

For those people who have heard that canoeing is a dangerous sport, and therefore, have not tried it, this article is for you. It was written by Art Bodin of Swarthmore for the IOCA Newsletter published on March 27, 1954, and is an excellent introductory article on the subject of white water canoeing. It is not the sport which is dangerous, but the people who enter into it without the proper conditioning, equipment, and knowledge.

SAFETY SUGGESTIONS FOR OUTING CLUB CANOE TRIPS

There are four "K's" in canoeing:

1. Know how to swim.
2. Keep six inches of freeboard, i.e. distance between lowest edge of the canoe's side and the waterline.
3. Kneel in rough water of any kind; for better balance, stability, and efficiency.
4. Keep with an overturned canoe. It gives support and can be seen much better from a distance by potential rescuers, should rescue become necessary.

The American Red Cross offers comprehensive training in the safe use of canoes. This training is designed to equip its recipients to teach the safe use of small craft to others. For further information contact your local American Red Cross Chapter.

College outing clubs must face the responsibility of safeguarding their members in all activities. The following suggestions are presented in the hope that they will shed light on canoe safety techniques for the types of trips most often taken by college outing clubs.

PREPARATION:

1. Everyone on any canoe trip should know how to swim, float on his back and tread water.
2. If canoes are to be transported, the car-top racks must be sturdy, and the cars should stop once an hour so that the tightness of the straps and ropes may be checked. A rope should fasten each end of the canoe to the closest bumper of the car, because the racks' straps are not designed to secure the weight of a canoe.
3. The route of the trip should be carefully planned. Waterfalls, dams, and bridges must be noted on river trips. Always check with a resident of the area about new dams which may have been constructed since printing of the last map. Places where food and a telephone are available should be noted.

EQUIPMENT:

1. Long woolen underwear and woolen gloves and all-woolen clothes for everyone when the weather is chilly. A dunking in cold water can paralyze anyone in less than a minute.
2. One Mae West life jacket should actually be worn, one half inflated, by every member of the party when going down a rough rapid or across a stretch of lake which has suddenly become too rough for comfort. Only the Mae West type of life jacket will turn an unconscious person face up and keep his head above the water line. Mae Wests can be purchased for \$1.95 at Army-Navy surplus stores.

EQUIPMENT (Continued)

3. The lead and sweep canoes should both contain a ring buoy attached to 60 feet of 1/4 inch manila heaving line. Needless to say, the people in these canoes should be skilled in the use of the ring buoy.
4. An extra paddle should be tied across the thwarts of each canoe above the duffle. Light string or heavy thread should be used, so that in an emergency the paddle can be ripped loose instantly. For rough river running, two extra paddles should be carried. They should be tied in so that the handle of one is right behind the bowman and the handle of the other is right in front of the sternman.

ORGANIZATION:

1. Whenever more than eight canoes are to go, the group should be split. Groups with less than three canoes are unsafe except for experts; even experts should not venture forth with less than two.
2. One leader should be designated for each group of canoes. He should wear a whistle around his neck, and a signal (the raising of his paddle up and down, above his head on one side) should be made known to all members in his group so that if one canoe gets into trouble, all others can be signaled to land at a designated shore.
3. The lead canoe should contain the most experienced canoeists, who should know the route, and should have the judgement to set a pace no faster than that of the slowest canoe in his group. Since he is also the leader of his group in all other senses, he must know when to stop to scout ahead, when to carry around a rapid, when to give the group a break, and when to keep off a rough lake.
4. Both the lead and the sweep canoes should contain at least one person trained in life saving. Time is always of the essence in a rescue, so both paddlers in these two canoes should be at least fairly skilled so that teamwork is possible.
5. It should be understood before setting out on a river, that the canoes are always to keep single file at about 30 yards distance from each other. When canoes bunch up a jam may result. (I have seen three canoes traveling side by side get jammed just where the river got narrow and fast, so that one bowman got a bloody nose from an overhanging bough.)

It is each canoe's responsibility to keep the one behind it in sight, and to stop in case of trouble behind.

ON LAKES:

1. Keep off the water if it is too rough, threatening to storm, or growing dark.
2. If a wide part of the lake must be crossed when the water is too rough, wait for the lull which occurs shortly after sunset because of the shift in convection currents. (This same type of calm also occurs at sunrise.)
3. If caught in rough waves, do not go straight into them if they are so high that doing so brings spray into the boat. Quarter the waves.

ON LAKES (Continued)

The higher they are, the closer to broadside it will be necessary to steer in order not to ship water. Do not get quite broadside, however, for then the balance is very trucky. In rough water it is best that the paddlers dip the paddles alternately rather than in unison; this practice always keeps one stabilizing blade in the water. In this situation, and only in this one, it is a good practice for both people to paddle on the same side; the leeward, i.e., the side away from the wind. So doing will keep the upwind gunwale high enough to keep more spray out, while steering the boat into the wind with a minimum of effort.

4. In a heavy wind, keep the canoe away from rocky shores. By having both men move closer to the center of the craft, the ends can be lightened enough to be buoyed up over sharp whitecaps. The canoe acts like a weather vane in a wind. If you want to paddle into the wind bow first, let the stern swing free by lightening it; have the sternman move forward. If you want to run before the wind, lighten the bow by having the bowman kneel behind the bow thwart; this lets the bow rise and catch enough wind to act as a slight sail. Do not let the stern ride so low that waves roll in over it. Tack or zig-zag when quartering the waves for any great distance. The heaviest blow can be ridden out if both men lie down as close to midship as possible. Throw duffle over if necessary. (Tie it to the canoe, however, so as not to lose it permanently.)
5. Swim into the swamped canoe if it capsizes, sit on the bottom, and hand paddle to shore. Learn the canoe over canoe rescue from someone who knows it.

