



## **CHERRY CREEK/UPPER TUOLUMNE CLASS V WHITE WATER SAFETY TECHNIQUES & FITNESS GUIDELINES**

*(A supplement to a pre-trip training seminar)*

**W**elcome to Class V, the ultimate challenge in white water rafting! We at Sierra Mac are excited to share this thrilling adventure with you. As you contemplate taking a Class V trip, it is imperative to realize that these trips are intense and demanding passenger participation experiences, particularly on the paddle boats, and that a successful run depends upon you and your boat team.

Class V rafting requires that you be agile and able to move quickly on your haunches to the “high side” (as on a sailboat) to prevent capsizing. While you need not be an athlete to participate, good endurance and physical condition are naturally required. Class V rafters typically jog, play tennis, ski, swim, do aerobics, bicycle, backpack, etc. on a regular basis in order to maintain their good physical condition.

Previous rafting experience is certainly desirable, but it is not always required. Each Class V trip begins with an intensive white water training seminar which includes training in swiftwater swimming, navigation and safety techniques. The pre-trip seminar can give you the training necessary to respond quickly and appropriately to the demands of the trip; your endurance and your ability to follow instructions are, however, your own responsibility.

In deciding to take a Class V white water rafting trip, you are acting to put yourself at risk. You will be required to sign a statement releasing Sierra Mac River Trips from liability for any injury you may sustain during the trip.

The likelihood of injury is small. The following information is intended to help you better identify and understand

the risks and how to avoid them. Our guides have an average of more than ten years of professional white water guiding experience. We hope that you will have a great time on your river trip with us!

### **SAFETY TECHNIQUES**

Safety is our first concern, and it should be yours, too. The foremost key to safety is avoiding any situation where you may be held underwater. Following the guidelines below and the instructions during the pre-trip training seminar will minimize this possibility:

While you are in the boat, keep free of lines and ropes. In the unlikely event that the boat turns over, you need to be able to get free from it and swim away.

If you fall out of the raft in the middle of a rapid, don't panic. It's natural to be scared, but you need to focus on what you must do to help yourself to a place of safety. Panicky behavior accelerates your consumption of oxygen and diminishes your ability to aid in your own rescue. Conserve your energy for the time it will be needed most for your exit to a safe place.

Adopt the best defensive position for navigating through the rapids: floating on your back, keeping your feet up and pointing them downstream, and staying away from submerged trees, bushes and boulder strainers. By keeping your feet up, you prevent them from being trapped by the rocks on the river bottom. By pointing your feet downstream, you make them the first point of impact with any rocks that you may encounter along the way. When confronting a strainer on top of the water (tree branches or

rocks), you will want to turn and face the obstacle in order to climb up onto or through it.

As you float through a rapid, the waves and turbulence may make it impossible for you to breathe at your convenience. The best place to catch a breath is in the troughs of the waves, where the water is calmest. In general, it is best to hold your breath in between good breathing opportunities.

Listen to your guide, and follow instructions. Sticking close to the raft when you fall out is not always the best plan. Most notably, avoid a situation where rocks are just downstream and the boat is just upstream of you. In such circumstances you should swim away from the raft in order to avoid becoming sandwiched between the raft and the rocks.

Consider how you are going to get back to the raft. This can be accomplished in a variety of ways:

- (1) Float on your back, keeping your feet up and pointed downstream, until you reach a relatively calm area; then swim to the boat, shore or island in the river.
- (2) If the conditions at your location remain swift and you perceive hazards downstream, swim to the nearest eddy. (An eddy is a pool of calmer water that sits immediately downstream of a boulder or riverside promontory.) A backstroke or sidestroke enables you to see better any obstacles downstream. Freestyle is recommended for short distances, for greater speed and power.
- (3) Receive a throw line or a paddle handle extended by a fellow passenger or a guide, who will pull you towards the raft. If you grab the throw line, don't grab only the bag, as there may be several score feet of rope in the bag that will have to be pulled in ahead of you. This line, as well as any rope, must be considered a potential hazard. Never tie or wrap the line around your wrists or any part of your body, as the line may drag you under water. If it does pull you down, and you are held under water for an extended period of time, you should let go of the line. Otherwise, hold the line over your shoulder and close to your chest while floating face up and away from the thrower. Take a deep breath and hold it; breathe between waves.

