

**Testimony to the Subcommittee on National Parks, Forests, and Public Lands on
H.R. 2016 – To Establish the National Landscape Conservation System
Chairman Raul Grijalva**

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Chairman Grijalva and committee members, thank you for this opportunity to testify in support of H.R. 2016, a bill that would acknowledge the national significance of scientifically important lands administered by the Bureau of Land Management (BLM) by recognizing the National Landscape Conservation System to conserve, protect, and restore them.

My name is Cindy Deacon Williams. I am Director of Aquatic Science and Conservation Education Programs for the National Center for Conservation Science & Policy, a science-based conservation organization in Ashland, OR. I have been a research scientist and policy analyst for nearly 30 years, including a four-year period in the mid-1990s during which I worked for the USDA Forest Service on federal lands management programs and policies. My organization currently is completing seven scientific studies on the Cascade-Siskiyou National Monument, a unit of the Conservation System located in southwest Oregon.

I will make four main points in today's testimony:

1. The lands encompassed within the Conservation System have great intrinsic scientific value,
2. The design of the Conservation System increases its scientific value,
3. The Conservation System provides significant opportunities to increase our scientific knowledge,
4. Congressional recognition of the System, with a coherent National purpose, will increase the scientific returns to society from these lands.

**THE 26-MILLION-ACRE NATIONAL LANDSCAPE CONSERVATION SYSTEM ENCOMPASSES MANY
RESOURCES WITH OUTSTANDING SCIENTIFIC VALUE**

Despite a past reputation as the "lands no one wanted," the lands administered by the Bureau of Land Management include many important cultural, archeological, social,

paleontological, geological and biological resources. When it was administratively created in 2000, the National Landscape Conservation System collected some of the most notable of these lands (Vanasselt and Layke 2006). For example:

- *Cultural*: Extensive evidence of 13,000 years of human history can be found on BLM-administered lands. Scientific examination and study of these resources is providing insight into how people, ranging from prehistoric Native Americans to 19th and 20th century pioneers, lived on and with the land. Archaeologists estimate there are likely to be 4.5 million cultural sites on all BLM-administered lands.
- *Paleontological*: Fossils found on BLM-administered lands provide important insight into the evolution of plant and animal communities, the systematic relationship between species, and the response of ecosystems to global changes in their environment. The understandings gained from study of these paleontological resources can help us predict impacts and responses likely to occur in our future and that of our grandchildren in the face of current global changes.
- *Biological*: Numerous unique plant and animal species are found on BLM-administered lands, including 228 plant and animal species listed as threatened or endangered and more than 1,500 additional “sensitive” species that are at some risk due to a reduction in the number of individuals or a naturally limited distribution. In addition, BLM administers 144,000 miles of streamside riparian areas and 13 million acres of wetlands – providing water resources that hold an especially critical place in the ecological web of life, supporting hundreds of other species not at risk of extinction, such as pronghorn antelope, mule deer, bighorn sheep, elk, and numerous birds.

THE CASCADE-SISKIYOU NATIONAL MONUMENT – AN ILLUSTRATION OF THE BIOLOGICAL RICHNESS TO BE FOUND WITHIN THE CONSERVATION SYSTEM.

As a biologist, I must admit that my particular interest lies with exploring and understanding the wealth of biological resources to be found on Conservation System lands. In my own backyard, the nearly 53,000 acre Cascade-Siskiyou National Monument has many nationally unique fish and wildlife communities, amply illustrating the biological richness to be found on Conservation System lands.

This Monument is considered a unique “biological crossroads,” linking the botanically rich Siskiyou with the Cascades. It is home to rare fish and aquatic species, some of which only recently have been discovered by scientists. The Monument’s rich botanical diversity is associated with an extraordinary richness of butterflies unique in western North America, 114 species recently were recorded by scientists. The Monument also supports notable aquatic diversity, with nine freshwater mollusks whose entire distribution is limited primarily to the Monument’s springs and streams (Frest and Johannes 1999) and, on Dutch Oven Creek where 62 different taxa were collected from

a single site, a higher diversity of aquatic macroinvertebrates (insects, snails, etc.) than previously had been recorded from anywhere in the Klamath Mountains Ecoregion.

