

**Testimony of**  
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**Field Hearing - “On the Edge: Challenges Facing Grand Canyon National Park”**

**Before the Subcommittee on National Parks, Forests and Public Lands and the**  
**Subcommittee on Water and Power**  
**U.S. House of Representatives**

**Shrine of the Ages, Grand Canyon, AZ**

**April 8, 2010**

Mr. Chairman and Madam Chairwoman and members of the committees, I am David Nimkin, Southwest Regional Director for the National Parks Conservation Association (NPCA). NPCA is a nonprofit citizens association, founded in 1919, dedicated to the protection and enhancement of our National Park System. NPCA has 330,000 members, including over 9,000 in the state of Arizona.

Our efforts to preserve and protect national park units in the Southwest, which includes New Mexico, Colorado, Utah and Arizona, affords me the opportunity to examine, understand and advocate in behalf of the 74 park units in these four states. There is perhaps, no park in this region and perhaps in the entire country that is as challenged from so many threats as Grand Canyon National Park. This extraordinary landscape features 277 miles of the Colorado River flowing through rock formations ranging in age from about 270 million to almost 2 billion year old—it is arguably one of the Earth’s most powerful and inspiring landscapes. As one of our first and most popular national parks, the Grand Canyon is recognized globally by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as a World Heritage Site in recognition of its natural and cultural treasure. It is a place that 11 affiliated Native American tribes treasure and celebrate as holding special significance. It is America’s second most visited national park (4.5 million visitors per year) and its regional economic impact is profound. Total

annual direct spending at Grand Canyon National Park is over \$300 million and this accounts for almost 8,000 jobs.

The enduring forces that have both created the Grand Canyon and the qualities of scale and diversity that astonish and thrill visitors create a false illusion that this magnificent landscape is too vast, too monumental to be affected by external threats that within a short period of time can alter the functions of this quite fragile ecosystem. My testimony today will highlight but a few of the profound threats that are gravely concerning. In early summer, NPCA will complete a comprehensive assessment of the current conditions and threats to the natural and cultural resources of the Grand Canyon, but today I want to describe three threats. One is of an immediate nature, another is less obvious but dramatically and drastically transforming, and the other is more insidious.

### **The Threat of Uranium Mining**

Although, like others during this field hearing, I want to detail the profound threats to not only the park, its visitors, its tribal communities and to potential water users downstream from potential uranium mining exploration and operation, I also want to commend you, Chairman Grijalva, for your leadership and prompt attention to this immediate threat. NPCA strongly supports H.R. 644, the Grand Canyon Watersheds Protection Act that will withdraw more than 1 million acres around the Grand Canyon from mining claims. We also want to acknowledge the appropriate leadership demonstrated by Secretary of the Interior Ken Salazar by imposing an emergency ban on mining activities within the Grand Canyon watershed so as to allow an appropriate and comprehensive review by the Department of Interior and for consideration by the U.S. Congress.

We believe that uranium mining on public lands adjacent to the Grand Canyon already has and, if authorized, will continue to negatively affect many park values and downstream water uses. Potential surface water contamination is of great concern for the downstream water users (acknowledged in recognition of the Atlas tailings on the banks of the Colorado River in Moab, Utah, that are now being thankfully and safely removed) and to the wildlife that depend on these water sources in this arid region. With so much human activity, the Grand Canyon has been a

center for research, analysis and restoration of soundscapes – striving to achieve natural sounds. The proximity of mining activities to the park will most certainly contribute to this growing challenge and menace to one of the parks more intrinsic natural resources – natural quiet. That all affected Native tribes (Navajo, Hopi, Hualapai, Havasupai, Kaibab Paiute) who regard the Grand Canyon as a special and sacred space have joined in support of this ban on mining is testament to the perception and certainly experience of risk associated with this activity. And finally, we are concerned with the added burden that mining activities near the park place on the existing air quality such as haze and ozone pollution. Dust and particulates from mining activities will certainly exacerbate local air quality concerns.

It is with these profound threats in mind and its implications for both the resource conditions in the park and its likely negative impact on visitors that we strongly support and endorse H.R.644 and the thoughtful timeout review authorized by Secretary Salazar. With over 1,100 mining claims located within 5 miles of the park boundary, the urgency of this threat cannot be understated.

