

# Committee on Resources

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Statement Of Dr. Carol Tomlinson-Keasey, Chancellor, University Of California, Merced, Before the Subcommittee on National Parks, recreation and public lands of the house committee on resources concerning H.R. 1289, to establish the national parks institute at the univeristy of california, merced.

July 15, 2003

Mr. Chairman and members of the subcommittee, thank you for the opportunity to present the University's view on H.R. 1289, a bill to establish a National Parks Institute at the University of California, Merced (UC Merced). We are, understandably, extremely enthusiastic about this prospect, as it enables us to combine the University of California's missions for research, teaching, and public service with a very real need to address some of the complex issues faced by the national parks.

Perhaps the first question to be addressed when considering this bill is Why UC Merced? We offer the best of several worlds. We are part of the University of California, the world's foremost public research university and a university that has had a long and productive relationship with the National Parks. Since its founding in 1916 the National Park Service has been intertwined with the University of California. The first two directors of the National Park Service, Stephen Mather and Horace Albright, held degrees from the University of California. As directors, they continued to tap UC's research expertise as the Park Service developed. For example, Joseph Grinnell and his colleagues from UC Berkeley's Museum of Vertebrate Zoology did classic field studies on Sierra wildlife and natural resources. UC Merced has continued in this time-honored tradition and has already established a relationship with three Sierra parks that encompass research activities, outreach to students, and public service. So, we bring historical perspective on the parks and their evolving role.

In addition, UC Merced, because it is brand new, is not bound by existing academic structures. We can ask, "What are the critical questions of the 21st century?" and we can align our academic programs to answer those questions. High on any list of critical questions of the 21st century would be how do we conserve our natural resources and use them efficiently, questions that mesh well with the National Parks Institute. To this end, UC Merced has already established the Sierra Nevada Research Institute to address issues like population growth, water and watersheds, air quality, fire ecology, biodiversity, climate change, transportation, resource management and policy, and public recreation. Among our early hires are biologists, chemists, physicists, environmental engineers, and social scientists, all of whom are working on conservation and sustainability issues.

Establishing a National Parks Institute at UC Merced would also capitalize on the strength of another partner, the Lawrence Livermore National Laboratory. The latter's expertise in broad areas of science and engineering will be easily available to the National Park Service as we conduct water flow and water use studies, as we chart the direction of fire plumes in both controlled and uncontrolled fires, and as we examine the transportation of pollutants from urban areas to our national parks.

As a campus in the University of California System, UC Merced is also a land grant institution with a mission of conducting research that solves practical problems. Working with UC Merced would allow the National Park Service to leverage the resources for the National Parks Institute, as we would expect to match operational resources with in-kind services and other university resources. I hope you can see that UC Merced has much to offer as the host for the National Parks Institute.

Turning to the purposes of the Institute, I would like to sketch briefly some of the ways in which UC Merced could contribute.

## Training Executive Managers

First, we would help build executive managers by offering consistent high-level educational programs designed to meet the needs of the Park Service. These ongoing programs would draw on the faculty expertise in the Ernest and Julio Gallo School of Management for management training. In addition, we would provide practical information for park managers in areas such as community outreach, building consensus, managing crises, downsizing, and finding critical expertise. Finally, we would help build knowledge in areas of conservation, sustainability, and restoration so managers could be more effective in their roles as decision makers and in communicating decisions to their many constituencies.

## Promoting Stewardship

To help identify issues for the National Parks Institute, we would propose a national forum organized by UC Merced. University researchers from around the country would join selected staff from the National Park Service in a conference to pinpoint areas of concern within the Parks and research that would address these concerns. This initial forum would set the early agenda for the National Parks Institute and would serve as the basis for a think tank designed to promote long-term stewardship of park resources. UC Merced understands and appreciates the National Park Service's need to evolve with the changing demographics and cultural interests of society. An ongoing discussion of evolving issues might focus on downsizing, or the relevance of the parks to differing cultural groups, or the source and impact of air born pollutants, or the international relevance of the National Park Service. The goal of the dialogues within the think tank would be to ensure that many perspectives are woven into research questions and policy recommendations.

