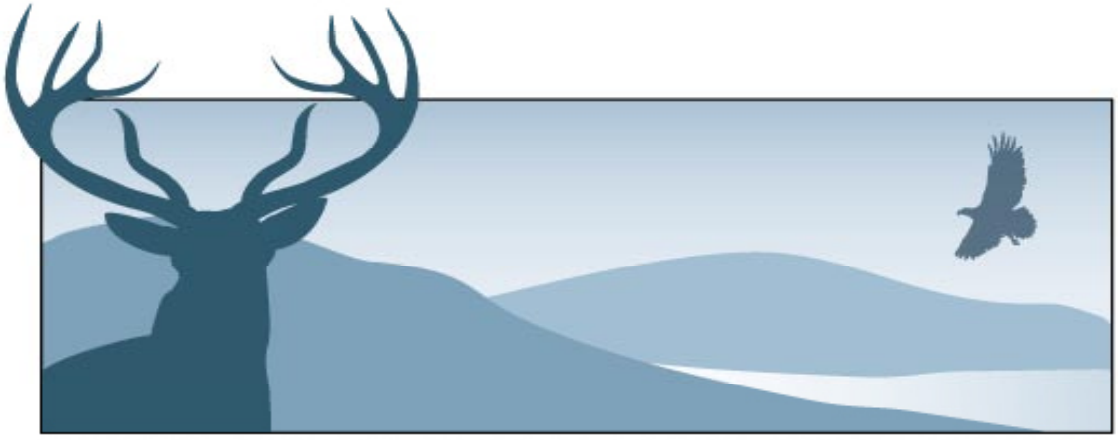

CENTER FOR LARGE LANDSCAPE CONSERVATION

Recent Progress on Wildlife Corridor and Ecological Connectivity Policy in the United States

2007-2010

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INTRODUCTION

This report summarizes the increasing attention state and federal policy makers have given to the importance of maintaining ecological connectivity. It includes policy initiatives, memoranda, orders, plans, strategies and other administrative avenues of promoting the conservation of wildlife corridors. In addition to administrative efforts, it includes state and federal legislative efforts, both bills that were introduced and those that ultimately were passed.

Some of these new policies focus on wildlife migration, others on large landscapes and yet others on private lands. Many of these efforts are wrapped within the context of adaptation strategies for climate change, others are in reaction to fragmentation brought on by human development such as energy exploration or busy highways, while others seek to create private land incentives or inform land use planning.

Overall, there are 21 noteworthy connectivity policy efforts described in this report, from 2007 through 2010. Seven are by states, one is a joint federal-state memorandum and fourteen are federal initiatives. Some policies are general in nature, while others have a high degree of specificity. These efforts have been launched and supported by both political parties, Republicans and Democrats, making the issue of conserving wildlife corridors and ecological connectivity in the United States a decidedly bipartisan effort.

A. STATE POLICIES

1. Western Governors' Association, Wildlife Corridors Initiative. 2007 and 2010.

The Western Governors' Association (WGA) passed policy resolutions, Conserving Wildlife Corridors and Crucial Wildlife Habitat in the West, both in 2007 (Policy Resolution 07-01) and then to renew the Initiative in 2010 (Policy Resolution 10-10). The governors sought to further the identification and protection of wildlife corridors and crucial habitats in the 19 western states.

A key part of the policy resides in the WGA report issued for the Initiative. In this report, in its Background section, it is stated:

"Western states are made up of a patchwork of federal, state, tribal, local government and private lands that support robust development and ecologically intact landscapes—essential assets to economic vitality and quality of life in the West. Change is occurring in the region at a pace that is difficult for decision-makers at all levels to track and accommodate. This rapid change is happening on many fronts, including unprecedented population growth and associated land-use impacts, energy development to meet growing demands and reduce dependence on foreign supplies, and new transportation infrastructure. Possible climate change poses further challenges for the region, with scientists projecting greater climate extremes, including increases in drought. These fast-paced changes are resulting in notable landscape impacts—

including habitat loss and habitat fragmentation—ultimately impacting the West's wildlife and aquatic resources.

