

USING SANDBLASTING TO REMOVE GRAFFITI IN BLOOMINGTON CAVE, UTAH

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Abstract

Kyle Voyles and Jon Jasper have long considered how the appreciation of Bloomington Cave outside of St. George, Utah, would change if all of the graffiti and trash was removed. Our thinking was if we could get the community involved in restoring the cave, then interest and appreciation would increase to allow long-term maintenance and management of the cave.

During the winter and into spring of 2005, seven weekends were spent removing the graffiti covering the walls of Bloomington Cave. The project, headed by Kyle Voyles (Parashant National Monument and St. George Bureau of Land Management) used Ray Keeler's sandblasting equipment and other techniques to thoroughly remove graffiti throughout the main trails of the cave. The project was a great success due to the efforts of 48 volunteers from Utah, Arizona, Nevada, and California. Now that the project is completed, the Bureau of Land Management is looking into writing and implementing a comprehensive Cave Management Plan.

This presentation includes an eight-minute video documenting the project and the methods. You will be able to see the equipment in action sandblasting away the graffiti

Executive Summary

Between January and April 2005, 48 volunteers worked seven weekends sandblasting off the graffiti in Bloomington Cave outside of St. George, Utah. This monstrous effort was able to remove graffiti from the main visitation areas and has greatly increased attention and apprecia-

tion of the cave. Due to show of effort the St. George Bureau of Land Management is writing a cave management plan which is considering an information kiosk, improved parking, bathroom facilities, and possible gating. The project began as a huge restoration effort and is quickly becoming catalyst for the long-term management of the cave.



Brandon Kowallis picks up garage in a room full of graffiti.

Description of Bloomington Cave

Bloomington Cave is an awesome maze of passages formed along a 60 degree dipping fault. It is presently mapped to 1.3 miles in length, the fifth longest cave in Utah. Being a short drive from the city of St. George in southern Utah, the cave is quickly growing in popularity.

Problems Arise

In the 1950s, in response to the unmanaged increase in visitation, the local Dixie Grotto blasted the entrances shut to protect to the cave and its visitors — twice. The entrances were dug open and the visitation continued to rise. Today, the cave's visitation is 644 visitors/year, that's 1.8 visitors/day. However, the visitation is not the only problem.

Most of the visitors to Bloomington Cave are vastly unprepared. Most are equipped with only one, possibly head mounted, light, no backups, no helmets, improper clothing, gym shoes, and no previous caving experience. To keep from getting lost in the labyrinth of passageways, visitor's routes have been marked with graffiti and miles of string. Over the years, the lack of any management and visitor education has greatly deteriorated the cave.

The cave's Big Room has a high-angle drop of about 150 feet. Many tales have been told of folks sliding out of control to its bottom. In the summer of 2002, a Boy Scout was rescued after taking this fall and breaking his leg. Later the same year,



Doug Powell with full safety equipment

on Christmas Eve, a 17-year-old girl accidentally backed off the ledge called the Boardwalk where the cave's register is found. She rolled through a small opening and down through the Big Room to the bottom of the cave. She became the cave's first fatality.

This fatality marked a need for change — a need to improve public education of proper cave safety and a need to restore the esthetic and recreational value of Bloomington Cave. The removal



Kyle Voyles setting up to sandblast graffiti

of the graffiti throughout the main part of cave was just the first step.

Sandblasting 101

To remove any significant amount of the graffiti in Bloomington Cave is a massive undertaking. Kyle Volyes reserved the use of Ray Keeler's sandblasting equipment as the primary method to remove the graffiti. For seven weekends, volunteers converged on Bloomington Cave to sandblast off the many tags from the walls and ceilings.

Setting up of the sandblasting equipment in itself is an amazing feat. High-pressure hose and electric cords need to be run from the air compressor and generator on the surface to be split to the three sandblasting guns removing graffiti in the cave.

Safety is a high concern for all of the volunteers. Diving goggles and respirators are worn to protect the workers from the sandblasting media that blasted everywhere as the graffiti is being removed. Many drops had to be worked around for the thorough removal of the graffiti. Safety lines were rigged to prevent injuries from falls. The sandblasting equipment and 5-gallon buckets of media beads were rappelled to the bottom reaches of the cave.

Keeping the project going took great effort combating weather, recruiting of volunteers, and maintaining equipment, as well as the cost of acquiring sandblasting media. The project started just after a large flood hit St. George. The flood was large enough that FEMA arrived to help. Several bridges were washed out. The route we successfully used took us four hours of digging to finally reach

the cave.

A large number of volunteers were needed to keep such a large project moving forward. Oddly, the majority of the volunteers traveled more than four hours to reach Bloomington Cave. Matched with the great amount of snow and rain, some weekends were extremely lean with only three or four people showing up.

The project came with many costs. Amazingly, cavers contributed approximate 90% of the project's total cost. The equipment, such as the air compressor, generator, miles of hose and electrical cords, lights, and repairs, were an estimated donation of \$65,000. The volunteers donated over 1,000 hours or an estimated value of \$18,000. In the end, the total project costs are estimated at \$85,000.

The main consumed expense was the sandblasting media. Even being able to recover and use about half of the media, 40 buckets were needed at \$55 per bucket, that's over \$2,000 in sandblasting media alone. This cost was covered by the funding received by the St. George Bureau of Land Management Office, Kolob Care and Rehab, Color Country Grotto, and Outdoor Outlet.

With all things said, the sandblasting was extremely effective in the removing the graffiti.

What's next?

What's next? The seven weekends were only enough to be able to remove the graffiti from the main trail from South Entrance to the bottom of the Big Room. Much graffiti still exist the northern part of the cave, so future efforts are being considered.



Before and after photos of graffiti removal

Currently a management plan is being written to outline the future management actions for the cave. Routes through the cave are planned to increase the cave's appreciation while minimizing the need for marking the cave with miles of string and graffiti. These routes are to be marked with different colored, numbered reflectors to mark the different routes. A kiosk is being designed to include a detailed cave map showing marked routes and in-

formation on proper caving and conservation techniques to educate visitors. A gate is being considered to eliminate undesired "party" visitation. The plan may also include delineated parking, installing restrooms, and improvements to the cave trails. This project is great example of how volunteer restoration projects can create needed management change.