

SECTION I:

BACKGROUND FOR THE SOUTHERN ROCKIES WILDLANDS NETWORK VISION



*IN MY NATIVE PLACE
THERE'S THIS PLANT:
AS PLAIN AS GRASS
BUT BLOOMS LIKE HEAVEN.*

-Issa

1 A VISION FOR THE WILDLANDS NETWORK DESIGN

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(This chapter was originally written for the New Mexico Highlands Wildlands Network Vision and has been modified, with the author's permission, for the Southern Rockies Wildlands Network Vision.)

1. Introduction

Earth is now clearly in a mass extinction event—the 6th Great Extinction in the last 500 million years (Diamond 1992, Leakey and Lewin 1995, Pimm 2001, Wilson 2002). Although this mass extinction began 40,000 years ago when behaviorally modern humans spread out from Africa (Martin and Klein 1984, Diamond 1992, Ward 1997, Klein and Edgar 2002), it has reached monumental proportions at the beginning of the 21st century. Unlike previous mass extinctions, which were caused by physical forces (asteroid strikes, geological events), this 6th Extinction is caused solely by the impact of *Homo sapiens* (Soulé 1983, Mayr 2001). It is widely recognized that direct killing by humans, habitat destruction and fragmentation, invasion and competition by alien species, disease, and pollution are the general causes of current extinctions (Wilcove et al. 1998). Stemming this alarming tide of extinction will require conservation vision and action at local, regional, and continental scales.

Both the traditional conservation and modern conservation biology movements have long recognized that protected areas are the best way to safeguard species and habitat. In 1980, Soulé and Wilcox wrote that protected areas were “the most valuable weapon in our conservation arsenal” (Soulé and Wilcox 1980: 4). Protected areas (national parks, wilderness areas, wildlife refuges, etc.) have been central to the strategy of conservationists in North America and

throughout the world (Hendee et al. 1990, Foreman and Wolke 1992, Foreman 1999, Nash 2001). In the early 20th century, however, ecologists recognized that traditional protected areas were proving inadequate; species and ecosystems were still being lost (Shelford 1926, Shelford 1933, Leopold 1937). Although the goals of protected areas have included the preservation of an enduring resource of wilderness (The Wilderness Act 1964, Scott 2001) and of self-regulating ecosystems (Soulé pers. comm.), protected areas and protected area systems have fallen short because of:

- Poor ecosystem representation in protected areas and degradation of ecosystems both within and outside protected areas;
- Isolation of protected areas and fragmentation of habitat between protected areas;
- Extirpation or extinction of native species, especially keystone and foundation species¹;
- Loss or degradation of ecological processes, especially fire, natural hydrology, and predation;
- Invasion by disruptive exotic species;
- Pollution and consequent ecological problems, including global climate change and atmospheric ozone depletion.

However, it is important to understand that National Parks, Wilderness Areas, and Wildlife Refuges have accomplished much good conservation. Without existing protected areas in North America, the state of Nature would be far grimmer. The problem is twofold: there have not been enough protected areas, and the areas that have been protected generally were not selected using biological or eco-

¹Keystone species affect the structure, function or composition of an ecosystem significantly through their activities, with the effect disproportionate to their numerical abundance (Power et al. 1996). Foundation species, like keystone species, enrich ecosystem function in a unique and significant manner, but occur at much higher densities.

logical criteria. Hence, many kinds of ecosystems—especially the most productive—are not well represented. To heal these wounds, conservation must now 1) address very large landscapes, ultimately continental in scope, and 2) attempt ecological restoration based on rewilding (Soulé and Terborgh 1999). Instead of mere island-like protected areas, a continental wildlands network (of core wild areas, wildlife linkages, and compatible-use lands) is needed to meet the habitat requirements of focal species and to support natural disturbance regimes. Moreover, this network must be based on the scientific approach of rewilding (Soulé and Noss 1998), which recognizes the fundamental role of top-down regulation of ecosystems by large carnivores (Terborgh et al. 2001, Miller et al. 2001), and large carnivores' need for secure core habitats, largely roadless, and for habitat connectivity between core wild areas (Soulé and Noss 1998, Soulé and Terborgh 1999). Fully protected cores such as wilderness areas are central to this approach.

While such a continental vision is bold and ambitious, it follows in the footsteps of early conservation visionaries. In the 1920s and 1930s, eminent ecologist Victor Shelford and the Ecological Society of America called for a careful inventory and planning for a United States system of natural areas protecting all ecosystem types (Shelford 1926, Shelford 1933). Wilderness Society co-founder Benton MacKaye based his vision for the Appalachian Trail on regional planning (Sutter 2002). In drafting the Wilderness Act, Howard Zahniser planned for a national system of Wilderness Areas (Scott 2001). The world-class system of national parks, wildlife refuges, wild and scenic rivers, and wilderness areas in Alaska was the result of decades of careful planning by government and citizens to protect entire ecosystems and represent all habitats in Alaska (Nash 2001). More recently, conservation groups have undertaken huge, detailed, statewide inventories of potential Wilderness Areas in Western states (Fish 1987, Arizona Wilderness Coalition 1987, Utah Wilderness Coalition 1990, Price et al. 1998, California Wild Heritage Campaign 2002, Colorado Wilderness Network 2002, Southern Rockies Conservation Alliance ongoing, and Biodiversity Conservation Alliance in Wyoming ongoing).