In February 2007, The Western Governors' Association (WGA) unanimously approved policy resolution 07-01, *Protecting Wildlife Migration Corridors and Crucial Wildlife Habitat in the West.* This resolution describes the importance of wildlife corridors and crucial habitat and asks the Western states, in partnership with important stakeholders, to identify key wildlife corridors and crucial wildlife habitats in the West and make recommendations on needed policy options and tools for preserving those landscapes.

To implement the resolution, WGA launched the *WGA Wildlife Corridors Initiative*, a multi-state and collaborative effort that included six separate working groups, each of which was charged with developing findings and recommendations on various aspects of wildlife corridors and crucial habitat. These Working Groups are as follows: Science Committee, Oil & Gas Working Group, Energy Working Group, Climate Change Working Group, Land Use Working Group and Transportation Working Group

This report is a compilation of the work achieved by the six working groups. The *WGA Wildlife Corridors Initiative* report was approved by the Governors during the WGA Annual Meeting in Jackson, Wyoming, on 29 June 2008, with the understanding and condition that implementation of the report will be coordinated and overseen by the Western Governors' Association through the Western Wildlife Habitat Council that will be established under WGA."

2. Washington State Department of Transportation, Secretarial Order 1031, Protections and Connections for High Quality Natural Habitats. July 2007.

The Secretarial Order (SO) explained that the "Washington State Department of Transportation (WSDOT), in partnership with other agencies, organizations, and the public, must assure that road and highway programs recognize, together with other needs, the importance of protecting ecosystem health, the viability of aquatic and terrestrial wildlife species, and the preservation of biodiversity. It was signed on 23 July 2007.

Among its aims, the SO stated:
"…planning should recognize and respond to particular concerns and opportunities for habitat preservation and the need for habitat connections.

"To locate specific opportunities to restore habitat connectivity already damaged by human transportation corridors. Such opportunities should be prioritized for maximum ecological benefit by taking account of such factors as the multiplicity of benefited species, as well as the opportunity to support recovery of threatened and endangered species, the long-term security and viability of the habitat connection, and the cost-effectiveness of achieving connectivity gains."

3. New Mexico House Joint Memorial 4 passed by New Mexico Legislature. April 2009.

The Joint Memorial requests "that state agencies, using existing resources, with other agencies, Indian nations, tribes and pueblos, and private groups to share information about key wildlife corridors."

It was resolved in Joint Memorial 4 that that the Legislature of the State of New Mexico "recognize the importance of wildlife corridors to the health of New Mexico's wildlife" and "state agencies consider existing and future data about wildlife corridors in their planning decisions."

House Joint Memorial 4 was sponsored by Representative Mimi Stewart. The Joint Memorial also called for an information sharing and needs assessment workshop that was to be conducted before September 2009.

4. New England Governors Conference, New England Wildlife Habitat Initiative. Resolution passed on 15 September 2009.

The New England Governors' Conference, aware that the WGA had launched their wildlife corridors policy initiative in 2007, acted in a similar vein tin 2009. Their resolution states:

"To protect wildlife habitat that make use of each state's Wildlife Action Plan as the foundation for regional work on habitat connectivity and inform land use and public infrastructure investment decisions at the local, state and federal levels."

5. Memorandum of Understanding (MOU) for Wildlife Corridor Conservation between Colorado and New Mexico. December 2009.

Governor Bill Ritter, Jr. of Colorado and Governor Bill Richardson of New Mexico signed an MOU to "to cooperate through the sharing of data, coordinate planning and joint development of strategies to facilitate the management of shared wildlife corridors between the State of New Mexico and the State of Colorado." It was signed on 9 December 2009.

The MOU describes what the two states will do to work together:
• Identify key habitat connectivity, travel and migration corridors used by elk, deer, pronghorn antelope and bighorn sheep, and, as identified by the two states, other key species of wildlife that migrate across the shared border between the State of Colorado and the State of New Mexico;
• Evaluate and prioritize these corridors, using the best available science, in respect to their importance and identify key habitat connectivity, travel and migration corridors to be further evaluated;

• Consult with and involve the Southern Ute Indian Tribe, Ute Mountain Tribe, and/or Jicarilla Apache tribal governments when a key habitat connectivity, travel and migration corridor crossing tribal land is identified;
• Map the key habitat connectivity, travel and migration corridors to the greatest extent possible using a mutually agreeable geospatial mapping system and consistent protocols to inform the decision-making processes in both States;
• Identify existing and potential land use changes and other impediments that are limiting, may limit or may eliminate the viability of key wildlife corridors;
• Develop and prioritize strategies that will positively contribute to the protection of key wildlife corridors, consistent with shared conservation objectives;
• Share recommended strategies with land management agencies, counties, municipalities, non-governmental entities, and the public, to inform and guide future decision-making processes.

