WY2012 hydrograph: Grand Canyon Trust

The Grand Canyon Protection Act states that the Secretary is to operate the dam, and implement other actions, to, "… protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established…."

Sediment, *per se*, is one of many park values. The 2006 Management Policies direct management for the, "… closest approximation of the natural condition when a truly natural system is no longer attainable," but this management direction is not being achieved (i.e., MLFF typically results in a negative mass balance of sediment). Likewise, MLFF does not, "… permit recovery and long-term sustainability of downstream resources" as expected when the Secretary selected MLFF in the 1996 ROD.

To meet the intent of the Management Policies and the ROD, the Trust proposes that an experimental hydrograph for WY 2012 be designed to achieve a neutral or positive mass balance of sediment while implementing high flow experiments under sediment-enriched conditions. The current 24-month study suggests that the annual volume for WY2012 will be about 10 maf. This annual volume is likely to limit the potential combinations of monthly and daily fluctuations that will achieve a neutral or positive mass balance of sediment.

The Trust also proposes that the hydrograph be designed to test the potential effects of flows on other park values such as humpback chub. The 2008 USGS Workshop on Scientific Aspects of a Long-Term Experimental Plan for Glen Canyon Dam concluded that, "Use of steady flow tests combined with sand-enriched BHBF tests was also thought to support the most favorable flow, temperature, and habitat objectives for humpback chub. The participants acknowledged that although this experimental sediment strategy was likely to benefit downstream sediment resources and promote rapid learning (both objectives of the LTEP EIS), it could also impose significant operating constraints for generating hydropower at the dam."

We believe it is essential that an objective effects analysis on the physical, biological, recreational, cultural, and hydropower resources is conducted to inform the Secretary on the likely outcomes of all proposed hydrographs. In 2006, GCMRC conducted an Assessment of the Estimated Effects of Four Experimental Options on Resources Below Glen Canyon Dam (report dated 27 October 2006). We propose that a similar level of analysis is conducted for potential 2012 hydrographs.