During the 20th century, most conservation work was defensive. Citizen conservationists fought to protect wildlands and wildlife against dams, logging, mining, road building, development, and bad grazing practices. The 1964 Wilderness Act clearly states that its purpose is to protect natural areas from threats of development:

In order to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition, it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness.²

Samuel Hays (1996), one of today's great conservation historians and a citizen conservationist who campaigned for the 1975 Eastern Wilderness Areas Act, writes "wilderness proposals are usually thought of not in terms of perpetrating some 'original' or 'pristine' condition but as efforts to 'save' wilderness areas from development."

Without the dedicated effort of citizen conservationists to stop the exploitation of wild places, dams would flood the Grand Canyon, Gila Wilderness Area, Dinosaur National Monument, and other "protected" areas; oil and gas wells and pipelines would crisscross the Arctic National Wildlife Refuge and Bob Marshall Wilderness Area; hardly any ancient forest would exist in the National Forests and National Parks; DDT would likely have brought the bald eagle and peregrine falcon to extinction; paved scenic highways would wind along ridge tops in most National Parks; and there would be no Wilderness Act and National Wilderness Preservation System. Without citizen suits to protect endangered species, dozens of species of native fishes, birds, amphibians, mammals, and invertebrates would be no more. Without books, articles, scientific papers, and public educational materials, hardly anyone would be aware of the threats to Nature. Without the kind of detailed citizen conservationist work that developed statewide wilderness area proposals beginning in the 1960s, the current 42,400,000 ha (~100,000,000 acres) National Wilderness Preservation System would be far smaller and less ecologically representative.

2. Vision

Some criticize conservationists for defensive actions, for fighting "brush fires," and for "doom-and-gloom" prophecizing. But without them, Earth would fast become unlivable for many species—including humans. Nonetheless, it is not enough for conservationists to only react to urgent threats against Nature. Too much talk of the looming dark of mass extinction, global climate change, and a thoroughly domesticated Earth leaves people depressed, distraught, and

² The Wilderness Act. 1964. Public Law 88-577 (16 U.S.C. 1131-1136) 88th Congress, Second Session, September 3, 1964 in Watson, Jay, ed. 1998. The Wilderness Act Handbook third edition (revised). The Wilderness Society, Washington, D.C.

without hope—and thus without the energy to take action.

Throughout the 20th century, citizens, scientists, and land managers have also worked positively for a future where humans and wild Nature can coexist. In addition to the reaction against unbridled development, a positive vision for the future is inherent in the statement of purpose for the Wilderness Act. While conservation has a long heritage of envisioning a positive future, this aspect of conservation did not come fully into its own until the spring of 1991 when Michael Soulé suggested a meeting of a few leaders to develop a *hopeful* hundred-year vision of what North America should be. They formed the Wildlands Project to continue visionary conservation planning, but with a view encompassing all of North America and grounded in recent ecological research and theory (Wildlands Project/Wild Earth 1992, Wildlands Project 2001). The Wildlands Project and its cooperators, including the Southern Rockies Ecosystem Project, believe that producing science-based wildlands network designs and clear conservation visions not only gives hope, but also leads to more effective on-the-ground efforts by conservation organizations, individuals, and agencies.

Thus, the strategy of the Wildlands Project is to design a visionary continental network of regional wildlands networks, identify the steps necessary for conservation of species and processes within those networks, communicate the designs and visions, and work to catalyze and coordinate their creation. Such continental conservation must be trans-boundary, with cooperation between nations in design and management of wildlands networks. Many groups throughout the world have been inspired by the Wildlands Project's vision and are developing similar wildlands networks (Johns 2001).

Of highest priority to the Wildlands Project is reconnecting, restoring, and rewilding four MegaLinkages that will tie North American ecosystems together for wide-ranging species and ecological processes. These MegaLinkages are 1) Pacific, from Baja California to Alaska; 2) Spine of the Continent, from Central America to Alaska through the Rocky Mountains and other ranges; 3) Appalachian, from Florida to New Brunswick; and 4) Boreal, from Alaska to the Canadian Maritimes (Figure 1.1). The Southern Rockies Wildlands Network Vision is a key part of this continental conservation in the Spine of the Continent MegaLinkage.

