



BC Speleological Federation

Best Management Practices (BMP)

SAFETY AND TEAM EXPERIENCE

October 2020, Version 1.0.2

The BCSF is a federation of cave explorers, caving groups and cave scientists dedicated to the exploration, study and conservation of caves. The BCSF BMP series summarizes accepted practices to protect caves, karst and the species living in and around them.

INTRODUCTION: Cave exploration is safe provided a team has a solid foundation of training and experience, and gradually progresses from relatively easy to more difficult and challenging exploration.

The BMP listed below should guide decision makers when issuing permits, and permittees/visitors on Crown Land and in BC Parks when they go underground.

SYNOPSIS: There are several areas regarding safety, team organization and practices that should be considered by Provincial statutory decision makers who issue permits as well as the permit applicants, team leaders and team members who plan to explore caves and mines.

1. STATUTORY DECISION MAKERS:

- a. **Experience:** Do the permit applicants and team members have the required experience and a successful track record in similar underground projects, to successfully carry out the project? If this is a commercial venture such as a film location, do they intend to hire experienced underground team leaders?
- b. **Prior Permits:** Have the permit applicants held other exploration/research/film permits and successfully concluded their reporting and other obligations?
- c. **Conservation Measures:** Do the applicants deal adequately with species at risk, White Nose Syndrome (WNS)¹, zero impact camp management, and demonstrate an understanding of cave conservation²?
- d. **Indigenous Peoples Consultation:** Have the applicants been advised of the need to contact the groups with traditional territories and have they done so?

2. FOR INDIVIDUALS AND TEAM LEADERS:

a. Individual Responsibilities:

- i. Before entering the cave:
 1. Let someone at home know of your itinerary and approximate schedule.
 2. Select appropriate personal equipment and supplies including headlamp, head protection, protective clothing (including gloves and kneepads), footwear, food and basic emergency supplies.
 3. Carry multiple sources of light, 3 recommended.

¹ See BMP – White Nose Syndrome (WNS), October 2020

² See BMP – Cave Conservation, October 2020



BC Speleological Federation

4. Do not share vertical equipment, know how to use it, and master/practice rope techniques outside before using them underground.
 5. Check your equipment and ensure that it is in good working condition.
 6. Some caves flood. Check the weather and project the (hydrological) response of the cave to adverse weather conditions.
 7. Do not go underground under the influence of alcohol, drugs, or medication.
 8. Inform the trip leader of any personal physical or mental limitations.
 9. Never plan to cave alone. Groups of 3-4 are preferable.
- ii. Inside the cave:
1. Accept the trip leader's decisions and stay together.
 2. Identify, recognize, and evaluate inherent caving hazards (e.g. flooding, hypothermia, fatigue, rockfalls etc.)
 3. Do not exceed your abilities and limitations.
 4. Do not linger at entrances or other potentially unstable zones, or vertical exposed areas (e.g. pitches, overhanging ice).
 5. Know the agreed-upon communication protocol (used when voice communications are impractical or impossible).
- b. Trip Leader's Responsibilities:**
- i. Before entering the cave:
1. Let someone on the surface know of your plans.
 2. Know how to activate an outside cave rescue operation.
 3. Ensure all group and personal equipment is matched to the cave's difficulty and in good working order.
 4. Ensure basic emergency equipment and supplies are taken (e.g. first-aid kit, pulleys, heat source, extra rope, etc.).
 5. If a mine is involved do you have a bad air detector and know how to use it?
 6. Check the weather forecast.
- ii. Underground;
1. Plan the underground activity according to age, experience, skills, and physical condition.
 2. Distribute experienced cavers to the front and back of group (and use the "buddy system" within the group).
 3. Progress through the cave as fast as the slowest person and don't ask someone to perform something beyond their capability.
 4. Use fall protection for all vertical exposures.
 5. Recognize the symptoms of fatigue and hypothermia.
 6. Avoid the risk of getting trapped by a flood; stay out of stream caves if the forecast is bad, and monitor water levels continuously underground.
 7. Don't hesitate to call a halt to a "bad" trip.
- c. Cave Guiding Guidelines and Responsibilities:**



BC Speleological Federation

- i. The Canadian Cave Conservancy has guidelines for cave guiding operations located at: <http://www.canadiancaveconservancy.ca/caveguidestd.pdf>

3. BEST PRACTICES FOR MINIMUM IMPACT CAVING

- a. Consult with prior visitors about sensitive features. This may also reduce the need for redundant visits.
- b. Limit the size of the party to the minimum required for a safe visit. (Four is a reasonable lower limit.)
- c. Do not smoke or make fires, even at the entrance.
- d. Stay on the established "minimum impact" route and avoid touching anything.
- e. Never break or soil speleothems including flowstone and moonmilk.
- f. Don't "push" delicate passages or overuse sensitive caves or sensitive interior passages.
- g. Never mark surfaces or discard anything underground.
- h. Don't urinate or defecate inside the cave. Carry out all human waste in the case of bivouac.
- i. Do not disturb hibernating bats or other sensitive organisms; modify cave passages or natural air and waterflows.
- j. Use bolts only as a last resort where natural or non-marking anchors (cams, chocks, etc.) cannot be used, and place them carefully.

4. ADDITIONAL RESOURCES AND CONTACTS:

National Speleological Society (NSS) Guide to Responsible Caving
https://caves.org/brochure/Guide_to_Resp_Caving_2016.pdf

ON ROPE: North American Vertical Rope Techniques by Bruce Smith and Allen Padgett. Second edition. Available on-line from various sources.

WorksafeBC Standards Part 34 / Rope Access: <https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-34-rope-access>

British Columbia Contact for the BC Speleological Federation: BCSF@cancaver.ca