

**Adopt – A – Beach:**  
**Long-Term Monitoring of Camping Beaches in Grand Canyon**  
*Summary of Monitoring Observations for Year 2013*

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**Abstract**

For the past eighteen years, the Adopt-A-Beach repeat photography program has been monitoring beaches along the Colorado River through Grand Canyon. Through comparative examination of photo series and on-the-spot observations contributed by the volunteer photographers, campsite conditions are evaluated. Factors considered which contribute to changes, both positive and negative, include: fluctuating river flows, aeolian action, vegetation increase/decrease, human introduced change, rain associated erosion or other actions, natural or anthropomorphic, that may have an effect on the camp. The 250 miles of river in the study are divided into four separate geomorphic reaches, and the resulting evaluations are also segregated and examined by reach. The conclusions are presented as observational, monitoring data only.

For the time spanning the 2013 summer boating season, early April to early November, 37 of the 44 study beaches in the program had photographs and photographer comment sheets covering a sufficient period of time to be evaluated. Of these 37 beaches, 30% were classified as Unchanged for the time period, 0% had Improved through the summer and 70% were considered as Degraded by the end of the season. Of the Unchanged beaches, 36% are located in the Marble Canyon reach, 36% in the Upper Granite Gorge reach, another 28% are contained in the Muav Gorge reach and none are in the Lower Granite Gorge reach. Twenty three percent of the Degraded beaches are located in the Marble Canyon reach, another 31% in the Upper Granite Gorge reach, 38% are found in the Muav Gorge reach and 8% were from the Lower Granite Gorge reach. The primary factor cited in those camps classified as Degraded is the fluctuating flow releases from Glen Canyon Dam, followed closely by rain events. As in 2012, rain erosion or debris flow deposition removed or covered approximately 75% of some beaches. This occurred primarily during the late summer monsoon season when tributary flooding is most likely to become a problem for parties camping on the beaches, and was found throughout the reaches. In at least five instances, rain events caused catastrophic damage to beaches.

A comparison of the beaches from late season 2012, from photos obtained prior to the November High Flow Experiment (HFE), and early 2013 was conducted on a total of 27 beaches. With three exceptions, all of the beaches appeared Improved in 2013, this being attributed to the Fall 2012 HFE. Of the 3 unimproved camps, 2 were basically Unchanged compared to the previous fall and 1, Soap Creek Camp at River Mile 11.3 was classified as Degraded. A considerable amount of beach front had been scoured from the beach since 2012, presumably during the HFE.

More significantly, 19 of the beaches were photographed immediately following the HFE, allowing an evaluation of the winter flow regime and immediate effects on the beaches which responded well to the HFE. According to the streamflow gage for the Colorado River @ Lees

Ferry, daily fluctuations of 7000 cubic feet/second (cfs) ramp up and then back down a full 7000 cfs began seven days after the HFE was concluded. These flows usually peaked in excess of 17000 cfs. They continued through January 2013, with similar; though slightly lower flows, continuing through February. The fluctuating flows, combined with the overall relatively high releases, are defined with a classification of Degraded for 9 of the beaches. The remaining 10 beaches were classified as Unchanged for the same time period. So, nearly 50% of the freshly deposited sand was affected adversely by the winter flow regime of 2012-2013. Twenty percent of the Unchanged and 22% of the Degraded beaches were located in the Marble Canyon reach and another 20% of the Unchanged and 56% of the Degraded beaches are located in the Upper Granite Gorge reach. The Muav Gorge reach contained the remaining 60% of the Unchanged beaches and the other 22% of the Degraded classified beaches.

While this represents just less than half of the 44 beaches normally reviewed by the study, the distribution of the results would indicate the possibility of similar effects throughout the canyon system.

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