### **Colorado River Management: A Profound and Complex Threat to the Grand Canyon**

The defining force in the creation of the Grand Canyon is the Colorado River. While that is certainly part of the allure of the park, its significance as a source of water for burgeoning populations in the Southwest and Southern California has been a focus of political, legal and economic maneuvers for almost a century. Maintaining a level of certainty in meeting delivery obligations (established through the Colorado River Compact), controlling floods, and generating hydropower has been the primary focus of Colorado River management. While a network of dams and diversions along the Colorado River and its tributaries has been established to accomplish these goals, it is apparent that the unintended consequence of these actions has had a profound impact on natural riverine ecosystems. In fact, it would not be feasible to construct the dams and structures we now have under our current environmental laws.

Such is the case with the Glen Canyon Dam. The presence and operation of the dam has profoundly changed the flows, sediment dynamics and the water temperature of the Colorado River through the Grand Canyon (as it was intended or anticipated to do). The result of these

impacts, over the relatively short 47 years of its operation, has substantially altered the natural condition of the Grand Canyon and threatened hundreds of archeological sites. Recognition of these consequences led to the passage of the landmark, Grand Canyon Protection Act of 1992 to assure that the operation of the dam will protect park values.

Following the completion of an EIS in 1995, Secretary Babbitt and Commissioner Martinez signed a Record of Decision (ROD) on the operation of Glen Canyon Dam. The ROD states that the goal “was not to maximize benefits for the most resources, but rather to find an alternative dam operating plan that would permit recovery and long term sustainability of downstream resources while limiting hydropower capacity and flexibility only to the extent necessary to achieve recovery and long-term sustainability.” The document further formally established the Glen Canyon Adaptive Management Program and implements constraints on daily dam operations under the modified low fluctuating flow (MLFF) alternative.

The Glen Canyon Adaptive Management Program has been, theoretically, a model where the effects of dam operations on downstream resources, scientifically validated, form a basis for modifications of dam operations to meet the intent of the GCPA. A commitment to research and monitoring, adaptation to the monitoring and research results by altering dam operations, and formalizing recommendations from key stakeholders are laudable goals. Over the past 14 years, the Grand Canyon Monitoring and Research Center (GCMRC) has produced the science needed to adjust dam operations to meet the intent of the GCPA. A stakeholder group, the Glen Canyon Adaptive Management Working Group and its allied Technical Working Group have met, as prescribed. There have been three experimental High Flow Experiments and follow up research and analysis. The results of all this time, effort, experimentation and considerable expense is that park values within Grand Canyon National Park continue to deteriorate, and no significant changes to dam operations have been recommended to the Secretary.

Park values that have been and continue to be affected by dam operations include:

- The abundance and distribution of native fish, and the quality of their habitat.
- Riparian, wetland, spring communities

- Water temperature, water quality and flow dynamics that support native fisheries.
- The abundance and distribution of sediment which forms the foundation for the ecosystem.
- The recreational experiences for users of the Colorado River ecosystem.
- Degradation and loss to archaeological resources that are exposed due to a reduction in the availability of beach sediment that can be transported by the wind.

The USGS report, *State of the Colorado River Ecosystem in the Grand Canyon* (SCORE Report) and subsequent research has demonstrated that dam operations (i.e., MLFF) erodes sediment much faster than it can be re-supplied by tributaries and stored by high flow events. Beaches and nearshore sediment features are critical for endangered fish such as the humpback chub and is of considerable importance to the river running population of visitors that number in the range of 230,000 visitor days per year. Native fisheries have further suffered as a result of cold-water releases from the dam. The cold water prevents spawning in the mainstem and kills young native fish that are swept into the main stem from tributaries.

Perhaps the most significant experiments authorized under this adaptive management program has been the High Flow experiments (HFE) in 1996, 2004 and most recently in March, 2008. Like the previous experiments, the most recent experiment initially appeared to have some success. While new sandbars were created from this experiment, GCMRC found that the “rapid erosion of sandbars in the six months following the 2008 HFE highlights the importance of dam operations between high flows...daily water release pattern and monthly volume of releases from Glen Canyon Dam directly affect the long term sustainability of sandbars...current and previous studies show that more stable and relatively lower monthly volume releases are most effective at limiting erosion of sandbars, retaining new sand and improving access to backwaters by fish.”