ON RIVERS:

EXPERIENCE IS NECESSARY BEFORE ATTEMPTING ANY WHITE WATER WORK. FLOOD WATERS ARE DANGEROUS, AS THE RIVER IS RUNNING UNDER ABNORMAL CONDITIONS.

1. Keep the canoe parallel with the current. Once the craft starts to get broadside, it will continue with still greater force. Once broadside, it presents its whole side to any obstacles and cannot readily be controlled.
2. Keep to the inside of bends. Otherwise you may get swept into overhanging branches or cliffs with great force.
3. If the bow runs aground and sticks, the sternman must step out (with caution for the water is probably shallow and contains hidden rocks). If the sternman does not act immediately, the craft is likely to swing around so that the bow will be pointed upstream.
4. If the canoe becomes reversed, both men should turn around instantly and continue paddling till they can pull to shore in calmer water. Thus the roles of bow and stern paddlers are exchanged. (I have seen a movie of one canoe successfully running one rapid during which the roles of bow and stern paddlers were switched four times.)
5. Give obstacles a wide berth. Plan ahead for the next rocks and waves while considering which channel to take at the moment. Do not get swept into a dead end. It is often necessary for the sternman to stand up when approaching a stretch of rough water in order to get a full view and plan his course. He should plant his feet wide apart for stability before standing, and should warn his bowman of the move he is about to make, for otherwise the bowman might make some sudden motion which could be prevented.

ON RIVERS (Continued)

6. A raised 'V' with the apex pointing upstream indicates a rock just upstream of the apex. (In deep water the rock may be several yards upstream). Avoid the apex.
7. A depressed 'V' with the apex pointing downstream indicates a chute or fast flow through what might otherwise be a barrier. Head for the apex.
8. In passing either type of 'V' keep the canoe parallel with the fastest part of the current. Otherwise the bow will be in slower water than the stern, and the canoe may swing broadside.
9. Avoid still water if it seems atypical. The stillness indicates that the energy of flow has been dissipated by rocks or a ledge upstream. Because of the slope of the river, these rocks may not be detected till one has passed them, except by reading the calm spots.
10. Head for low, rhythmically spaced waves; they indicate a fast but safe channel.
11. High standing waves or haystacks (stationary and inflexible waves which afford little buoyancy because they are mostly foam and spray) must be avoided. Since such waves generally run between beds of rocks or ledges, the waves cannot be given a wide berth, but must be ridden just at their border.
12. When in doubt in either a rocky or a wavy stretch PADDLE BACKWARDS ---- YES, BACKPADDLE!! If the canoe is being paddled at a speed of 3 mph in excess of a current speed of 4 mph the canoe is going at a 7 mph clip. If both men backwater, the canoe travels at only 1 mph in relation to the shore. Four important advantages occur to this refined technique, in which all steering rules must be relearned, except the draw and push strokes:
 - a. The canoe does not plunge through unavoidable standing waves, but has time to be buoyed up over them, particularly if the bowman has moved to a kneeling position behind the bow thwart.
 - b. More time is gained to perceive the obstacles ahead and to judge the best route through them.
 - c. More time is available for executing the decisions arrived at.
 - d. The consequences of failing to execute the necessary strokes are less serious, since the canoe is traveling with far less momentum if it hits anything.
13. If you feel about to capsize for any reason, grasp the gunwale on the side of the canoe which is not going under the water. Keep this grip on the canoe with a stiff arm; as long as you do, the side of the boat cannot hit you on the head as it turns over. People who follow this procedure do not get separated from their canoes.
14. When the canoe becomes swamped or you have capsized - do not let go of it even for an instant, but PULL YOUR WAY HAND-OVER-HAND TO THE UPSTREAM END OF THE CRAFT. Both partners must be at the same end of the boat or it will swing broadside and take a beating from a much wider swath of rock. Getting to the upstream end of the boat is no joke; if you do not, you may become pinned between the canoe and a rock. The force with which you might be held cannot be imagined by one who has not been banged against

ON RIVERS (Continued)

a rock in swift water. Mister Robert McNair (a hydraulics engineer who has been president of a white water canoeing club) calculates the force on a fifteen foot canoe capsized broadside in a 10 mph current to be 8,400 pounds, or the weight of three cars. Once you have reached the upstream end of the canoe, hold on to it and swim toward the shore which appears most feasible for a landing at the point at which you think you can reach. (Do not underestimate the distance you will be carried by the current). As you pull the upstream end of the canoe toward the shore, turn the canoe upside down and go around it (always holding on) until you grasp your partners hands across the keel while facing the opposite side of the boat. Tie your hands to your partner's with a belt or some strip you can rip from your clothing; even if you should both faint in this position, you will be supported by the canoe with your head above water.

15. If thrown out and away from the canoe, swim diagonally to shore, keeping body and feet downstream.

Canoes are not dangerous, but too often the canoeists are. Let's do what we can as outing club members to win for the canoe the reputation it so richly deserves as a safe vehicle on swift, foaming rivers; meandering, shady creeks, and serenely lilled lakes.

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