6. Maine Stream Crossing Bill, LD 1725 – HP 1224. April 2010.

Recent studies showed that about 90 percent of the culverts where streams flow under Maine's roads failed to allow fish and other aquatic organisms to pass. The bill requires new stream crossings to be designed with a 1.2 times bank full requirement resulting in an estimated 175% - 325% increase in structure widths for stream crossing projects.

The potential benefits to be gained from upsizing stream crossings to meet the 1.2 x bank full requirements include but are not limited to:
• Accommodation of increased flows resulting from climate change.
• Reduced maintenance due to increased width – diminished risk of plugging.
• Reduced scouring and storm related damage.
• Reduced rate of corrosion for metal pipes.
• Reduction in vehicle-wildlife collisions.
• Add value to Maine's natural resource based economy, such as sport fishing, commercial fishing, eco-tourism and habitat creation/restoration

The law that was adopted requires new culverts to be larger and better situated in streams, but the Legislature declined the task of requiring that older culverts be redesigned for fish passage. Governor John Baldacci signed the bill into law on 8 April 2010.

7. Wildlife Crossing Zones Act (Colorado – House Bill 10-1238). June 2010.

The bill was sponsored by Colorado State Senator Gail Schwartz and Representative Kathleen Curry in the Colorado House of Representatives. It assures that Colorado motorists will see more roadside reminders to slow down and watch for wildlife in specifically designated corridors. The bill allows the Colorado Department of Transportation (CDOT), in consultation with the Colorado Division of Wildlife, to establish areas within the public highways of the state as wildlife crossing zones. In total, the agencies can identify up to 100 miles of highways in these zones. If CDOT establishes an area as a wildlife crossing zone, the department may erect signs identifying the zone and establish a lower speed limit for the portion of the highway that

lies within the zone and corresponding increased penalties. The Act was signed into law by Colorado Governor Bill Ritter on 9 June 2010.

B. FEDERAL-STATE POLICY

1. Memorandum of Understanding regarding Wildlife Corridors and Crucial Habitats signed on 15 June 2009.

The Western Governors' Association signed a Memorandum of Understanding (MOU) with the U.S. Department of the Interior (DOI), U.S. Department of Agriculture (USDA) and U.S. Department of Energy (DOE) to improve "*coordination among federal agencies and states in identification and uniform mapping of wildlife corridors and crucial habitat".*

The MOU included the following sections:
1. DOI, DOE and USDA will endeavor to assist the WGA in the efforts of Western Governors' Wildlife Council, working in coordination with their member states, to create state-based decision support systems that develop, coordinate, make consistent and integrate quality data about wildlife, corridors, and crucial habitat across landscapes.

3. The Parties will endeavor to develop, use and make available the various decision support systems to inform relevant decision-makers at all levels of government, and the private sector engaged in land use decisions, and to evaluate a variety of land uses while providing healthy and productive landscapes.

C. FEDERAL POLICIES

1. Executive Order 13443, Facilitation of Hunting Heritage and Wildlife Conservation, signed by President George W. Bush on 16 August 2007.

Two outcomes from this Executive Order included:

- The White House Conference on Wildlife Policy that was held in Reno, NV, in October 2008.
- The Recreational Hunting and Wildlife Conservation Plan (10 Year Implementation Plan) as directed by Executive Order 13443, was developed in cooperation with the Sporting Conservation Council (a federal advisory committee), diverse volunteers from state agencies, conservation and sportsmen's organizations, and participants in the White House Conference on North American Wildlife Policy. It was issued on 14 December 2008.

Recommended actions in the conservation plan included:

> 40. Publish standards and protocols for on-site and off-site considerations for oil and gas development and impacts for wildlife.

Federal agencies will establish a landscape assessment taskforce in collaboration with state wildlife agencies to develop assessment.