Despite the stunning amount of research and monitoring over the last 14 years that has demonstrated the negative impact of MLFF on park values, there has not been any modification to dam operations as envisioned by the GCPA. To simply maintain the current level of sediment in the canyon, there need to be frequent flood events (timed with high tributary sediment inputs),

in conjunction with more stable monthly volumes, and limited daily fluctuations. Sediment can not be maintained simply with more frequent flood events.

The collaborative process highlighted in the legislation and manifest in the Glen Canyon Adaptive Management Working Group (AMWG) is not providing the Secretary with recommendations on how best to implement the GCPA. While not serving as a member of this group, from the outside, the AMWG appears to be willing to recommend to the Secretary limited experimentation, but not willing to recommend experiments that would test flows that the science suggests would maintain sediment, restore habitat for native fish, and protect other park values. Furthermore, the AMWG appears especially unwilling to review the impacts of dam operating criteria and make recommendations to modify the status quo.

The rationale for resisting changes in operations to meet the intent of the GCPA is usually couched in terms of altering water delivery obligations or reducing hydropower. While there is strong and historic interest among states in protecting Colorado River water allocation and delivery interests, the truth is that nothing in the GCPA would alter the provisions in the Colorado River Compact. Although there is a public perception that changes in the current operations would result in less hydropower generation, the total amount of power produced actually remains the same under any stable or fluctuating daily and monthly flow regime. Even though hydropower generation remains unchanged in the different flow regimes, under a steady flow regime, revenue may be reduced modestly because it would reduce generating capacities at peak periods. A recent study by David Marcus in February 2009 looked at changing Glen Canyon Dam operations from MLFF to the SASF alternative (which would better protect park values). The change would defer water releases from the fall and winter forward into the spring, and it would shift releases from on peak hours to off peak hours. His analysis suggests that the added costs to end user residential customers in the region served by power from Glen Canyon Dam would range from zero to 12 cents per month (for a full twelve month period) depending upon the percentage of power a wholesaler receives from Glen Canyon Dam.

Finally, we are pleased that the Secretary of the Interior earlier this year announced that he is moving forward with a long term program of periodic floods when sediment input conditions are appropriate. This is a validation of the importance and significance of taking the next step in

adaptive management – implementation. Although we are very supportive of this step, we also note that implementing periodic floods on a more frequent basis will not maintain sediment in Grand Canyon unless the intervening flows (currently MLFF) are modified to be less erosive.

We are hopeful that under the leadership of Secretary Salazar, a review of the operating criteria for Glen Canyon Dam will be completed, and any necessary changes to better accomplish the intent of the GCPA, will be made. In 1997, following the EIS, Secretary Babbitt signed the Operating Criteria for Glen Canyon Dam. One of the provisions is that, “The Secretary of the Interior shall review these Operating Criteria as the result of actual operating experiences to determine if the Operating Criteria should be modified to better accomplish the purposes of the Grand Canyon Protection Act. Such a review shall be made at least every 5 years...” Unfortunately, despite the deep, rich background of experience and scientific study, a review of the operating criteria with the purpose of making any needed adjustments in dam operations, has never occurred. What we are lacking, it appears, is the political will to make the choices and decisions that adaptively modify the operating criteria in a manner that protects the park’s natural and cultural resources.

### **Sustaining Park Capacity – An Insidious Threat**

Our national park system, heralded once again as America’s Best Idea in the popular Ken Burns series on PBS, will be celebrating its Centennial in 2016. For several years, our organization, NPCA, has been advocating for incremental increases in funding for our parks so that they are adequately staffed to do their important work and that its infrastructure can safely and appropriately support the almost 300 million visitors to these special places each year. NPCA estimates that there is an annual operating shortfall with our national parks of some \$580 million (making progress, down from \$800 million 3 years ago) and a backlog of some \$9 billion in deferred maintenance. Perhaps nowhere else is the gap in funding needs and infrastructure deferred more apparent than at the Grand Canyon. I cannot represent the threats facing the Grand Canyon without describing the serious and profound financial challenges facing this park. It is, after all, the dedicated national park service green and grey who are entrusted with both protecting our parks for present and future generations, but also who help us all enjoy, learn and safely experience these places.

