



*Defending the Planet One Beat at a Time*

**1536 Wynkoop St.  
Suite B200  
Denver, CO 80202**

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**VIA FASCIMILE & U.S. MAIL**

Mr. Bob Johnson  
Regional Director  
Bureau of Reclamation  
Lower Colorado Region  
Attention: BCOO-1000  
Box 61470  
Boulder City, NV 89006-1470  
FAX (702) 293-8156

Mr. Rick Gold  
Regional Director  
Bureau of Reclamation  
Upper Colorado Region  
Attention: UC-402  
125 South State Street  
Salt Lake City, UT 84318-1147  
FAX (801) 524-3858

**RE: COMMENTS OF ROCK THE EARTH REGARDING DEVELOPMENT OF  
MANAGEMENT STRATEGIES FOR LAKE POWELL AND LAKE MEAD  
UNDER LOW RESERVOIR CONDITIONS [BCOO-1000; ADM-5.10]**

Dear Regional Directors:

Rock the Earth (“RtE”) is a Colorado nonprofit corporation with a national membership of concerned citizens. Like many other Americans, RtE members rely on the Colorado River Basin for a multitude of needs. RtE Members regularly seek the peace, quiet, and solitude of the national public lands for recreational, artistic, naturalist, and spiritual activities, including but not limited to hiking, camping, non-motorized water sports, photography, and meditation. Our members utilize the Colorado River as a source

for drinking water as well as recreational activities and will be directly affected by the forthcoming Management Strategies for Lake Powell and Lake Mead under low reservoir conditions (the "Plan") as it will allow for changes in the way that the Colorado River is managed.

We appreciate this formal opportunity to comment on the matter of Colorado River Reservoir management, as we believe that an expanded, comprehensive, coordinated and forward-looking study and action plan for water management in the Colorado Basin is mandated by significantly changed, problematic conditions and needs. These include, but are not limited to, changing climatic and hydrological conditions, overallocation of the Colorado's water resources, outmoded legal and administrative water rights infrastructures, increasingly expanding demands on the system, inequities and waste regarding Colorado River water appropriations, storage and delivery, overdeveloped and inefficient Colorado River water storage and delivery systems, continuously degrading ecological systems and health, increasing water pollution and salinity, the utter lack of planning regarding sedimentation and its effects (including the likelihood of reaching "deadpool" conditions at Lake Powell, hereafter referred to as Powell Reservoir), and the ongoing inability to bring the system into compliance with a number of environmental mandates. The Colorado River water management infrastructure is largely outmoded, unsustainable, and unable to accomplish even its originally intended purposes, under present and anticipated conditions. It fails to adequately address shortages and changing hydrological and climatological conditions, and exacerbates the already severe ecological impacts of the structural system.

#### Observations.

##### 1. Diminishing returns and system inefficiency.

It is well documented that the historical average run-off in the Colorado is lower than the figure upon which the Colorado River Compact is predicated (1). Water from the Colorado is overallocated by at least 11% above the 400 year average (2). Rapid development in the Upper Basin has diminished the availability of surpluses, and the situation is further exacerbated by documented climatic change and resulting drought in the Western United States (3). Colorado River flows are expected to continue to decline (4). Even prior to the present drying trend, studies predicted the Colorado system would fail on the supply side by the year 2000 (5).

Compounding the problem and trend are factors involving the inefficiency of the system, due to tremendous evaporation losses (6). Under present scenarios, storage exceeds an "optimal," efficient level by 100% (7, 8). Because of this, the chances of Powell Reservoir filling again in the near future are negligible (9). It should also be noted that power generation is also compromised by, and may be discontinued by,

continual low reservoir levels (10). Sedimentation is also reducing storage capacity and the system's lifespan at a rapid rate (11, 12). Draining Powell Reservoir as a rational response to these trends and problems would not jeopardize long term water delivery commitments to the Lower Basin (13).

