

## Understanding Accidents

Accidents are a risk inherent in all sports, paddling is certainly no exception. Paddling involves many risk factors, some under our control and others less so:

- Judgment
- Forces of Nature
- Equipment Issues
- Skill & Training
- Actions of Others

To enjoy this sport for many decades, we need to understand the risks, take sensible measures to reduce risks, and gain the necessary knowledge/skills to recover from potential incidents. It's also vital to understand that major accidents are generally the result of many separate causal factors. Far too many get hung up on a specific root cause and fail to recognize how many lapses in judgment actually lead to a truly unfortunate outcome. Understanding all contributing factors and breaking the accident chain in its early stage almost always prevents serious consequences. This can be as simple as drafting a float plan or scouting a rapid.

### The Accident Life Cycle

Let's look at a typical paddling trip life cycle and how risks are often added as the trip progresses. Most serious incidents get their start early in the life cycle and quickly degrade as more lapses in judgment are piled on. Situational awareness is a crucial skill that can help with early identification so the accident life cycle can be avoided.

### Maintenance

How often do you inspect your gear? I suspect very rarely if at all. Some boats develop weaknesses around cockpit rims in the form of cracks. Whitewater paddlers rely very heavily on their helmets (an essential piece of safety gear). Multiple hits can form cracks in the shell making them susceptible to failure at the worst possible time. Some PFDs lose buoyancy over time; do you perform an annual float test? Many spray skirts lose water repellency and also develop tears which will lead to a swamped boat. Some thermal gear also requires maintenance to work properly like [DWR](#) on dry suits and dry tops. Their repellency degrades over time (in as little as 4 years) causing the garment to pass cold water through the shell membrane and leading to hypothermia after a swim. Many paddlers either fail to carry a first aid kit or don't inspect/replace consumables like medications, first aid tape, and medical gloves. Annual inspection is crucial if you wish to treat injuries in remote locations.

### Training/Practice

Paddling utilizes a surprising variety of skills. Many beginner paddlers are anxious to try out their new equipment right after purchasing and may lack the necessary skills to safely handle their craft in their chosen venue. Some form of formal training is highly advised before venturing out on whitewater or coastal environments. Many paddling venues have subtle risk factors and paddling solo (quite common for beginners) is a major cause of fatalities. Novice and intermediate paddlers should take some level of Safety & Rescue training and practice those skills periodically. Knowing how to properly swim in rapids or in rough coastal conditions is often a life saver and certainly helps cut down on expensive lost gear. Two common skills many paddlers neglect to practice are tossing throw bags and practicing their rolls. All paddlers need to keep their First Aid skills current – what good is a great rescue if you are unable to

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perform CPR or diagnose/treat injuries. A minimum of Wilderness First Aid and CPR/AED certification is recommended for most paddlers.

### Equipment

Do you have the right tools for the job? Many sports stores sell recreation kayaks which are fine on calm lakes but not really suitable for whitewater or coastal venues. Many old kayaks have small cockpits, lack bulkheads, or may not fit the paddler appropriately. These can lead to equipment entrapments which are often fatal. Proper thermal gear is essential, especially for cold water/weather paddling. Hypothermia is a very common incident in paddling and one of the leading contributing factors in fatal accidents. Proper footwear (nonslip, sturdy, and snag resistant) is essential. Many foot entrapments are caused by inadequate footwear. Also, some paddlers may think twice about scouting and portaging if their footwear is inadequate. All paddlers need some sort of loud safety device like a Fox 40 whistle or perhaps an air horn for large open water trips. These are necessary when dangerous situations are encountered (or you notice someone is about to head into a dangerous trap). Intermediate whitewater paddlers should all carry a throw rope, some carabineers, and a rescue knife. Group gear requirements will be discussed in the planning and shuttle sections.