Grand Canyon National Park is a Park Asset Management Plan (PAMP) pilot park. Drawing from this analysis in 2006, park staff has prepared a report released in October 2008 that very conservatively assesses the growing funding gap. At that time park management represented that 296 positions at the park are funded from non-base funds. This represents 58% of the entire workforce. Of these positions, 59 have been identified as essential and in need of the stability that base funding offers. The need to have highly productive personnel and an ability to recruit top flight staff is an essential ingredient to sustaining the park. This funding gap in 2009 dollars to provide this measure of permanence is approximately \$6.2 million.

Additionally, the PAMP plan identified capital assets at the park worth approximately \$1.2 billion with deferred maintenance totally over \$300 million. The park spends approximately \$11 million in FLREA or fee income towards this deferred maintenance. Without additional sources of funding, this deferred maintenance gap could reach an estimated \$350 million by 2016.

Most of the visitors to the Grand Canyon are supported and serviced by its contracted concessionaire. With over 4.5 million visitors each year, the quality of the concessionaire (and the ability of the park service to negotiate terms) is critical. Grand Canyon National Park has one of the largest concession contracts in the entire system. The accumulated Leasehold Surrender Interest, essentially the equity that the contractor has built into the buildings and operations, is estimated to be valued at \$235 million in 2011 when the current contract is set to expire. This huge liability for the park service limits their ability to negotiate a new contract and generate any franchise fees.

This is rather glum picture of a system facing financial challenges. I reference this additional challenge in my testimony because it is relevant to the other pressing threats that the park is facing. It is the people who manage and operate the parks, who assure that its resources are protected, who interpret for us and protect us and whose assets we rely upon for enjoyment. At a time when we are all facing financial challenges, it is apparent that circumstances at the Grand Canyon are no different. It is our hope that the National Park Service be provided with the resources and indeed the very authority to do what we all have asked them to do. Those responsibilities, implied in the Organic Act of 1916 that established the National Park System



and clearly reinforced in revised Management Policies for NPS in 2006 require park personnel to (among other requirements):

- Prevent impairment of park resources and values;
- Ensure that conservation will be predominant when there is a conflict between protection of resources and their uses;
- Maintain NPS responsibility for making decisions and exercising key authorities;
- Reflect a commitment to cooperative conservation and civic engagement;
- Pass on to future generation's natural, cultural and physical resources that meet desired conditions better than they do today, along with improved opportunities for enjoyment.

### **A Challenge to National Park Service Authority**

To these ends, we applaud and commend the employees of the National Park Service. Their resolve and dedication to mission is inspiring. Even in trying to do the right thing, their authority is sometimes questioned or challenged. Only last month, the long simmering (over 20 years worth) conflict surrounding air tour overflights at the park and the mandate to assure a high standard of natural quiet that was moving towards completion was threatened with a pernicious “midnight rider” amendment on a U.S. Senate FAA re-authorization bill. The effect of this amendment would have severely compromised the authority of the park service to manage soundscapes within the confines of the park and it would have dismissed the pending Draft Environmental Impact Statement that is due out in a matter of weeks. This pending DEIS is the result of years of investment by many stakeholders. A strong and immediate response from park advocates thwarted this effort. I share this small (but not insignificant) vignette, as well, because it serves to underscore that no matter how well the Park Service does strive to engage the public, prevent impairment of park resources and lead with conservation objectives, there are forces determined to limit that responsibility by seeking to undermine this authority.

Our organization is appreciative of the opportunity to address you today. We applaud your leadership and attention to seeking insight and perspectives from various knowledgeable

panelists on the significant threats and challenges facing our Grand Canyon National Park. This is an extraordinary place. It is a global icon and a source of great pleasure and enjoyment for millions each year from all over the world. It is further, a dynamic economic engine that provides a source of livelihood for thousands from throughout the entire region. With these brief remarks, it is apparent that the resource is fragile and is at risk. We have some wonderful leadership at this park and a core of dedicated and highly skilled employees. Let's make sure that they have the legal protection that you can legislate, the authority to perform what the Organic Act and the 2006 Management Policies require and the resources to sustain what we enjoy and appreciate today and for many tomorrows. Thank you for the opportunity to provide this testimony.