

NOLS Backcountry Swimming Practices and Guidelines

John Gookin 5/7/01

We often encourage participants to bathe by swimming or wading in streams, rivers and lakes. In some instances recreational swimming may be appropriate. But swimming in remote water with unknown or unfamiliar obstacles is a challenging risk to manage. Different NOLS branch schools have significantly different hazards and may emphasize or de-emphasize this activity, as they deem necessary. In some instances swimming may simply not be permissible. In a program where student and staff swimming ability is not required or evaluated, and where equipment and training for water rescue is not a curriculum priority, recreational swimming and wading should be a carefully supervised activity.

For our purposes **wading** and/or **swimming** involves remaining in water shallow enough to stand up in.

How do we manage and supervise swimming and wading?

We manage swimming and wading with crisp expectations delivered in a 7-point briefing (below.) We then provide a level of supervision appropriate for the maturity of the students. This progression of supervision is similar to the level we provide for hiking groups. We start by maintaining a constant presence, providing adequate coaching to develop good habits. As we learn to trust our students' practices, we begin to provide less direct supervision, while checking that they are staying within our boundaries and to help them keep learning from us. On a high mountain course swimming may be so limited (because of opportunity or environmental factors) that this progression may never leave the beginning stage.

Use conservative judgment when selecting swimming or wading sites and when supervising the activity. Swimming can be a welcome relief from the heat and grime of hiking and it can be fun, but careless or risky stunts have no place in wilderness travel.

All swimmers/waders should wear some type of footwear.

Supervision: students need a good safety briefing before they go swimming or wading the first time. Be sure everyone is there, even if they don't plan to swim that day. All students will need supervision at first. Adult students may be expected to follow your guiding principles sooner than younger students do. It is important that the correct tone be set for this activity. Some basic guidelines include:

Instructors will provide appropriate supervision that may include presence at the waterfront, assessment of the site, setting boundaries, and establishing a time frame. Once student ability to manage waterfront risks is adequately assessed students may use the following steps:

1. **Tell someone where you're going and when you'll be back.**
2. **Swim with a buddy.**
3. **Chose a safe site.**
4. **Stay near shore in shallow water.**

5. **No diving.**
6. **Watch for hypothermia.**
7. **Expectations for rescue.**

Background info for the safety briefing:

1) Tell someone where you're going and when you'll be back

This is a responsible habit students need to develop no matter what the outdoor activity.

2) Group size: at a minimum, swimmers need to use the buddy system, like SCUBA divers and Navy SEALs use. In the buddy system, you and your swim-buddy are basically watching out for each other. This is a good habit for students to learn and practice. A trio can work as swim-buddies, but pairs are the accepted norm because there is no question about who is watching whom. It may seem silly for people just going wading to use the buddy system, but the buddy system is a common practice for numerous outdoor activities. The buddy system is not a guarantee of safety and is only as effective as the ability of the "buddy" to help.

3) Choose a safe site. Factors include weather, water temperature, depth, current, water visibility, closeness to other people, bottom composition, and hazards. Hazards include lightning, predators, strainers, boats, and pathogens.

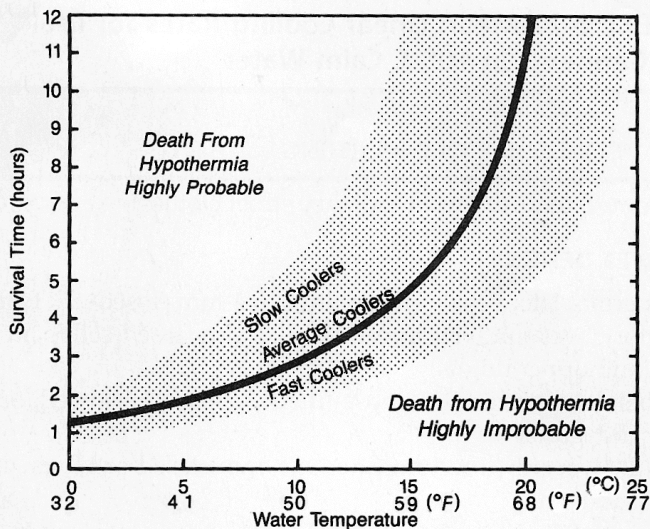
4) Distance from shore. There is no good reason for people to swim far from shore except when swimming is used as a travel technique to get across a river. Wilderness swimmers should stay in water they can stand up in, close to shore. Swimming can occur parallel to shore rather than away from shore. "Close to shore" is defined as close enough for someone on shore to throw them an improvised floating device (not very far.) In situations when it is foreseeable that a person could stray into water over their head (eg: abrupt dropoffs or deep pools) a swimming ability assessment needs to be done. A person needs to be able to propel themselves back to shallower water or shore. Any person who can not do this needs to remain in water no deeper than waist deep. This may sound silly, but a significant number of drownings occur when waders stray into slightly deeper water.

