

Adopt – A – Beach:
Long-Term Monitoring of Camping Beaches in Grand Canyon
Summary of Monitoring Observations for Year 2017

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Abstract

For the past twenty-two years, the Adopt-A-Beach repeat photography program has been monitoring beaches along the Colorado River through Grand Canyon. By comparative examination of photo series and on-the-spot observations contributed by the volunteer photographers, conditions pertaining to the desirability of the beach as a camp for rafting parties are evaluated. Factors considered, which contribute to changes that may have an effect on the camp, 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,. Beginning at River Mile 11.3, as measured downstream from the United States Geological Survey gaging station at Lees Ferry, AZ (USGS, 2013), the 239 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.

A comparison of beach evolution from late season 2016 to early April 2017 was conducted on all 44 study beaches. Although the April photos were collected five months after the fact, this serves to evaluate the results of a High Flow Experiment conducted the second week of November, 2016. Two thirds (66%) of the beaches showed Improvement through the spring of 2017, 7% of the beaches had Degraded between the latest 2016 photo and spring 2017, and 27%, were considered Unchanged. Of the 3 beaches classified as Degraded for this period, two (67%) are located in the Marble Canyon reach and one (33%) was found in the Upper Granite Gorge reach. No beaches in the Muav Gorge or in the Lower Granite Gorge were considered as Degraded. Twelve beaches were Unchanged for this period, with 8% in the Marble Canyon reach, 42% in the Upper Granite Gorge, 50% in the Muav Gorge reach and none located in the Lower Granite Gorge reach. Distribution of the 30 beaches classified as Improved since late summer 2016 was even, with the Marble Canyon reach, the Upper Granite Gorge and Muav Gorge reaches each containing 30%. The remaining 10% are located in the Lower Granite Gorge.

For the time spanning the 2017 summer boating season, early April to late October, 29 of the 44 study beaches in the program had photographs and photographer comment sheets spanning a sufficient period of time to be evaluated. Of these 29 beaches, 41% were classified as Unchanged for the time period, 59% were considered as having Degraded by the end of the season, and None of the 29 were seen to have Improved. Of the 12 Unchanged beaches, 58% are located in the Marble Canyon reach, 25% in the Upper Granite Gorge reach, and 17% are contained in the Muav Gorge reach. None of the Unchanged beaches were in the Lower Granite Gorge reach. Eighteen percent of the 17 beaches classified as Degraded are located in the Marble Canyon reach, another 29% in the Upper Granite Gorge reach, 41% are found in the Muav Gorge reach and 12% were located in the Lower Granite Gorge reach. Occasionally, a beach will exhibit Improvement during a season but factors will conspire to Degrade it before Fall. In all instances, a beach will receive a classification based on its condition on the final date

of evaluation for that season. The primary factor cited for 10 of the camps classified as Degraded was beach recession due to the fluctuating flow releases from Glen Canyon Dam. There were 4 beaches classified as Degraded where rain events are cited as the primary cause. Wind erosion was a primary factor in one Degraded classification, and vegetation increase and human impacts, as well as the previously cited factors, were all noted as secondary agents of change on one or more beaches.

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