

LOWER GORGE CAMPSITE MITIGATION PROJECT
MARCH 20-22, 2015
TRIP REPORT

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Report Completed: April 27, 2015

Trip Objectives

The primary objectives of this trip were to assess current conditions at campsites in the Lower Gorge and to complete mitigation actions to improve the limited number of campsites in this reach of the canyon. On October 28, 2014, John Dillon, Executive Director of Grand Canyon River Operators Association (GCROA) sent a letter to park superintendent Dave Uberuaga regarding the need to complete campsite rehabilitation work in the Lower Gorge. The letter stated that commercial and private river trips were having difficulty finding adequate campsites below Diamond Creek due to vegetation encroachment and flash flood events. The letter suggested that improvements were needed at camps at the following river miles: 235 left, 238 left, 242.5 right, 243 right, 246 left, 247 left, 248 right, and 250 right. This request was reiterated at the January 26, 2015 meeting between NPS staff and GCROA members. Park staff began project planning with GCROA member Trent Keller, Western River Expeditions (WRE), following that meeting.

Logistics and Personnel

Canyon Jet Services (CJS) provided the river transportation from Pearce Ferry to the upriver project locations. Park project leaders departed Flagstaff on Thursday March 19 and camped in the Pearce Ferry area. All participants met at Pearce Ferry at 9:00am on Friday March 20 and loaded the group gear, tools, and all personal gear onto the two jet boats. Trent Keller and NPS representatives gave an orientation to the project, completed the required paperwork, and discussed work and river safety prior to departure. The group travelled upriver and set up camp at 243 right, where they based for two nights. The group completed the final campsite work by mid-morning on Sunday March 22, with the boats unloaded and most participants on their way home by noon.

Table 1: Trip Participants

Name	Affiliation	Role
Linda Jalbert	NPS - GRCA	NPS Project Leader
Lori Makarick	NPS - GRCA	NPS Project Leader
Doug Lentz	NPS – GRCA	GRCA Concessions representative
Heidi Grigg	NPS – LAKE	LAKE Concessions representative
Trent Keller	WRE	GCROA Project Leader
Sam Stallings	CJS Manager	Project Participant
Trevor Carlile	CJS Captain	Boat Operator – Project Participant
Greg Squires	CJS Captain	Boat Operator – Project Participant
Helen Howard	GCPBA	Project Participant
Dave Brown	Tour West	Project Participant

Name	Affiliation	Role
Kayson Poteet	Tour West	Project Participant
Ken Gouff	AZ River Runners	Project Participant
Brock DeMay	AZ River Runners	Project Participant
Tim Snyder	AZ River Runners	Project Participant
Chris Sofranac	AZ River Runners	Project Participant
Corey Chatwin	WRE	Project Participant
Clancy Chatwin	WRE	Project Participant
Connor Lentz	Volunteer	Project Participant

All non-NPS project participants were signed up as volunteers through the NPS and their hours will be entered as volunteer support for river stewardship. The data have not been entered, but about 240 volunteer hours were contributed to this trip.

Table 2: Trip Itinerary

Date	Campsite Name
3/20/2015	Bridge City, Separation, 242 L, 242.7 R
3/21/2015	243 R, Spencer, Surprise, 250 R
3/22/2015	264.8 R, 273 L, 279.5 L

Results and Observations

Bridge Canyon City – There was a large, deep ravine in the middle of the camp, dividing it into two distinct parts. The ravine sides were very steep and dangerous to navigate around. A group of six filled in the deep ravine with sand from the steep sites and flattened out the surface. With the ability to use both sections and establish a central kitchen, we then focused on clearing out exotic plants from designated tent sites throughout the camp, and improving and widening the trails to the campsites. We removed 194 m² of invasive plants including red brome, barley (*Hordeum murinum*), Bermuda grass (*Cynodon dactylon*), and some native arrowweed (*Pluchea sericea*) to improve the site. We also defined a secluded toilet site at each end of the camp by pruning the encroaching vegetation and we also disposed of firewood from the site. We pruned a total of 147 m of vegetation at this camp.

Separation – We removed 10 m² of invasive ripgut brome (*Bromus diandrus*) from tent pads and core camp areas. We cleared cobble to make a trail from the river up to the camping sites up the wash. This camp has been impacted by flash flooding from the canyon and is really only used when there is no chance of rain. We dismantled a fire ring and cleaned up charcoal.

242.2 L – This is a new beach from the October 2013 High Flow Event (HFE). We cleared and established a better downstream toilet trail, and pruned and leveled some nice sites into the upper tier of this beach, which added a few new sleeping areas. We removed arrowweed and red brome to create the tent pads, clearing a total of 51 m². We pruned a total of 57 m of vegetation at this camp.

242.7 R – We cleared encroaching vegetation at this site and levelled the existing tent sites. We pruned a total of 5 m² of vegetation at this camp.