5) Diving causes many swimming accidents, when people dive into water and hit the bottom. Though the typical scenario is hitting bottom in a clear swimming pool, backcountry water has less clarity, more hazards, and more irregularity, making backcountry diving even more problematic. Wilderness swimmers need to avoid diving. Begin with a thorough discussion of the (significant) risks and (limited) benefits of diving, and end with a clear statement that diving should not

happen. Ideally the students come to that conclusion and your statement simply sets an already stated expectation.

6) **Cold water** swimmers sometimes cool down until they become hypothermic, then start making low quality decisions. Cold muscles result in inefficient swimmers who eventually can't swim¹. The immersion table below says that people can survive extended periods of time in cold water, but swimmers without flotation will drown long before hypothermia becomes fatal. Swimmers should leave the water if their teeth start to chatter or if they feel uncomfortably cold.

Frigid water may be mind numbing when we accidentally enter it. Some people have a panic response where they become paralyzed with fear and discomfort and may not be able to help their self². Others hyperventilate uncontrollably and lose the coordination of swimming strokes and breathing. These involuntary responses can be minimized with training in cold water.



Many factors affect our survival in cold water³.

7) **Expectations for rescue:** When swimming in the wilderness, far from the nearest lifeguard or ambulance, we have a special responsibility to avoid the need for rescue. NOLS instructors are not trained in lifeguard skills. Instructors are expected to perform within their training and ability. Inform students that expectations for rescue are low.

9) **Conservative judgment:** While it may squash the spirit of the group if it feels like the staff is holding them back from having fun, a frank discussion of the pros and cons of risk-taking in remote areas may help the course. Use this as a leadership visualization opportunity, asking

your students how they would handle the situation if they were camp counselors and had to supervise campers at a backcountry swimming site. Our biggest concerns at NOLS aren't the typical students who show reasonable judgment in the wilderness: our biggest concern is the small percentage of our students that perform risky stunts that have no place in wilderness travel.

Swimming Rescue

Distress vs. Drowning: "Distress" occurs when a competent swimmer has problems and calls for help to reach shore. If someone can call for help, they are able to stay well enough above the water to breathe but are in "distress." A distressed person can talk, can swim, and can use their arms to wave to you. But they need assistance before they drown.

Instinctive drowning response⁴ often makes a drowning victim look like they are playing because at a glance they just splash their arms for 20-60 seconds, then they submerge.

Signs of drowning include:

- They do not wave for help (their arms are desperately trying to lift them up to breathe.)
- They do not call for help (they're desperately trying to inhale when above the surface.)
- Their arms are extended laterally thrashing the water, trying to provide lift.
- They are usually facing shore with their body upright in the water.
- They aren't kicking to support themselves in the water.

A wilderness program typically does not have lifeguard equipment or the trained personnel needed for the type of rescue students see on TV. It is a problem if your students expect this type of rescue response. It may be your strongest swimmer who defies our instructions and attempts to swim across a cold mountain lake: if your strongest swimmer gets in trouble in deep water, there may be nothing reasonable you can do to help them. The only reasonable option during a wilderness program is to prevent swimming incidents from occurring in the first place. Untrained staff can perform the basic rescue of "throw" and "tow" tasks but should not enter deep water to attempt to save someone.