- Include statewide mapping efforts to identify areas of high importance to wildlife habitat in pre-lease planning; for populations of sensitive species to remain viable, big game crucial winter ranges and **migration corridors**, areas sustaining a high density of sage grouse leks, and those intact portions of the landscape without substantial habitat fragmentations; **use the Western Governor's Association's Wildlife Migratory Corridor Report**; and use State Wildlife Conservation Plans.

42. Produce a Memorandum of Agreement (MOA) between federal agencies and western governors. The MOA should:

- **Establish agreement between states and federal agencies to share uniform mapping information on wildlife migration corridors.**
- **Seek opportunities to work with land trusts and NGOs for conserving wildlife corridors.**
- **Create incentives for federal land managers to partner on wildlife corridor conservation with private landowners and industry** on landscape-scale approaches through coordinated development and conservation planning.
- Establish and utilize mitigation accounts for funding of wildlife friendly fencing and conservation easements.

2. Report of the Subcommittee on Land and Water Management, an Analysis of Climate Change Impacts and Options Relevant to the Department of Interior's Managed Lands and Waters. 2008.

This report was produced by the Department of the Interior's Task Force on Climate Change. Washington, D.C. during the tenure of Secretary Dirk Kempthorne in 2008.

Pertinent sections of this report include:

SPECIES MIGRATION AND HABITAT CHANGE

Statement of the Issue
Climate change causes species and natural communities to shift in latitude and/or elevation (primarily northward or upward) across the landscape, perhaps away from DOI-managed lands.

Description of Issue
Plants and animals only reproduce, grow and survive within specific ranges of climate and environmental conditions. When conditions change beyond their tolerance, both plant and animal species may respond by shifting range boundaries or changing the density of individuals within their ranges. Predicted climate changes will make the current ranges inhospitable for many resident species on DOI lands. Following suitable habitat conditions, these species will generally attempt to migrate northward or upward.

This ‘species migration’ is not the short-term seasonal migration that waterfowl perform each year, but long-term shifting of entire species or a local community to new home ranges. These natural communities will not be replaced suddenly. Individual species will migrate to new areas or die off, placing stress on other species in the community that depend on them for food or habitat. Species losses will eventually cascade through many natural communities and landscapes. Other species will invade empty niches left behind, bringing with them changes to the historical landscape and the ecological services and benefits to which people are accustomed.

A wide variety of natural and man-made barriers can prohibit the natural migration of plants and animals to suitable new locations. Highways, urban areas, rivers, agricultural lands, pipelines, dams, unseasonably low river flows, habitat fragmentation, and lack of connectivity between water sources are just a few obstacles to migration. Even highly mobile species may face serious obstacles to successful migration if their food and habitat requirements cannot cross barriers or do not exist in new areas.

Migratory waterfowl, neo-tropical birds, anadromous fish (those that migrate from saltwater to freshwater to spawn) and some insects such as Monarch butterflies offer unique challenges. These species travel great distances during their life cycle, generally from wintering to breeding habitats. Loss of any portion of essential habitat along their migration routes may cause serious populations declines. For example, much of the Prairie Pothole wetlands in the upper Midwest is predicted to dry due to climate change. This drying would eliminate critical breeding grounds for ducks and geese along the central flyway.

Anadromous fish are of particular concern to DOI because they provide significant ecological, economic, and cultural values to native peoples, rural Alaskans, and American society as a whole. Many salmon species are already suffering serious declines due to past and present human-induced habitat modifications and other stresses that are not yet well understood. Climate changes are expected to cause additional stresses, possibly pushing some populations to the brink of collapse. Actions could be taken to increase our understanding of fish responses to changing climate conditions and to reduce other stressors to fish populations.

Statement of Options
Option 1: Assess Vulnerabilities: Species Migration. Conduct a screening level vulnerability assessment of ecosystem shifts in relation to DOI lands.
Option 2: Encourage Regional Inventory and Monitoring Partnerships. Develop regional partnerships to build on existing biodiversity monitoring programs to inform regional-scale decisions for species on DOI lands.
Option 3: Identify and Highlight Species Migration Case Studies. Use selected case studies to educate and inform resource managers on successful species migration and relocation projects.
Option 4: Develop Predictive Models for Species Response. Develop planning models to predict species response.

Option 5: Promote Regional Partnerships for Species Migration and Relocation. Promote regional partnerships to enhance the success of species migration and relocation in response to climate change. This option is more fully described under DOI-Wide Option 6, “Develop an Interior Climate Adaptation Partners (ICAP) Program”.

