

Showing Up for a Rescue

by Michael A. Raymond and Anmar Mirza

In this article we'll discuss expectations for showing up for a sump rescue. This includes what you should expect to encounter as well as what will be expected of you.

Procedures for any cave rescue

When we think of team-based activities, like sports or job assignments, we assume many things. We assume that all of our people and equipment will be present from the start. We assume a fairly complete description of the problem and a chance to make a plan before we get to work. One of the key differences in the early phases of any cave rescue is that while you'll be operating as part of a team, neither the team, the gear, nor the problem description will be complete before you have to get started.

Cave rescues are conducted by volunteers. They'll get there when they can get there. They bring their own equipment. There are regional caches of cave rescue equipment maintained by other volunteers, but they might take a full day to arrive.

Patients can't wait that long. Hypothermia presents the number one danger for the patient. The most common injuries are to the extremities and result from slips, trips, and falls. These slow the patient down, which means he or she gets cold. Being trapped on the wrong side of a sump also stops movement. Because of this, our priority is always to get a team to the patient to warm him or her up.

The first team to the cave gets dispatched for one of two reasons. Either they're responding to a group in the cave who missed their callout, or someone exited the cave to request support for a patient. In some cases, the first rescuers can go straight to the patient and bring them out. In many cases though, their job is to set things up for follow-on forces. Someone takes command of the incident and is the point of contact as others rescuers arrive. Someone else in the first group secures the cave entrance(s)

so we can keep track of who is in the cave and not lose anyone else. This also handles the situation of the patient exiting the cave without the rescuers knowing it, which has definitely happened before.

When the next set of rescuers arrives, a search team is sent into the cave. Its job is to find the patient, stabilize them, and send word back to the command team on the surface. Stabilizing the patient means warming the person and doing a secondary assessment to reevaluate his or her physical and mental condition. If the patient's location is known, an Initial Response Team (IRT) is sent in to do the evaluation and stabilization.

As additional rescuers arrive, the incident commander (IC) must decide how to use them. The most common practice is to send them to support the most overwhelmed function. As an example, until we've found all the missing people in a cave, it makes more sense to send out additional search teams instead of using those personnel for rigging or passage enlargement. As another example, as more people get involved, the IC will become overwhelmed trying to manage them all. A common practice is to send someone to be an Underground Branch Manager to manage everyone underground, while the IC stays on the surface to coordinate logistics and interactions with higher authorities.

The order that teams are used does tend to follow a certain pattern. The initial work involves finding the patient(s), stabilizing them, and establishing communications between their location and the surface command post. Work can then shift to reducing obstacles to patient transport, for example by improving rigging or widening squeezes. Surface work may be needed to manage logistics, make plans, and feed hungry rescuers. Lastly, teams are used to help evacuate the patient. In some cave rescue cultures, all obstacles are addressed before the patient starts moving. In other cultures with more skilled technicians, one team is able to get the patient moving sooner, while another team stays just in front



Sump divers meet to discuss standards and future training at this year's NCRC national training in Clifton Forge, VA. © Michael Raymond

of them doing obstacle reduction. This style requires much greater individual skills.

Expectations for individual rescuers

Rescuers are expected to show up with all the personal equipment they need (helmet and knee pads at a minimum). They should expect to be joined into a small team and stay with this team for an entire shift. Shifts might last six to eight hours, depending on conditions in the cave. People can work longer, but the accident rate goes up and they need longer rest periods between shifts. Rescuers are expected to show up with all the food and water they need for their shift. The vast majority of rescues are over in a day, but some have lasted up to two weeks.

Rescue phases

Taking a wider perspective, cave rescues have six phases. Phase zero involves all the activities before the incident to train personnel and acquire special equipment. Phase 1 starts with the accident and continues until people outside the cave find out about it. Phase 2 involves gathering rescuers, finding the

patients, and stabilizing them. Phase 3 involves evacuating the patients out of the cave. Phase 4 involves removing all the rescue gear from the cave and cleaning it, media wrap up, and repairing any damage to the cave property. The final phase involves after-action reviews, updating standard operating procedures, and modifying training procedures.

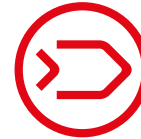
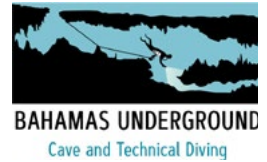
Expectations for sump rescues

If you show up to a sump incident as a dive specialist, be prepared for additional expectations. No one is going to let you into the water, let alone do an extraction, if it looks like you were at an explosion at a dive shop. Someone who is confident but not cocky, professional, and with well-maintained equipment is what we need to get approval from the authorities. We need this approval quickly so we can bring warmth and light to the patients. National Cave Rescue Commission (NCRC) certification helps to show your preparedness.

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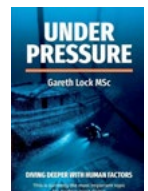
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(Rescue - continued from page 28)

Show up with the equipment needed for an underwater IRT. This includes your personal diving equipment and bags that porters can use to carry it to the sump without breaking it. You will need items for the patient that you can transport in a thigh pocket, including:

- space blankets.
- snacks.
- a light for the entrapped person to keep.
- a heat source such as HotHands or a candle.

If you're really well prepared, you'll have an adapter so you can fill your DIN tanks from the air compressors on fire trucks. Also think about how you're going to recharge your batteries between dives.

Considerations for an airborne extraction

To accomplish these rescues, the community sometimes needs to move a diver and their cylinders by air to the cave. This likely means a National Guard helicopter flight. Compressed gas cylinders and toxic materials like sorb can be flown, but special procedures must be followed. One of the author's many future projects is to gather the necessary forms and procedures to the Sump Rescue website (create hyperlink to <https://www.steelclan.org/SumpRescue/>.)

Be aware that you'll be asked for the total weight of your equipment, the dimensions of the largest item, and the Material Safety Data Sheets for any chemicals, including breathing gas.

Be a team player

When you are requested to support a cave rescue as a sump diver, you're going to show up to a site with many moving pieces. You can expect to encounter a group of other volunteers and emergency management personnel who are continually adjusting to meet the many challenges of a cave rescue. They're going to expect you to merge into the team and be ready to work.

Don't expect that everything is already running smoothly and that everyone you talk to has a clear picture of what is going on. The early phase of a rescue is chaos, and even once things have gotten more coordinated, it still can look like chaos from the outside. Be prepared to roll with the punches and be able to pivot on a moment's notice. You are in charge of your area of expertise, but recognize that you do not have a picture of the whole event.

Michael Raymond is writing a series on sump diving rescue and is Underwater Speleology's Senior Editor. Anmar Mirza is the former National Coordinator for the National Cave Rescue Commission and has been a very active caver since 1983.

The Wes Skiles Legacy Project

Tessa Skiles is creating a legacy web site to carry on with Wes' work of protecting and restoring Florida's springs. She's looking for stories, videos, and photos of Wes (especially from the '70s-'90s). If you have any, Tessa would like to include them. Send them to [her](#) and include the subject "Legacy Website Content- YOUR NAME, STORY/IMAGES." Please include dates, locations, and names.