## 2. Ongoing ecological degradation.

The environmental changes and decline in ecological health of the system are well documented (14). Powell Reservoir has not only inundated hundreds of miles of natural and free-flowing river ecologies and resources, but has also disrupted the riparian and riverine ecology of Grand Canyon National Park, with the erosion of beaches, changes in water characteristics, and extirpation and endangerment of approximately 6 species of fish(15). Present mitigation efforts to protect endangered species are failing (16), and the ecological impacts and disruptions under present infrastructure and management have devastated the formerly productive Colorado River delta (16). Present infrastructures, management strategies and agency priorities have raised ongoing issues regarding the inability of the Bureau of Reclamation to bring the system into compliance with the Endangered Species Act, the Clean Water Act, the Grand Canyon Protection Act, the Archeological and Historical Protection Act, the Colorado River Storage Project Act, and the National Environmental Policy Act(17).

Additionally, salinity and the accumulation of toxic materials and metals are increasing due to evaporation, leaching and sedimentation, resulting in water quality degradation, large scale agricultural damage, increased costs and compromised ecological systems and health (18). Human recreational and commercial uses, along with motorized recreation activities, have polluted the waters of the Colorado River with petroleum products and waste, and with harmful bacteria and coliforms (19).

The full scope of systemic impacts and management options for the Colorado River has never been properly addressed, and environmental studies have been unduly limited and narrowed (20).

## 3. Recreation and Tourism.

The factors noted above have also had a direct impact on recreational resources and tourism, as visitation to Glen Canyon NRA (Lake Powell) has been consistently declining (by nearly 50 percent over the past 15 years) (21), while reservoir navigation has become problematic, marina facilities have been closing, and Park Service costs for maintaining access have been increasing (22).

## 4. Safety.

In 1983 and 1984 high flows and a lack of adequate planning and management for flood control caused a near catastrophic occurrence/failure at Glen Canyon Dam. Spillway failure from the high flows required lowering releases, nearly causing overtopping of the dam by the rising, impounded waters; only a temporary, 8 foot

plywood barrier prevented overtopping (23). The maximizing of power revenues and political pressure from the Colorado Basin states and recreational interests to maintain Powell Reservoir as full as possible seriously compromise flood control needs and priorities, as well as safety. Although recent hydrological studies indicate that the filling of Powell Reservoir is unlikely in the near future, a dam failure would result in the overtopping of Hoover Dam and all other downstream facilities, destroying water delivery systems and inundating communities in Arizona and California (24). The elimination of Powell Reservoir will actually increase flood control capability of the system, as Mead Reservoir levels would be drawn down to provide for Lower Basin water uses (25).

#### Recommendations.

Rock the Earth submits that the present, crisis situation provides an unprecedented opportunity for articulation and implementation of long-overdue changes in the management paradigm. Present and anticipated conditions and experience call for a new vision, and a goal of balancing present and future hydrological, ecological, social and technological realities with system resources and management options, through the development of a comprehensive plan for sustainable Colorado River water management.

1. A comprehensive and synergistic environmental impact statement should be immediately undertaken and placed on a fast track for implementation of sustainable water management and sound ecological practices. Management of the diverse interests and resources of the Colorado River must be coordinated and balanced in a long range view and plan.
2. The option of decommissioning Powell Reservoir should be fully examined (with a report and recommendation to Congress to remove any political impediments to this necessity) in a cost-benefit context, in terms of system and management inefficiencies, water losses, ecological impacts, and other externalities and diminishing returns. Issues surrounding the implementation of this option should be articulated, and solutions/alternatives crafted based upon defensible science and documented hydrological and climatological factors.
3. Maintain and manage Hoover Dam and Mead Reservoir as the primary storage and flood control facility in the system. Mead storage capacity is more than adequate to safeguard and provide the Lower Basin's "perfected rights." A fully maintained Mead allows for ecological restoration of Glen Canyon, Grand Canyon, and the Colorado delta, and is more efficient in terms of water and power delivery than two partially filled reservoirs. Mead is also better sited for implementing sediment transport access and

technical solutions than Powell, and the removal of Powell Reservoir will decrease salinity and pollution impacts to the system, while increasing available water supply.