3. Bridger-Teton National Forest Plan Amendment for pronghorn migration corridor. The Decision Notice was signed on 31 May 2008.

This was the first federal administrative designation of a wildlife corridor by the USDA-Forest Service. The Bridger-Teton National Forest (BTNF) in Wyoming, on the southern end of the Greater Yellowstone Ecosystem, completed the first administrative designation of a wildlife corridor in the nation on USDA-Forest Service lands. This unprecedented action was sought to maintain secure habitat for the annual migration of a special herd of pronghorn that moves an estimated 47 miles across national forest lands, comprising approximately 29,400 acres, in its semi-annual 150 mile long trip between winter range in Upper Green River Basin near Pinedale, WY and summer range in Grand Teton National Park. The relatively narrow corridor traverses three bottlenecks and passes through a variety of land ownership classes: national park, national refuge, national forest, Bureau of Land Management, state and private lands in two Wyoming counties. It is important to note that while the full length of the migration route includes lands under various jurisdictions the Forest Service designation applies only to Forest Service System lands within that larger corridor.

The wildlife corridor was administratively designated via a Forest Plan Amendment conducted under the 1982 forest planning regulations (36 CFR 217). The Decision Notice and Finding of No Significant Impact were signed by Forest Supervisor Kniffy Hamilton on 31 May 31 2008. In the BTNF’s scoping statement for the Amendment the background/purpose asserts:

The pronghorn that summer in Jackson Hole [including Grand Teton National Park, ed.] *migrate annually from wintering areas in the Green River basin. Documented round trip migration distances from 175 to 330 miles make this the longest known terrestrial animal migration in the 48 contiguous states. Typically, the pronghorn migrate through the proposed corridor in April or May and again in October or November. These pronghorn are a part of the impressive landscape of free-ranging native Rocky Mountain mammals in northwest Wyoming. This landscape draws tourists from around the world and supports a robust regional economy. A significant portion of the full migration route is within the Bridger-Teton National Forest. Designating this corridor and managing it to facilitate continued successful movement will help ensure protection of this herd and its migration.*

The new Forest Plan Amendment included a standard that was put in place for the designated corridor that was fairly straight forward and easy to understand. *“All projects, activities, and infrastructure authorized in the designated Pronghorn Migration Corridor will be designed, timed and/or located to allow continued successful migration of the pronghorn that summer in Jackson Hole and winter in the Green River basin*.” As

consequence of this being a Forest Plan standard under the 1982 regulations, it is enforceable by law.

4. Bureau of Land Management (BLM), Pinedale Resource Management Plan Revision. November 2008.

This BLM Resource Area in western Wyoming based in Pinedale, WY, created the first Area of Critical Environmental Concern (ACEC) based on the need to protect the pronghorn wildlife migration that the USDA-Forest Service had protected earlier in the year via a Forest Plan Amendment for adjacent federal lands.

In addition to the site specific ACEC designation, the BLM also set as a Resource Area–wide goal (Section 2.3.16 Wildlife and Fish Habitat) to "[m]aintain functioning big game habitats and migration corridors that allow free movement and use of habitats."

Under the section for Special Designations and Management Areas (Section 2.3.17):

Management Goals
Trapper's Point ACEC Management Goal. Preserve the viability of the big game migration bottleneck, cultural and historic resources, and important livestock trailing use.

The Record of Decision for the Pinedale Resource Management Plan Revision was signed on 28 November 2008.

5. US House Resolution 2454, Title IV, Subtitle E (Adapting to Climate Change), Section 481 National Wildlife Habitat and Corridors Information Program. June 2009.

This bill was passed by the US House of Representatives on 26 June 2009; however, no companion bill with similar language emerged from the US Senate in that session of Congress.

Sec. 481 of H.R. 2454 creates a National Wildlife Habitat and Corridors Information Program. This section establishes a program in the Department of the Interior to provide financial and other support to States and tribes in the development of a GIS database of fish and wildlife habitat corridors and to facilitate the use of database tools in state and federal planning.

6. Department of Interior, Secretarial Order 3289. Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources. Signed by Secretary Salazar on 14 September 2009 (Amendment 1 signed on 22 February 2010).

Purpose Section:

- Shifting wildlife and habitat populations may require investment in new wildlife corridors.