THE “DESIGN CONCEPT” OF THE NATIONAL LANDSCAPE CONSERVATION SYSTEM INCREASES ITS SCIENTIFIC VALUE

When the National Landscape Conservation System was administratively created in June of 2000, it was established with the idea that the Conservation System should protect – and allow an expansion of human knowledge through the study of – entire ecosystems and archeological communities. This was a fundamental departure from the past practice of protecting and studying small tracts that encompass the core portion of the object of interest while excluding critical, albeit more peripheral, components.

This founding concept reflects experience with the frustrations of past attempts to protect important cultural and scientific resources for posterity. In retrospect, it appears to be “just common sense” that an important archeological site cannot be understood if it stands as a 1/2-acre enclosure in a parking lot, and reasonable to assume such a site would be unlikely to survive the propensity of vandals to cause havoc. Similarly, no one today would be likely to expect a critical population of native plants to survive and continue to support its dependent butterfly populations if it is surrounded by a thousand acres overrun by an invasive exotic weed.

This important *sum of the parts* strategy also demonstrates understandings regarding the importance of an ecosystem approach that were gained from developments within the field of conservation biology. We now know that subpopulations of a species are unlikely to survive through time if they are artificially isolated from other portions of the species. Maintaining connections between subpopulations is vital as it provides an important, almost strategic insurance policy for species that might otherwise become extirpated as a result of flood, fire, hurricane, drought or other natural or human-caused disturbance (Hanski and Gilpin 1997, Williams and Williams 2004) – when isolated, the threats facing a population are more likely to “overwhelm in detail.”

My childhood and early professional years were colored by a perfect illustration of how expensive it can be to think too narrowly. In 1952, President Harry Truman designated Devils Hole, located in southwestern Nevada, as a disjunct part of Death Valley National Monument. The proclamation included a water-filled cavern – sporting unique geological characteristics and a species of fish found nowhere else in the world – and a mere 40 acres that were carefully “confined to the smallest area” around Devils Hole where the President could draw a line. In the 1960s, the BLM disposed of most federal land in the area. Subsequent battles to conserve the biological and geological objects of scientific interest in Devils Hole from the ecological impact of successive agricultural and residential development were inevitable – the original designation focused on the core feature of the ecosystem and not the ecosystem itself. Ultimately, Congress authorized purchase of 13,320 acres from private willing sellers and the incorporation of additional acres still administered by the BLM to encompass the ecologically and hydrologically connected Ash Meadows area into a coherent ecosystem management unit to be managed in conjunction with the originally designated 40 acres immediately

around Devils Hole; a step not recognized as necessary to preserve and learn from the ecosystem's geological and biological resources. When all was said and done, the expansion to incorporate Devils Hole's critical peripheral components made the exercise unnecessarily costly, both socially and financially, and nearly led to the extinction of the fish (Deacon and Williams 1991).

Fortunately, the original administrative concept for the National Landscape Conservation System explicitly recognized these potential administrative and ecological hurdles. Wisely, the proposed legislation is drafted so as to permanently honor that science-based design concept in its establishment of the Conservation System.

THE LANDS WITHIN THE NATIONAL LANDSCAPE CONSERVATION SYSTEM PROVIDE SIGNIFICANT OPPORTUNITIES TO INCREASE OUR SCIENTIFIC KNOWLEDGE

The wide range of cultural, archeological, social, paleontological, geological and biological resources within the Conservation System, aptly acknowledged as representing some of the nation's crown jewels, provide many research opportunities, including:

- Options to examine *fundamental questions* and generate answers to underlying questions of interest and value to society's understanding of the world, and
- Opportunities to conduct *applied research* designed to answer questions relevant to improving management of other federal lands.