4. Bank any surplus water flows (enhanced by removal of Powell) in underground aquifers, accessible by existing aqueducts, most notably in Arizona (but also considering Utah, Nevada and California possibilities), for simple retrieval when needed. In addition to mitigating the evaporation loss problem, incidental benefits from such banking would inure to areas presently plagued with groundwater mining, subsidence, falling water tables, rising pumping costs, and habitat losses. These aquifers would also provide much more long-term storage capacity than reservoirs.

5. Implement aggressive water conservation strategies in the Colorado Basin, considering equity (Tribal and Mexican rights, balanced water priorities and uses, and fair allocations) efficiency, sustainability and growth issues.

6. Study and make firm recommendations to facilitate the updating and transformation of Western water law and the “Law of the River” to reflect the river system’s limitations, present and anticipated future conditions, and the interests of sustainability, conservation, ecological health, and equity. The concepts of senior appropriators, beneficial use, and non-use triggered lapses need to be reassessed and replaced with a sustainable, conservative water management and allocation paradigm that recognizes and balances ecological and instream uses/benefits with sustainable and equitable water allocations and deliveries.

7. Embark on realistic and now-feasible restoration projects in the Colorado Basin. Glen Canyon has shown to be capable of short-term restoration through documented sediment transport. Recreational opportunities on a restored river system would offset the loss of the flatwater recreational economy of Powell Reservoir. Tribal interests (sacred sites, religious freedom, archaeological protection, etc.) would be respected and enhanced by restoration. Restoration efforts for Grand Canyon would require more creative and diligent efforts due to the complexity and cost of sediment transport and the potential problems involving environmental quality; however, a free-flowing Colorado through the Grand Canyon would provide the most hope and opportunity for species recovery and habitat restoration. Eliminating evaporative water losses and managing water delivery through banking and a single primary reservoir (Mead), will free up sufficient water for delta restoration, while providing a greater measure of equity and guarantee for Mexican interests as recognized by Treaty and Compact.

8. Study and develop plans for sediment transport/removal from Glen Canyon, Mead Reservoir and other impoundments.

Again, Rock the Earth appreciates this opportunity to comment on this matter of such critical importance and impact. The failure to plan for a sustainable future for the American Southwest will result in devastating and insurmountable problems and contention; the vision to overcome political inertia and confront the challenges of climate change, unsustainable growth and declining environmental quality may allow us as a society and species to move towards the hope of a sustainable future.

For Rock the Earth:

Bob Lippman  
Member, Advisory Board

Marc A. Ross  
President & Executive Director

C: [Governors Offices of the 7 basin states]  
[Secretary of the Interior]  
[Colorado River Commissions of the United States, and Mexico]  
[Organizations concerned with the Colorado River, Western water and sustainability, etc. (Glen Canyon Inst., Living Rivers, Friends of the River, etc.)]  
[Selected media (High Country News, Sierra, etc.)]

Notes.

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15. U.S. Fish and Wildlife Service. Final Biological Opinion on the Operation of Glen Canyon Dam (January, 1995); National Park Service, Grand Canyon National Park. Endangered, Threatened and Sensitive Wildlife of Potential Occurrence Along the Colorado River in Grand Canyon (Online: <http://data2.itc.nps.gov/nature/documents/ACF18EB.doc>); See also Note 14.
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16. See Note 14, p. 8.
17. See, e.g., Department of the Interior. Report to Congress: Operations of Glen Canyon Dam Pursuant to the Grand Canyon Protection Act of 1992, Water Years 1999 –2001, Secretary of the Interior (May, 2002); See Note 15.
18. See Note 15, p. 7, 11.
19. See Note 15, p. 11.

20. See, e.g., Note 15, p. 4; Clotworthy, Bruce. Parched: The Future of the Glen Canyon Dam in a Drier West. 17 Utah Bar Journal 8; Pub. L. No. 106-113, sec 1000(a)(3) (1999).
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