Rescue in a nutshell:

Throw- throw a floating object from shore to provide additional flotation to the drowning person. Of course, this is only an option if you have a floating object handy and if you keep swimmers close enough to shore. Improvised floats may include a bound rolled up foam pad, a waterproof camera case, a stuff-sack of clothes, a log, or even a day pack. While these floats aren't optimal, they may provide short-term flotation that helps buy a little

¹ Tipton et al. "Immersion deaths and deterioration in swimming performance in cold water." *Lancet*, V354 I 9179 p626. 8/29/99

² Steinman & Giesbrecht, Ch8 Immersion into cold water. In *Wilderness Medicine* ed. by PA Auerbach, 2001.

³ US Coast Guard: Addendum to the National SAR Manual, 1995.

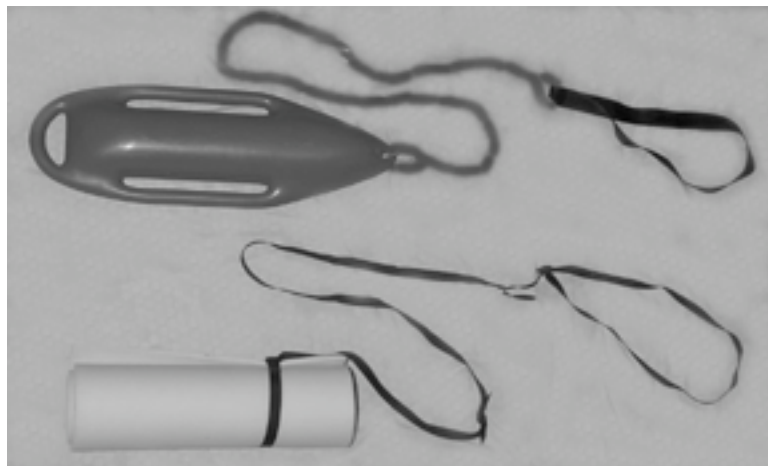
⁴ Pia, Frank. *On Drowning*. 1979. Water Safety Films Inc.

Larchmont, NY. This video shows people drowning with classic responses.

time for a better response. Unfortunately, many people who are truly drowning can't see the objects you throw near them.

Tow - throw one end of a rope, reach out with a long stick, or use some other extension to pull the person back in. A classic life ring is thrown beyond the person, so you can use the rope to steer the float to the panicked person.

Go – only if you are a trained rescuer, you may decide to go help a drowning person. If you haven't been trained in what to do when a desperate drowning person tries to climb on top of you, you have no business going into the water. You can improvise a rescue tube (torpedo looking float, a la Baywatch) by rolling up a foam pad, lashing it, and putting a towing leash on it. A 2' loop fits nicely around your shoulder. 2 meters of line between the loop and the tube gives enough room for you to swim while keeping a safe distance from the rescuee. Practice building and using one of these if you ever plan to use one: you can do it with one foam pad and a few lash straps. The trick in using a rescue tube is to toss it to the person, then tow them in with the leash, so they never even get in contact with your body. There have been numerous incidents of double drownings where untrained people tried to save a drowning person.



An improvised rescue tube can be made with a foam pad, a 2' shoulder loop, and 2 meters of line in between. This one is made with 3 lash straps and a foam pad.

Appendix 1: Drowning Statistics

What water accidents happen in the U.S.?

Drowning is a leading cause of accidental death in the US, second only to automobile accidents. 4-5,000 Americans drown every year⁵. Over 1,000 of the victims are usually younger than 15, but the rest of the drownings are spread fairly uniformly by age. 80% of the victims are male. While NOLS has had no swimming related drownings, the national data suggests we should help our students develop some basic water safety habits and the leadership skills to influence others on the waterfront.

What water accidents happen at NOLS?

From the NOLS safety database for the years 1985 - 2000 there have been 25 swimming incidents out of over 7200 records. These incidents include 3 athletic injuries (1 from a student jumping into a lake from a 10-meter cliff and landing on his back. He ended up in the hospital for observation), 1 dislocation, 19 soft tissue injuries (of which 8 were caused by stepping on manta rays, 1 from a jellyfish, 3 from not wearing shoes, and 1 cut from coral. The other 6 incidents didn't have a cause specified), 1 incident was when a student was caught in an unseen eddy when bathing in a river and there was 1 incident where a swimmer was almost run over by a powerboat.

⁵ National Center for Health Statistics