- Department must conserve and manage fish and wildlife including 800+ species of migratory birds.
- This Secretarial Order also gave us Landscape Conservation Cooperatives for coordinated landscape level management responses for "…wildlife migration and related needs for new wildlife corridors…"

7. Presidential Memo: A 21st Century Strategy for America's Great Outdoors. Signed by President Obama on 16 April 2010.

The America's Great Outdoors Initiative was launched via a Presidential Memorandum and included in the goals portion of the initiative was to **"[b]uild upon State, local, private, and tribal priorities for the conservation of land, water, wildlife, historic, and cultural resources, creating corridors and connectivity across these outdoor spaces…"**

The memo by President Obama calls for listening sessions around the country, a report which will include an action plan in November 2010 and annual reports for the Initiative in 2011 and 2012. By the end of 2010 no report or action plan had been completed by the Administration.

8. Wildlife Corridors Conservation Act of 2010, introduced on 21 April 2010.

"To expand the science and stewardship of America's most important wildlife corridors."

U.S. Rep. Rush Holt (NJ-12), a member of the House Committee on Natural Resources, and Rep. Jared Polis (CO-2) introduced the bill on 21 April 2010 (Earth Day). The bill never moved out of the House Natural Resources committee.

Key provisions of the bill include:

- Requires the Secretary of the Interior to establish a National Fish and Wildlife Habitat and Corridors Information program in coordination with the states and Indian tribes.
- Establishes the Wildlife Corridors Stewardship and Protection Fund. Implemented by the National Fish and Wildlife Foundation for projects to advance important wildlife corridor stewardship and protection.
- Directs Bureau of Land Management planning, by amending the Federal Land Policy and Management Act, to include consideration for, and conservation of important wildlife corridors.
- Directs National Forest system resource planning by amending the FRRA Act of 1974 to include identifying important wildlife corridors in Forest Plans.
- Directs the Department of Agriculture to include consideration of wildlife corridors in administering its conservation programs.

9. US Department of Transportation, Federal Highway Administration's (FHWA) Memorandum on Reducing Wildlife Vehicle Collisions, signed on 1 June 2010.

The FHWA's Associate Administrator of the Office of Safety and Planning and Associate Administrator for Environment and Realty sent a memo to Directors of Field Services, Division Engineers and Division Administrators regarding their new Wildlife Vehicle Collision (WVC) Reduction Training Course. In the memo the Associate Administrators encourage their agency leaders to incorporate wildlife movement data and, thereby, accommodate WVC mitigation strategies and wildlife connectivity needs into all environmental review processes. They pointed out that information is available and that many states have worked with non-governmental organizations to develop regional and local wildlife corridors and connectivity priorities.

10. USDA-Forest Service issued its "National Roadmap to Responding to Climate Change" in July 2010.

This was based on its "Strategic Framework for Responding to Climate Change" that was completed in October 2008.

In the National Roadmap recommendations for "immediate initiatives" are:

Connect habitats to improve adaptive capacity.

- Collaborate with partners to develop land management plans that establish priority locations for maintaining and restoring habitat connectivity to mitigate effects of climate change.
- Seek partnerships with private landowners to provide migration corridors across private lands.
- Remove or modify physical impediments to the movement of species most likely to be affected by climate change.
- Manage forest and grassland ecosystems to decrease fragmentation.
- Continue to develop and restore important corridors for fish and wildlife.

11. National Park Service, "Climate Change Response Strategy", September 2010.

Under the Park Service's Strategic Plan for climate change, in the Adaptation Section, it was stated:

Goal 6
Implement adaptation strategies that promote ecosystem resilience and enhance restoration, conservation, and preservation of park resources.

Objective 6.3: Collaborate to develop cross-jurisdictional conservation plans to protect and restore connectivity and other landscape-scale components of resilience.
Protecting and restoring corridors (passageways that connect habitat patches) and connectivity across landscapes will require strong collaboration with partners and programs

to share knowledge, develop repositories of genetic resources, and, where appropriate, develop cross-jurisdictional conservation.

12. US Fish and Wildlife Service, "Rising to the Urgent Challenge: Strategic Plan for Responding to Accelerating Climate Change," issued in September 2010.