### Planning

Many trips are organized at the last minute with no more planning than we will meet at the put-in at 9:00 AM. In many cases, unexpected rainfall or runs without a reliable gauge may yield surprises like the river is much higher than expected. Many runs are a good distance from home so there's always a tendency to tackle the run even though conditions might not be suitable. This series of thought has led to numerous bad outcomes. Get in the habit of completing a simple float plan before leaving home:

- Venue Characteristics (Class/Difficulty, Known hazards, Run duration)
- Weather
- Water Level (Rising/Falling)
- Water Temperature
- Geography: Put-in, Take-out, Evacuation routes
- Contact Information
- Nearest Hospital
- Plan B in case the venue isn't suitable

Think about what type of group gear is desirable: First Aid Kit/s, Breakdown Paddle, Full Size Throw Ropes, Pin Kit, and perhaps a small repair kit. Group gear requirements vary greatly depending on the paddling venue. Another piece of group gear may be a cell phone protected in a Pelican box. The sooner you can initiate the EMS system (when needed), the better the outcome.

Most bad accidents often involve lack of planning.

### Shuttle

The shuttle is often the last chance to remedy gear issues before you are fully committed. This is a great time to perform some sort of gear inspection. Look for potential snags on PFDs. Check for adequate thermal gear (pack extra thermal in your car in case someone needs something). Perform a simple group gear call out using the above list, supplement as necessary. Go over any special protocols like

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having the group stop at the top and discuss any rapids with significant strainers. Make certain everyone is up for the run, if not – choose an easier venue.

### Awareness & Judgment

OK, we are now underway. Does everyone understand and accept their trip role (if applicable)? Are there any jackrabbits or tortoises? What exactly is your mitigation strategy for these types of paddlers? Is the trip pace adequate, not too fast and not too slow? Ensure everyone stays mostly in sight of one another. Visibility is a crucial factor in quick recoveries and avoiding someone pinned below the surface and drowning. Many paddlers these days lack basic creek running skills. A common mistake is paddling far too close to each other causing collisions and critical eddies becoming too crowded. Another deadly mistake is leaving an eddy before identifying your next safe eddy (paddling blind). A valuable safety practice is gathering at the top of any serious rapid with safety issues (especially large strainers) and discuss before running the rapid. Some rapids should have some sort of preset safety and this takes time to set-up. If a paddler is struggling, offer assistance – especially portaging assistance. This face saving practice may save their life and makes trips run much faster. If someone takes a bad swim, take a break and do an assessment. Be ready to supply food, drink, and extra thermal gear (especially for the head and hands). Honey, chocolate, a head gasket, and instant hand warmers are excellent items to pack for situations like this. When a paddler has difficulty gripping their paddle due to early onset of hypothermia – chances for a really bad accident go up dramatically.

### Rescue & Recovery

Accidents happen despite an abundance of precaution. That's the nature of sports like ours, there's a well know element of risk we all accept. Most rescues are fast: someone rolls, a swimmer and gear are quickly transported to shore, etc. Serious situations require far more time and effort. Serious rescues also bring on substantially more risk, think before you act. Do you have the skills and necessary equipment to participate in the rescue? This is where either Safety Awareness or better yet, a solid SWR Class are essential. If the river bottom caused an entrapment, any rescuer needs some sort of extra protection before venturing to the same danger spot. Ropes can introduce additional dangers – either now or in the future. A number of accidents have been caused by throw ropes left at the accident site – often fatal and years later. Concentrate on the victim, gear can be replaced and people can generally walk out if necessary (see planning section above).

### Mop Up

After a bad accident, some type of assessment needs to be performed. Does the victim have any sort of injuries that need to be addressed? This is where Wilderness First Aid training is essential. It is also why a First Aid Kit is pretty much a required group gear item. Is professional help needed? How do you plan to request that assistance? A packed cell phone can greatly cut down on wait times for EMS services (or perhaps throttling a dam release back on the Upper Gauley). Organized trips have incident report forms that must be filled out with witness contact information and details. Serious injuries should follow the Patient Assessment System and complete [SOAP Notes](#) for proper handoff to EMS personnel. Serious accidents should also be reported in the [American Whitewater Safety Database system](#).

### Conclusion

Paddling trips have inherent risks. They also enable us to visit many spectacular remote locations and enjoy the journey along the way. Paddlers develop very strong friendships, probably because we rely so heavily on each other to keep us safe. It really crucial to:

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- Understand how accidents take place
- The compounding nature of individual mistakes
- The Accident Life Cycle and how to break this cycle
- Safety & Prevention

Formal trips have much more structure and are generally safer. They are far less likely to skip many of the issues identified above. Pick up trips can benefit immensely by adopting many of these safety practices.