Research currently occurring on Conservation System lands touches upon geology and paleontology; hydrology and climate; restoration and rangeland health; archaeology; conservation education; sustainable architecture; public involvement and partnerships; pinyon-juniper woodlands ecosystem dynamics and vegetative management; native plants; exotic cheatgrass propagation; and groundwater, water quality, and aquatic ecosystems. Some of the fundamental research is unraveling ancient stories set in the world of dinosaurs; other research is exploring the results of movement of ancient waters through red rock sandstone and is finding analogs to hematite concretions on Mars. Some of the applied research is examining socio-economic trends and transitions, other research looks at the role of climate and land use on ecosystem dynamics, the impact of past management practices, and trends in recreational impacts in the backcountry and dispersed areas. In all, the amount of information shared, knowledge gained, and understanding secured due to scientific investigations on Conservation System lands – including both that rooted in the scientific world and that anchored in differences of social perspective – is impressive and has contributed to improvements in management of federal lands and helped foster scientific and community partnerships. And, those benefits continue to accrue as the sharing of information, knowledge, and understanding grows.

In southwestern Oregon, we hope to secure the benefits that accrue from shared scientific knowledge and understanding – that is, improved resource management

informed by a shared, credible information base – as a result of extensive focused research now occurring on the Cascade-Siskiyou National Monument.

Several years ago, as part of an effort to foster collaborative research, the BLM has been conducting 18 field studies and monitoring projects on the Cascade-Siskiyou. In addition, from 2003-06 the World Wildlife Fund's Klamath-Siskiyou Regional Field Office coordinated a multi-taxa collaborative investigation of the Monument's objects of biological interest. That work since has been transferred to the National Center for Conservation Science & Policy for completion. Our studies are focused on:

- Bird monitoring, with stations along 25 point count routes in mixed conifer and oak woodlands;
- Small-mammals, with 16 study sites in mixed conifer and oak woodlands;
- Aquatic snails, with distributional analysis examining 57 springs and seeps;
- Stream and riparian habitat, water temperature, and aquatic invertebrates, with multiple sites at six creeks (including Dutch Oven, East Fork Camp, Jenny, Keene, Mill, and South Fork Keene);
- Greene's Mariposa lily, with examination of more than 80 population clusters in oak woodlands;
- Butterfly richness and composition, with 27 transects in mixed conifer and oak woodlands; and
- Natural ecosystem dynamics.

Once the results of these 25 research projects complete scientific peer-review, they will comprise the most comprehensive scientific understanding of an ecosystem ever enjoyed by a BLM manager, the scientific community, and the public.

PROVIDING PERMANENT PROTECTION TO THE CONSERVATION SYSTEM WILL INCREASE THE VALUE OF THESE RESOURCES TO SOCIETY

H.R. 2016 will provide critical and long overdue congressional recognition for the National Landscape Conservation System. Importantly, this legislation will establish a coherent, much-needed system-wide identity. Permanency undoubtedly will trigger the maturation of a national perspective for the Conservation System that is "bigger" than the BLM districts that are separately charged with management of individual units.

An "enlarged" system-wide perspective will have subtle impacts on BLM field managers and their staff that, over time, will make it possible for the Conservation System to be recognized within the agency as an important and cherished responsibility. From a scientific perspective, a system-wide viewpoint likely will induce researchers to examine broad issues (e.g., climate change, invasive species) and encourage managers to share and apply the results of these scientific findings on an agency-wide basis – as well as allow researchers and managers to continue to benefit from the pursuit of answers to unit-specific research questions.

Finally, the permanent establishment of the Conservation System is likely to increase the attention paid to the lands by research institutions, researchers, policy-makers and the general public – all of which are likely to create a circumstance in which society as a whole will receive a greater benefit.

CONCLUSION

The National Landscape Conservation System contains resources of national scientific importance. Securing permanent recognition of the Conservation System is critical to ensuring these initial steps will continue to accrue benefits to the BLM and the nation. With permanent recognition we will have an opportunity to enjoy and learn the most we can from these natural and cultural treasures.

A wise man once noted that if what is unique about being human is our ability to know, then every time we destroy an opportunity to know, we destroy an opportunity to be human. Permanent protection of the National Landscape Conservation System is an important step, not only in conservation of the valuable cultural and scientific resources found on Conservation System lands, but also in protecting the opportunity for our species to be human.

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