(4) Swimming through obstacles known as strainers (trees in the river, or a boulder-choked drop) is a rare event and one of the most dangerous obstacles river runners ever encounter. This requires aggressive maneuvers on your part in order to pass through the obstacle successfully. Your best approach to a strainer is swimming headfirst towards it. Although this goes against the universal "feet downstream, float on your back" swimming position, it is your best position for using your arms to climb on top of, over or through the strainer.

## MISCELLANEOUS SAFETY TIPS

**ALCOHOL/DRUGS.** Never drink alcohol before or while rafting. Ingesting alcohol or drugs slows your response time and reduces your resistance to cold. If you show up at the meeting place under the influence or wasted from activities you participated in the night before your trip, you won't be rafting!

**ATTENTION.** Keep your eyes downstream; remain attentive to the river and your guides. Invariably, the rock or wave you don't see or prepare for will be the one to knock you out of the raft. This doesn't mean you should stare downstream and miss the beauty of the wilderness around you. It means you should try to be aware of unexpected hazards and be on the lookout for a stray flying paddle or passenger headed your way.

### BEE STINGS, ALLERGIES OR PHYSICAL

**HANDICAPS.** If you are allergic to bee stings or have other allergies, physical handicaps, recent surgeries, etc. which might affect your safety or well being during the trip, please discuss this with our office and your lead guide prior to embarking on the trip. Plan to provide your own medications, and request that the trip leader place them in a secure storage area.

**DEHYDRATION.** The sun and/or your vigorous activity can dry you out, and your electrolytes may become imbalanced. It is very important to drink liquids to rehydrate yourself and balance your electrolytes.

**FEET.** One way to stabilize yourself in the raft is to utilize the foot cups provided on the floor of the raft and/or to wedge your feet under the side tubes or thwart

(cross tubes). Your feet should be flat on the floor of the raft at all times. Shoes are of the utmost importance: they must be securely fastened to your feet and give perimeter protection and grip for slippery surfaces. Sandals and most wet suit booties are not acceptable. Most guides wear tie-on sport shoes and you must, also.

**FLIPS.** The wilder the water, the more likely it is that the raft will turn over. An agile and responsive crew can prevent most turnovers from happening. If your raft does turn over, treat this experience with the same composure you normally reserve for falling out of the raft. You could have an additional concern: you may end up underneath the raft. In this case, swim out from underneath it, preferably upstream (so you won't end up between the raft and a hard place, like a rock). Do this by pushing up against the raft in order to move yourself deeper, away from the raft, until you exit to the side of it.

**HIGH SIDE.** It may be a natural reaction for a person to back away from a swiftly approaching rock or cresting wave. This reaction is exactly the one you want to avoid, as that shifting will weight the raft on the side away from the rock or wave, thus making the side of impact into a "high side"; the higher that side is, the farther the raft will slide up onto the rock or raise up onto the wave. So, when there is danger of a raft sliding up a rock (and perhaps getting stuck, called "wrapping," or even flipping over), the guide will call out a "high side" or "over right/left" command, which means you should move over to the appropriate side of the raft and prepare for the shock of impact. In these "clutch" moves you must act quickly and be able to get back to your position for further navigational instructions.

**HOLES.** A hole is a place in a river where the river level drops sharply. The main portion of the current follows the river bottom, while the surface current curls back upstream. Swimmers can be trapped in holes and circulate around and around. The strategy for escaping a hole is to swim to the side or the bottom of the hole to catch the downstream current.