243 R – This was our base camp. We established a lower and an upper kitchen area, so the camp will still be usable during higher water months. We cleared arrowweed and invasive annual grasses from the tent sites throughout the camp, and used shovels to level tent sites in the upper area. We cleared 40 m² of vegetation to create camping areas and 28 m² to create the lower kitchen and core camp area. We also established a level trail downstream to a downriver toilet site. We hauled 40 buckets of sand to fill in gullies in the upper campsite areas. This camp could accommodate large groups now. We pruned a total of 42 m of vegetation along trails at this camp.

Spencer – We pulled 18 garbage bags of invasive plants, clearing over 100 m² from campsites and core camp areas. The primary species removed were ripgut brome, but we also removed sow thistle (*Sonchus oleraceus*), tumble mustard (*Sisymbrium altissimum*), and red brome (*Bromus rubens*), which were in great abundance at this camp. We cleaned up piles of tree limbs from the middle of the beach and campfire rings that were distributed around the camp. We cleaned up trash, and moved old barrels and lumber to the Hualapai toilet area, which is out of sight from visitors. We cleared a better toilet trail upstream, and moved rocks and cobble out of tent sites. We also fixed poor pruning that had been completed in the past. We pruned a total of 16 m of vegetation at this camp.

Surprise – We spent quite a bit of time here and literally cleared out an enormous dead standing tamarisk forest across the entire upper campsite. We completed that work in a 5,000 m² area. The standing dead trees presented a fire hazard and could be readily pulled from the ground without much effort. The camp now looks more inviting and can host a large group of up to 28 people. We also improved the toilet site upstream and delineated several tent sites in this upper area by removing out very thick non-native grass with shovels, pruners, and scrapers. We pruned a total of 33 m of vegetation at this camp.

250 R (Tomahawk camp) – This site had been worked on previously by NPS and partners. A large portion of the upstream side of the camp was washed out due to heavy flash flooding. We pruned existing trails and campsite areas, widened and leveled the existing camp sites, and added some new clearings for tent sites with minor vegetation removal. We used some the vegetation to obliterate old trail work and steps that no longer were needed due the wash out. We also improved the toilet trail and location. We pruned a total of 20 m of vegetation at this camp.

268.4 R – This site is primarily used by private boaters. This site did not look very inviting at first, but it looks much better now for a variety of group sizes. We cleared vegetation from the existing camp pads and pruned the trail to the toilet. We pruned a total of 24 m of vegetation along trails and campsite boundaries. We removed tumble mustard, ripgut brome, and camelthorn (*Alhagi maurorum*) from campsite areas to open them up for use.

274 L – This site is often called the Grand Canyon Youth camp. This site has shade from the Goodding's willows (*Salix gooddingii*) that frame the boundary and it could be a good area for

supplemental planting. We focused on clearing out the vegetation from the existing camp pads (21 m²) and then created one new 9 m² site by removing Emory's baccharis (*Baccharis emoryii*). We pruned a total of 24 m of vegetation along trails at this camp with a focus on the primary trail and the trail to the toilet. We also

279.5 L – This camp is just above take out and is also called cow paddy camp. We did minor pruning of the existing trails at this camp. This camp can accommodate a large group. We pruned a total of 20 m of vegetation at this camp.

Problems Encountered and Solutions

This trip was very successful and went according to plan, with work being completed slightly ahead of schedule. We suggest the same itinerary and group size for future trips. We did not have McLeods or pulaskis, which would have been extremely useful for both campsite creation and invasive plant removal work. We only completed a limited amount of campsite creation because we would like to have an archaeologist on site for the projects that require more ground disturbance above the new deposition areas or areas that had been previously work in. We highly recommend having an archaeologist on all future trips.

The non-NPS project participants were all signed up as volunteers; however, there was a question about CJS and GCROA providing the transportation and food for the trip at no cost. This should be clarified prior to future trips.

Follow- up Actions

This work we completed is cyclic and requires a commitment to follow-up maintenance and monitoring. Another similar trip should occur in March 2017, with the park's concession office serving as the primary contact to get the work scheduled.



Figure 1. The campsite mitigation crew for the March 20-22, 2015 Lower Gorge river trip.



Figure 2. Toilet trail pruned and delineated at 243 right camp.



Figure 3-5. Crews filled in large ravine near pull in area at Bridge Canyon City camp with nearby material from cut bank to facilitate campsite set up and overall safety.



Figure 6. Spencer camp areas opened back up for use after crews manually removed invasive rip-gut brome, red brome, and tumble mustards that had invaded the camp.



Figure 7. Boat loaded with over 20 bags of exotic plants removed from Spencer camp.



Figure 8. Crews hauling standing dead tamarisk from Surprise camp to drainage to open up more campsites and remove fire hazard.