

Conservation Projects for Grottos

1. Secure conservation flyers from the NSS national office for distribution to:
 - a. Members
 - b. Libraries if they have a rack for displaying public service brochures (This depends on the area. More appropriate in cave-rich areas)
 - c. Commercial cave display racks for literature
 - d. To any group at which program on caves is presented.

Permission should be secured when placing literature in a public place or a display rack that is private property

2. Arrange for a program on conservation in the grotto. Aside from programs on bats (see below), you may be able to find one with before and after pictures, on problems of groundwater pollution, or cave restoration and the techniques.

3. The topic of bats lends itself very well to conservation programs, particularly as, while bats are closely associated with caves, programs on bats emphasize other factors and do not glamorize caving. Welcome (or even seek out) opportunities to show good bat programs (such as shows from Bat Conservation International) to civic clubs, science classes/clubs, garden clubs, etc. These are also, of course, good grotto programs

4. Plan cleanup of a nearby trashed cave or sinkhole. The public relations impact may be heightened if you can recruit youth groups to help and give the effort general publicity. At the same time you are teaching the youth involved something about the need for conservation. You might consider accepting requests to lead Scouts (or other groups) on cave trips only if the trip is organized partially for cleanup purposes.

5. Find out if there is an environmental council in your community and have a representative of your grotto participate. If there is none, one of the grotto members may be active in another environmental group and be able to serve as a two-way channel of information.

6. If there is a legislative or other type of action alert for an item of concern to cavers, whether it be clean water, logging of timber in karst lands, passing of a state cave protection act, or extension of the endangered species act, support the proposed action. If feasible, have the

grotto write a letter expressing support (or opposition, if that is appropriate to achieve goals as in opposing a landfill) by the grotto as a whole. Encourage individual members to write also. In some cases a grotto member may testify as an expert in a hearing; for example, a grotto member with expertise in hydrology can explain what happens when toxic wastes are introduced into the subsurface drainage system.

Special opportunities may present themselves to grottos located in state capitols or county seats.

(NOTE: While nonprofit organizations qualifying for tax deductible status are restricted in how much lobbying (trying to influence legislation) they can do, this applies only to lobbying and even that is allowed up to about 20% of one's budget. Contact with administrative agencies to influence rules and regulations is not lobbying.)

7. Include conservation in your grotto budget and/or designate part or all of a special fundraising effort to conservation projects.

8. If you live in a karst area, pollution of groundwater is a very real threat. "What goes down must come up," was the slogan on an illustrated poster distributed to all earth science classes in Virginia by the state Cave Board. Become informed on this subject and work to build public awareness of the problem. The Virginia Cave Board also published a flyer on the subject to be distributed to caveowners and to stores and other facilities in communities where owners dwell. This project could be duplicated in other states.

9. Along with pollution or landfills and other environmental threats goes recycling. Landfills will last longer if the amount of waste is cut back through recycling. If your community has a recycling program, support it and push for expanding it to include as much as possible. If it doesn't yet have such a program, work to get one started and meanwhile you can do the recycling game right in your own I/O. Buy recycled paper for your newsletter. At potluck dinners, use paper plates and cups instead of foam (which doesn't degrade but lasts for ages). Be sure to let others know that you are doing this; it's good public relations and also may encourage other groups to get on the bandwagon.

10. Join the “adopt-a-highway” or “adopt-a-stream” program. You will be committed to cleaning up a certain stretch three or four times a year and you may even get the name of your I/O on a sign giving you credit for the job. You might choose a stretch of highway near one of your favorite caves, to make the project more attractive to your group.

11. Encourage members to sign up for one of the NSS-sponsored cave restoration projects. There are ongoing ones annually now at Carlsbad Caverns and Mammoth Cave, and others getting started. Work that may be dull done alone can be enjoyable done with new friends in a new location and you may learn techniques applicable to your own local caves.

12. Some Colorado cavers decided to reseed a tailings pile of red clay and sand left from a major dig project. First, the soil was analyzed in a soil testing lab at a state university. A seed company agreed to provide a small quantity of seed of the right mix. Some flat rocks were laid down for a possible path for future cave visitors, and reseeded then was carried out.

13. The following suggestions about cleaning formations comes from the Cavers’ Forum on Internet, as quoted in the Texas Caver (March 1993): Florida cavers working at Glory Hole in GA created a 12 x 5 foot pool by making an ovalshaped tub 8 inches deep and laying down plastic over it. This was on a mud floor under dripping formations and holds about 120 gallons of water. There is a hand bilge pump in the pool to get out the water without muddying it up. Also in the cave are eight pesticide sprayers (bought new without pesticide) and several scrub brushes and tooth brushes. Using these items the mud does come off the formations pretty well and also spray paint comes off limestone walls. The problem comes when paint or mud has been on the formations long enough to be in the crystalline matrix. To get this off a very weak solution of muriatic acid (7 parts

water to 1 part acid). This solution is used only if the formation is large, the graffiti is obvious, and scrubbing did not work.

However, Rane Curl in Michigan advises against using muriatic acid for cleaning graffiti off cave formations. Use sulfuric acid. Muriatic acid (hydrochloric acid) emits irritating toxic fumes (though not too bad if diluted as described above) and, more serious, produces calcium chloride upon reaction with limestone. Calcium chloride is very soluble and forms a very strong ionic solution that will kill any organisms immersed in it. It does not go away or dry up (it is deliquescent). It would become harmless with sufficient dilution but the runoff from the formations being cleaned into sediments would not get diluted.

Instead, use sulfuric acid (“battery acid”, also diluted to ca. 10 percent (battery acid is 30% so add one part acid to three parts water). Sulfuric acid reacts with limestone to form calcium sulfate. This is the substance of gypsum, which is only slightly soluble and organisms are not harmed by immersion in a saturated solution of calcium sulfate. The solution will evaporate and the gypsum that remains will be quite innocuous.

In State College, Pa, the Nittany Grotto says that paint can often be scrubbed off with a wire scrub brush or even sand-especially on damp cave walls. There are biodegradable paint removers for really tough paint but use with caution. Before using such, determine whether any fragile areas may be harmed by the removers before and after they decompose. Perhaps some paint is best left unremoved or simply covered over with mud.

Cave Minerals of the World recommends steam cleaning, especially in show caves.

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