Under the USFWS strategic plan is the following goal and objective:

Goal 3: We will plan and deliver landscape conservation actions that support climate change adaptations by fish and wildlife of ecological and societal significance.

Objective 3.2: Promote Habitat Connectivity and Integrity

Climate change is contributing to the loss, degradation, and fragmentation of current habitats and will likely create novel habitats as species redistribute themselves across the landscape. In addition, climate change is interacting with non-climate stressors — such as land-use change, wildfire, urban and suburban development, and agriculture — to fragment habitats at ever-increasing rates. Protecting and restoring contiguous blocks of unfragmented habitat; and using linkages and corridors to enhance connectivity between habitat blocks (in particular, protected areas such as National Wildlife Refuges) will likely facilitate the movement of fish and wildlife species responding to climate change. Novel conservation measures that address the dynamic nature of climate change effects on habitat may also be needed, among them, long-term climate refugia; protected habitat areas with dynamic boundaries; or other conservation entities, such as land facets (p 14).

Through conservation designs developed by LCCs [Landscape Conservation Cooperatives], we will work with partners to identify needed habitat protection and landscape scale habitat linkages and corridors. By joining the habitat protection and management capacities of the Service (e.g., National Wildlife Refuge System, Partners for Fish and Wildlife Program, Endangered Species Program, National Fish Habitat Plan, National Fish Passage Program, Neotropical Migratory Bird Conservation Act, and North American Wetlands Conservation Act) with those of our partners, we will help build this connectivity within and between landscapes.

We must also strive to maintain ecosystem integrity and resilience by developing new and innovative ways of protecting and restoring key ecological processes to sustain fish and wildlife. Processes such as pollination, seed dispersal, nutrient cycling, natural disturbance cycles, predator-prey relations, and others must be part of the natural landscapes we seek to maintain or restore. These processes are likely to function more optimally in landscapes composed of large habitat blocks connected by well-placed corridors.

We will work with partners to identify how key ecological processes are likely to be affected by climate change, and to determine how management actions might help maintain or restore key ecological processes. We will also conduct research (see

Objective 4.4) and create demonstration projects, particularly on Land Management Research and Demonstration areas on National Wildlife Refuges, to evaluate management actions designed to maintain or restore key ecological processes.

13. Secretarial Order (SO) 3308 regarding National Landscape Conservation System (NLCS) Management. November 2010.

Secretary of the Interior, Ken Salazar, signed the SO on 15 November 2010 to give new direction to the Bureau of Land Management regarding the NLCS. Its focus was on wilderness management and it established a new directorate, called the National Landscape Conservation System and Community Partnerships that replaced the Office of the National Landscape Conservation System and Community Partnerships.
Under the policy section (4) of the SO, it was stated:

b. The NLCS components shall be managed as an integral part of the larger landscape, in collaboration with the neighboring land owners and surrounding communities, to maintain biodiversity, and promote ecological connectivity and resilience in the face of climate change.

14. USDA, Natural Resources Conservation Service (NRCS), Final Rule for the Wildlife Habitat Incentive Program (WHIP), November 2010.

WHIP had been reauthorized in the 2008 Farm Bill. The NRCS issued its final rule on the new regulations for the WHIP under 7 CFR 636 on 23 November 2011. This included an addition for wildlife corridors in the national priorities list in 7 CFR, Section 635.5:

(a) The following national priorities will be used in WHIP implementation:

(1) Promote the restoration of declining or important native fish and wildlife habitats;
(2) Protect, restore, develop, or enhance fish and wildlife habitat to benefit at-risk species;
(3) Reduce the impacts of invasive species on fish and wildlife habitats;
(4) Protect, restore, develop, or enhance declining or important aquatic wildlife species' habitats; and
(5) Protect, restore, develop, or enhance important migration and other movement corridors for wildlife.

(b) NRCS, with advice of other Federal agencies, will undertake periodic reviews of the national priorities and the effects of program delivery at the State, tribal, and local levels to adapt the program to address emerging resource issues. NRCS will:

(1) Use the national priorities to guide the allocation of WHIP funds to the State offices;
(2) Use the national priorities in conjunction with State, tribal, and local priorities to assist with prioritization and selection of WHIP applications; and

(3) Periodically review and update the national priorities utilizing input from the public, Indian tribes, and affected stakeholders to ensure that the program continues to address priority resource concerns.