**HYPOTHERMIA.** Hypothermia is generally defined as a potentially dangerous loss of body heat. Eat a good breakfast before your trip. Thermal layering of clothes is the

best protection from body heat loss. Begin with a thin layer of wool or synthetic fabric to be worn under a full wet suit (below knees to shoulders). Wet suits are mandatory on Class V river runs. The best wet suit for rafting allows freedom of arm movement, protects your knees and is not so thick that it will cause you to overheat. For additional warmth, a rubberized nylon shell over the wet suit works well. (Wet suits & rubberized nylon shells are available to rent.)

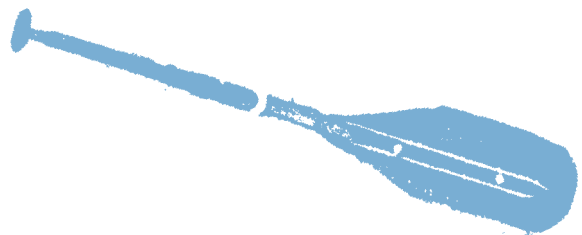
#### **LIFE JACKETS/FLOTATION VESTS & HELMETS.**

Always wear your flotation vest and helmet while on the river and when scouting rapids, as well. Check for proper fit of your vest by grasping both shoulders of the jacket and pulling up sharply. The jacket should not rise more than about an inch. Your helmet should be snug around your head, and the strap should be snug under your chin.

**OFF-RIVER HAZARDS.** Injuries can occur along the banks of the river. Take care not to slip and fall, and look out for hazards such as rock slides, poison oak, rattlesnakes and beehives.

**OTHER.** This information is intended as a supplement to the pre-trip training seminar and is not complete in and of itself. Specific paddle and safety commands will be thoroughly described during the pre-trip white water seminar.

Compiled and updated in March of 2004 by Marty McDonnell, river guide since 1965, past captain of the Tuolumne County Search & Rescue Team and owner operator of Sierra Mac River Trips. Contributions have also come from our guides and clients and from Rena Margulis' book, *Whitewater Rafting Tours*.



**CLASS V FITNESS GUIDELINES:**

General guidelines to the physical and mental fitness required for participation in Class V rafting.

**HEART:** Step up and down on a 12-inch box 30 times per minute for three minutes. Sit down and take your pulse for one minute immediately following the test. Your one-minute rest-recovery heart rate should be under 140 beats per minute.

**LUNGS:** Jog 70 to 90 yards on one breath of air.

**SWIM:** Swim 500 to 600 feet without stopping.

**MENTAL ADAPTABILITY:** Follow instructions well. Successfully complete white water training seminar when you arrive at the river.

Score yourself (ideal =10; average = 5; maximum score is 100).

- 1. Endurance (hours of exercise per week)  
2 hrs.=5; 3-4 hrs.=7.5; 5-10 hrs.=10 \_\_\_\_\_
- 2. Desire to participate in Class V  
white water trip \_\_\_\_\_
- 3. Trainability (river swim, paddle techniques) \_\_\_\_\_
- 4. Experience in Class III-V rafting or similar  
action sport \_\_\_\_\_
- 5. Ability to follow instructions \_\_\_\_\_
- 6. Overweight (+ 10 lbs. = 9; + 20 lbs. = 7 etc.) \_\_\_\_\_  
Max. 250 lbs. \_\_\_\_\_
- 7. Successful completion of Sierra Mac's  
pre-trip white water training seminar \_\_\_\_\_
- 8. Traveling with quality outfitter \_\_\_\_\_
- 9. Understanding Sierra Mac *Class V white-*  
*water safety techniques & fitness guidelines*  
(a supplement to a pre-trip training seminar) \_\_\_\_\_
- 10. Age (18-28=10; 29-35=8; 36-45=6; etc.) \_\_\_\_\_
- Total** \_\_\_\_\_

You should have a score of 70 or above. Some of the answers to the above questions can be obtained during the pre-trip seminar. If you have any questions, contact Marty McDonnell at our office or via email: [marty@sierramac.com](mailto:marty@sierramac.com).

Each trip begins with wet suit, helmet and flotation vest fitting and the white water seminar. If, in our opinion, you are not ready for this rigorous experience following the training seminar, you will be asked to return to the shuttle van. (In this case you will receive a 50% refund.)

