



# GLEN CANYON DAM ADAPTIVE MANAGEMENT PROGRAM

Using science to manage river resources in Grand Canyon

## Recreational River Rafting

The Colorado River, downstream of Glen Canyon Dam, flows through a majestic desert canyon for almost 300 miles in one of the most stunning landscapes on earth - Glen and Grand canyons. This magnificent gorge and river, explored by John Wesley Powell in 1869, remains a widely revered and sought-after destination for whitewater and smooth water recreation.

### Why is River Recreation included in the Glen Canyon Adaptive Management Program?

Glen Canyon Dam has changed the downstream river ecosystem and therefore the visitor experience in the canyon. Upon construction of the dam, the regulation of river flows that generally benefited river running also decreased the sediment flow into the canyon. Preservation of the remaining sediment is not only crucial to the restoration of native river habitat, it is necessary to maintain dozens of camping beaches used by the river running community.

- The Grand Canyon Protection Act of 1992 requires that operation of Glen Canyon Dam will, among other directives, benefit recreational use of the river below the dam.
- The Glen Canyon Dam Adaptive Management Program incorporates goals for river recreation needs, including conservation of many popular beaches throughout Grand Canyon.
- The magnitude of daily flow fluctuations can make river running difficult at times and affects the number, size and location of camping beaches.
- Large periodic “flood” releases from the dam improve navigability of rapids by clearing the channel of accumulated rock debris and rebuilding sandbars necessary for camping.

### History and Growth of River Recreation in Grand Canyon

Following Powell's pioneering exploration, people began to run the 280 mile whitewater stretch of the Colorado River from Lees Ferry through Grand Canyon for adventure and enjoyment. Only a few hundred adventurers ran the river during the first half of the 20th century. In the 1950s, commercially guided river trips in Grand Canyon, lasting from one to three weeks in length, became available to the public. The rapid growth of river rafting as a national pastime in the 1980s caused an increase in private (self-outfitted) trips. In addition, the popular one-day, smooth water float trip through Glen Canyon from the dam to Lees Ferry continues to grow in popularity.

- With completion of Glen Canyon Dam in 1963, water flows became more consistent throughout the year creating conditions more favorable for river running in Grand Canyon. Demand for river trips grew rapidly in the following decade.
- By 1972, surging popularity of river running caused the National Park Service to begin regulating visitor use to protect the river environment and the quality of the river experience.

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Explosive growth in the number of recreational river runners in Grand Canyon indicates that there are more people who desire to run the Colorado River than the environment can potentially sustain. In 2006, the National Park Service completed an Environmental Impact Statement for revision of the Colorado River Management Plan. The CRMP is a visitor use plan that allocates recreational use of the river, which has grown significantly over the past 50 years.

1955	150 people/year
1963	1,100 people/year
1972	16,500 people/year
2004	22,460 people/year
2007 (projected)	26,317 people/year

### **Socioeconomic Benefits of River Recreation**

Whitewater and smooth water river rafting generate about \$83 million\* annually in the regional economy. River rafting also:

- Generates about 600 jobs in river guiding and supports services in local communities.
- Returns about 12 percent of the gross revenues earned by river outfitters to the National Park Service and Grand Canyon National Park.
- Generates significant revenue for the Hualapai Tribe river runners. This tribe manages most of the land south of the Colorado River in lower Grand Canyon.

In addition to dollars spent for recreation in the local economy, there is an incalculable value to millions of people worldwide, simply knowing that the Grand Canyon river environment is still there, preserved and accessible for future generations.

\* Loomis, J., Douglas, A.J., and Harpman, D.A., Recreation use and nonuse values of Glen and Grand Canyons in Gloss, S.P., Lovich, J.E., and Melis, T.S., eds., 2005, The state of the Colorado River ecosystem in Grand Canyon (SCORE), U.S. Geological Survey Circular 1282, pp. 153-164.