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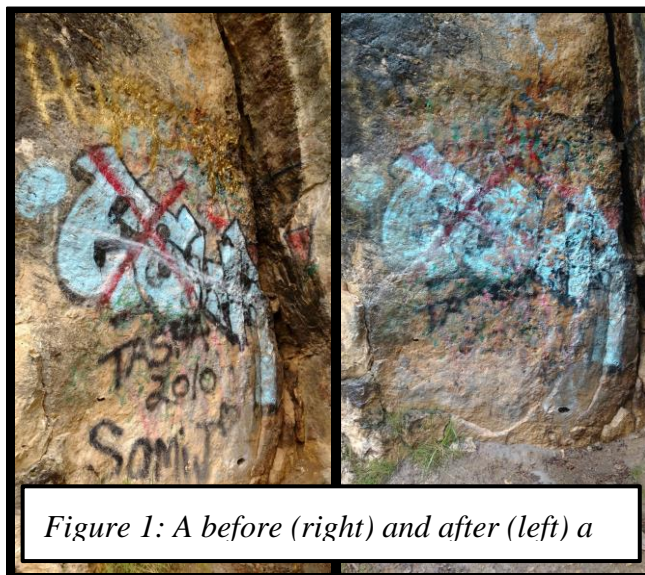
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### **NRMG Small Grant Proposal: Tongue River Cave Restoration Project**

Tongue River Cave holds a special place in my heart. It was the first cave I had ever been to as a small child, only stepping a few feet into the entrance before being told to come out by my parents. As an adult I jumped at the chance to return to the cave with the Hole-in-the-Wall Grotto. Tongue River Cave has just over a mile of surveyed cave passage. The hike to the cave is beautiful with the vast canyon walls towering over you and the sound of the stream below. However, as the trail approaches the entrance, the natural beauty begins to fade as the sight of graffiti becomes more intrusive the closer you get to the cave. The graffiti continues into the cave, with most of the larger rooms of the cave completely covered in graffiti. Even in the 70's this cave was known to be highly vandalized with garbage littered throughout the cave and names written upon the walls (Hills et. al, 1976). Last summer, I volunteered during a cave clean-up with the



*Figure 1: A before (right) and after (left) a*

Bighorn National Forest, Wyoming Game and Fish Department, and some other grotto members. We worked through the rain attempting to remove graffiti from the walls near the cave entrance. Figure 1 shows some of the progress we made that day. I'm requesting \$375 from the Northern Rocky Mountain Grotto to purchase supplies to continue restoration efforts of Tongue River Cave throughout the summer of 2019.

During the course of this project, I will be working in coordination with the Bighorn National Forest. I plan to make a minimum of 5 trips with 5-10 volunteers between July and September. We will continue to focus the efforts of removing graffiti at the entrance of the cave. I will record our progress through photos and will submit a trip report updating the Grotto after each trip to the cave. I will also be recording the amount of trash taken out of the cave over the course of the project. I have also made contact with Heidi Davidson of the Wyoming Wilderness Association in Sheridan. The Wyoming Wilderness Association has expressed interest in participating in this project. Their involvement would increase the impact this project could have and provide educational opportunities about proper cave conservation and resource protection, as well as decontamination, to the local community that could have a lasting impact on those who participate.

By the end of this project, we will have made little impact on the larger problem, but there will be a significant decrease in the amount of graffiti a person will see as they approach the cave, increasing the cave's natural beauty and, hopefully, changing the public's perspective of the cave. The proposed method for removing graffiti is to apply a biodegradable solvent and with a wire brush work the solvent into the area, allowing the product to seep into the surface for 20-30 minutes before washing/scrubbing the treated area with water, and finally rinsing with additional water. The largest financial cost in this project is cost of the biodegradable solvent. From my experience last year, this will be necessary to efficiently and safely remove the graffiti. Gloves will be worn while using solvent, as it can be harsh on the skin. Table 1 below outlines the cost of supplies that will be purchased with the requested funds. If there are any unused supplies, they will be donated back to the Grotto for future clean-up projects.

A final trip report will be made to the NRMG by October 31st with the final update of the progress of the project. Upon request, I would be honored to give a presentation at the Annual Grotto Meeting for 2020 to share the results and discuss the effectiveness of our methods of removing graffiti. I would like to thank the Northern Rocky Mountain Grotto for their consideration of the Tongue River Cave Restoration Project for their 2019 Annual Small Grant.

Table 1. Projected Supply Cost

Items	Unit Price	Quantity	Projected Cost (w/ tax)
32 oz. VandlClean Super Spray Graffiti Remover	22.08	12	\$ 278.20
Avanti Pro Removal Project Set (4-Pieces)	15.97	1	\$ 16.76
HDX Stainless Stripping Brush	2.97	6	\$ 18.71
Grease Monkey Nitrile Large Disposable Gloves (100-Count)	12.97	2	\$ 26.23
HUSKY 33 Gal. Heavy Duty Flap Tie Black Trash Liners (100-Count)	32.97	1	\$ 34.61
Total Amount Requested			\$ 375.00*
*Calculated using current prices at Home Depot, adjustments at time of purchase maybe made to stay within a budget of \$375.00.			

### Literature Cited

Hill, C., Sutherland, W., and L. Tierney. 1976. Caves of Wyoming: Geological Survey of Wyoming. Wyoming State Geological Survey. Bulletin 59, 230 p., 37 pls., 4 sheets.