#### Conducting Research to Support Policy Decisions

The University of California has a long and distinguished history of excellence in independent, objective, scholarly research. UC Merced will bring the expertise of its diverse faculty, staff, and students to bear on issues of import to the National Parks Institute. In addition, we will draw on the expertise of colleagues from other universities and institutes to apply sound science and rigorous analysis to the problems facing our national parks.

A few examples will provide some insight into the kinds of research that might be forthcoming.

**Climate change, hydrology and the western snow pack.** Current climate change models predict a dramatic shift from snow to rain in the high elevation areas of the western United States. For California, modeling efforts indicate a 75% decrease in the snow pack in the Sierra Nevada mountains over the next 30 years. This change will have a profound effect on the use, management and sustainability of all western ecosystems, including the National Parks. UC Merced faculty, in collaboration with the National Park Service, Lawrence Livermore National Lab and investigators throughout the University of California and the western United States, are developing comprehensive snow monitoring networks and forecasting models. These will assist in developing better management models for these fragile ecosystems.

**Air Quality.** Urbanization, transportation, and industrial activities have all had an impact on the air quality in our National Parks. We need to identify the specific sources of contaminants and air pollutants as the initial step in improving that air quality. We need to trace the paths by which these pollutants come to the National Parks. We need to evaluate the direct impact of particulate and chemical pollutants on a variety of plants and animals in the parks. And we need to examine the interaction of air pollutants with other resources, such as the snow pack and the soil, to understand the systemic deterioration of the park environment caused by air pollution. Atmospheric science and air quality research will be one of the primary areas of study at UC Merced and positions us to put together multidisciplinary teams throughout the nation to address these complex issues.

**Fire Management.** Each year, late summer headlines feature the devastation caused by wildfires. Fire suppression and timber management regimes often create unstable situations in our National Parks and forests that can quickly become an uncontrolled fire. Exacting research on the proper long-term management of forested lands, as well as research to accurately predict the direction and speed of a fire are critical to successful management of forested lands.

**Water Quality.** The availability of water and the quality of that water are critical to all forms of life. From the Everglades to the Sierra, our National Parks serve as repositories for water, as conduits for water and as the means by which water is repeatedly renewed. Understanding and maintaining these functions requires the cooperative efforts of hydrologists, environmental engineers, chemists, geologists, biologists, etc. Bringing these researchers together to help address this important agenda would be part of the mission of UC Merced and the National Parks Institute.

These examples highlight the fact that UC Merced is deeply committed to sustainable resource management and environmental stewardship. Environmental stewardship is an important theme in our programs in Environmental Engineering, Earth Systems Science and the Sierra Nevada Research Institute. Working with the National Park Service, we are committed to developing practical, scientifically sound, and technologically effective solutions to resource management problems.

Mr. Chairman, I am delighted that the Secretary and Director have taken an interest in establishing a National Parks Institute at the Merced campus of the University of California. We are committed to embracing our colleagues in the National Park Service as important partners and participants in our university community. I fully anticipate that a National Parks Institute will provide many opportunities for our students and faculty to develop close working relationships with Institute researchers and leadership and to be engaged in important analyses and critical decisions framing the future of National Parks.

That completes my testimony. I would be happy to answer any questions that you or any members of the subcommittee may have.

Supplemental Sheet  
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Topical Outline: HR 1289 to establish the National Parks Institute

Why establish the National Parks Institute at UC Merced?

Research University

Land Grant University

New University addressing critical societal issues

Existing partnership with National Parks

Existing partnership with other research institutes

Allows the National Parks Institute to leverage resources

UC Merced will contribute to the National Parks Institute by

Training executive managers

Promoting stewardship

National forum

Think tank

Conducting research to support park decisions

Climate change and hydrology

Air quality

Fire management

Water quality