Designing this North American MegaLinkage Vision and helping conservationists across the continent to make it a reality will 1) strengthen conservation groups and others in the urgent and local defense of places and species; 2) strengthen longer-term wilderness and endangered species campaigns, and ecological restoration; 3) heal fragmentation in both the ecological landscape and in the conservation

movement; and 4) inspire conservationists and the public with hope for the future. The Southern Rockies Ecosystem Project is pleased to be part of this effort.

3. Elements of a Wildlands Network Vision

A Wildlands Network Vision is distinguished from all other conservation area design approaches, whether traditional or science-based, by the combination of several specific elements. These elements together make wildlands network visions bold, hopeful, scientifically credible, and practical. The integration of all of these elements in the Wildlands Network Vision offers a comprehensive and effective approach to large-scale conservation planning and implementation. By sharing these elements, wildlands networks across the continent are consistent and connect with one another.

Each of these elements is discussed elsewhere in this document; here they are briefly identified:

- ***Rewilding***

Wildlands networks are explicitly based on the scientific approach of rewilding, which emphasizes large core wild areas, functional connectivity across the landscape, and the vital role of keystone species and processes, especially large carnivores.

- ***Healing the Wounds Goal-Setting***

Ecological restoration is now recognized as essential in conservation. Wildlands networks approach restoration through “healing-the-wounds” goal setting.

- ***Expert Design***

The initial Wildlands Network Design is mapped based on expert opinion.

- ***Three-track Approach***

Wildlands networks are designed by a three-track approach of ecosystem representation, special elements, and focal species planning. A wildlands network strives to represent all ecosystems, and to identify and protect rare species occurrences and other sites of high biodiversity values in core wild areas. Wildlands networks are also based on the habitat needs of focal species—organisms used in planning and managing protected areas because their requirements for survival represent factors important to maintaining ecologically healthy conditions.

- ***Focal Species Modeling***

The initial Wildlands Network Design is tested and revised by computer modeling techniques that variously include SITES, PATCH, and Least Cost Path Analysis.

- **Fieldwork**

On the ground fieldwork is necessary for inventorying road systems, potential wilderness boundaries, ecological condition, focal species presence, barriers to wildlife movement, and special elements to improve the accuracy of the wildlands network design.

- **Wilderness Areas as Cores**

Wildlands networks are anchored by a core system of Wilderness Areas on public lands.

- **Conservation on Private Lands**

Private lands, voluntarily managed for conservation by landowners, play a key role in wildlands networks.

- **Compatible-Use Lands**

In addition to core wild areas and wildlife linkages, public and private lands managed for compatible resource and recreational use are a key part of wildlands networks and provide habitat and dispersal connectivity for a wide variety of species.

- **Linkages to other Wildlands Networks**

Connectivity within a wildlands network is a fundamental part of Wildlands Network Design, but connectivity to adjacent wildlands networks is also important for wide-ranging species and ecological processes.

- **Specific Units**

Wildlands networks are built from many individual units of land, including federal, state, county, tribal, and private, that are specifically proposed or recognized as cores, linkages, and compatible-use lands.

- **Unit Classification and Management Guidelines**

Wildlands networks have consistent, detailed management recommendations and guidelines for the different land unit classifications proposed.

- **Focal Species Management Recommendations**

Management recommendations for focal species are a key part of Wildlands Network Visions.

- **Conservation Action**

A Wildlands Network Vision is an abstract exercise unless an implementation plan is conceptualized simultaneously. Wildlands Network Design and planning for implementation must proceed on parallel tracks at the same time and with constant feedback.

- **Cataloging Compatible Conservation Initiatives**

In any region where a Wildlands Network Design effort is underway, there are many other complementary conservation efforts going on as well,

which are incorporated in the Wildlands Network Vision.

- **Economic Incentives**

Wildlands Network Visions propose economic incentives that promote human interaction with the land that conserves, rather than destroys, wild Nature.

- **Expert Review**

Critical, ongoing review of Wildlands Network Visions by scientists and conservation groups is an important way of ensuring accuracy and effectiveness.

- **Continental Vision**

The Southern Rockies Wildlands Network Vision is part of a continental vision for a North American wildlands network based on four megalinkages proposed by the Wildlands Project.

The Wildlands Project's vision for rewilding North America does not replace or diminish the need for vigilant defense against schemes to domesticate the whole landscape, but it does add a positive blueprint for all conservation work, a context for wildlands and wildlife defense. This vision is distinctive because it is *bold, hopeful, scientifically credible, and practically achievable*.

The combination of these four characteristics is unprecedented in conservation. Of particular note are the combination of boldness and hopefulness with scientific credibility and a practical blueprint of how to achieve the vision. Human beings—conservationists are no exception—need hope to carry on. They also need facts and rational arguments. The Southern Rockies Wildlands Network Vision is one of hopefulness and “do-ability.” By bringing together networks of people to work toward a positive future where networks of wildlands fit in with a civilized human community, we may at last achieve harmony between humans and Nature.

