

# WELCOME PADDLER

## CANOEING AND WATER SAFETY EDUCATION

An Introduction to Sound Canoeing/Kayaking Practices

### **Getting Your Canoe/Kayak There**

For most of us, getting our canoe/kayak to the water involves cartopping. Improper car topping can cause accidents and lost canoes/kayaks. Start with a solid, well made roof rack and lash the canoe down to both cross bars. Tie both ends of the canoe to the bumpers. Rope is much better than rubber stretch ties. The best way is to secure the midpoint of a rope about 15 feet long to each end of the thwarts on the canoe, and lash the rope ends to the bumpers as far apart as possible in a Vee arrangement to keep the canoe secure in a crosswind.

A specialized kayak carrier is the safest investment you can make. Your kayak will cradle with specialized straps for a positive securing system. Tie down the bow and stern lines to the car bumper. This will give the kayak more lateral stability and will help secure the kayak and the racks to the car.

### **Onto the Water and Off--Not Into--Be Safe**

A frequent source of canoe/kayak damage (and wet paddlers) is the simple act of putting a canoe/kayak into the water and getting into it or getting ashore. Do not push a canoe/kayak across rough rocky shores. Carry them to the water. To carry a canoe the best method is one person on each side at the center of the canoe. At the water's edge, lower one end onto the water and slide the canoe out and afloat, the bottom unscratched.

A canoe is a poor bridge. It is designed to carry a load when supported by water, but is weak and unstable with one end on shore and the midbody unsupported. With the canoe floating freely, preferably parallel to the shore or dock, while your partner holds the canoe steady on shore, enter it by placing one foot in the center of the canoe. Crouch low and grasp the far gunwale with one hand, and as you transfer your weight to the foot in the canoe, swing the other foot on board. If you have to move in a canoe, keep your weight low, your feet along the centerline, and hold onto both gunwales. Once in the canoe you can steady the canoe by placing your paddle in the water against the bottom of the water with the blade flat against the side of the canoe while your partner safely enters. Wear life jackets for your safety.

The safe way to approach shore is with the canoe/kayak turned to point upstream and pull against the shore parallel, or run aground at a slight angle. You should receive specialized instructions on how to enter and exit the kayak for added pleasure and safety.

## **Safety Devices**

Federal and state laws require that all boats carry a Coast Guard approved lifejacket, also known as a PFD (Personal Flotation Device) for each person aboard. Although the law does not require that they be worn, any PFD not worn will rapidly drift away if you should capsize. The life jacket is not to be considered a substitute for swimming ability. A life jacket is an aid to buoyancy, and swimming skills are still the basic ingredient to water safety. A life jacket that feels comfortable, light in weight, durable, roomy in the armholes for unrestricted paddling action is what you need. Wearing a life jacket should be as automatic as wearing a seatbelt. Falling or being tossed out of your boat can be sudden and unexpected. The best protection you have is your life jacket...it won't work if you don't wear it! You must wear your life jacket in the manner which the manufacturer intended it to be worn. Also, place a whistle on your life jacket, as you must have some means of making an efficient sound signal if you need assistance.

## **Canoe/Kayak Stability**

A free-floating empty canoe/kayak will not upset even on very rough water. People tip canoes/kayaks. Two people in a canoe is a safe load. Keep your canoe properly trimmed from end to end. Generally, large or heavy people should sit in the stern of a canoe. A canoe will feel tippy at first to most people. For example, two people weigh four times as much as a canoe. If they sit on seats with their weight high above the water, and both lean to the same side, the canoe is certain to tip over. The middle of a canoe is wide and flat and provides most of the stability and carrying capacity. The ends of a canoe are round like a log. Sitting alone in a canoe on a stern seat is like sitting on a log. With half of the canoe out of the water any breeze will blow the high bow out of control. Move near the wide center, kneel against a thwart or sit on the front seat but facing the center of the canoe. Keep weight low in a canoe and avoid sudden movements.

Before entering your kayak, make certain that you have placed a set of quality flotation bags at each end, and arrange any gear that you are taking along for proper buoyancy. Once you have mastered entering your kayak, and you are securely seated in your cockpit you need to explore the stability of your kayak and determine the critical point of capsize. This is accomplished by leaning to either side before you actually lose control and tip over. You can use your paddle blade as a stabilizer as you lean over without letting the kayak slip out from under you. You also need to move your hips back and forth to get a good feeling for the kayak.

## **The First Few Strokes**

Keep one idea in mind. You propel the canoe/kayak by sticking the paddle in the water and pulling the canoe/kayak up to the paddle and not by pulling the paddle through the water. The canoe/kayak moves several feet through the water while

the paddle slips only a few inches. With your paddle you can pull your canoe /kayak forward, backward, sideward or diagonally.

There are four basic parts to a stroke for canoeing: the Catch, Power Phase, Withdrawal, and Return. The Catch begins when the paddle tip first touches the water. Next, the paddle blade is quickly jammed into the water while pulling the canoe up to your paddle. This is the Power Phase. The completion of the Power Phase occurs when your hand reaches your hip. Quickly take the blade out of the water, Withdrawal Phase, and return it forward in a "feathering" (back of blade facing the water) position.

How long should your paddle be? As an approximate guide, the paddle shaft to the top of the blade should be about 6-8 inches longer than the length of your arm with the fingers extended. A seven to eight inch wide paddle is preferred. There are various types of grips. Select one that feels comfortable.

With both paddlers on board, the canoe should be trimmed to ride level in the water. Hold the paddle so the blade is just above the water and parallel to it like a beaver's tail. Hold this relative position while the paddle is out of the water and during recovery. The blade can be instantly pressed against the water and act as an outrigger to steady the canoe if it rolls, and it is feathered against any wind.

If you are paddling on the right side of the canoe, your left hand will be on the grip and your right hand on the shaft. Drop both arms to keep the blade parallel to the water. Swing the blade forward, twisting slightly at the waist and "reaching" with your right shoulder. At full recovery, lift your left elbow to shoulder height with your left hand in front of your forehead. Stab the blade into the water, with the blade pointing forward at about a 30-degree angle. Push your left hand forward to set the paddle nearly vertical and pull back with the right arm and shoulder until the right hand reaches your hip. Don't pull any further aft than your hip because the paddle angle increases to a degree where you are not pulling the canoe forwards but are lifting water, slowing the canoe, and wasting energy. Reverse these directions for paddling on the left side.

The kayak is a highly maneuverable boat. You are paddling from a comfortable seated cockpit position which places you low in the boat and the water. Placing your hands correctly on the shaft of your paddle is extremely important. The control or fixed hand of a paddler retains a constant, palms down grip on the shaft which regulates the blade for various strokes. The unfixed hand is loosely gripped where the shaft can rotate smoothly within the grasp. Usually, the control hand for a right-handed person is the right hand and the left hand for a left handed person. The forward stroke is accomplished, on the fixed side, with the wrist arched slightly up for full follow through. After the first forward paddle stroke, the control hand or wrist is dropped so that the paddle is rotated 90 degrees through the unfixed hand and wrist. A follow through is made to the original position at the completion of the stroke and continue rhythmic paddling,

keeping shoulders and arms swinging smoothly and with slight rotation at the hips. Bury the entire blade in the water rather than slicing it across the surface. The stroking paddle will angle from the hand into the water at about 45 degrees. Sweep the forward stroke in a straight line along the gunwale, rather than following the exact gunwale curve which could provide too much offsteering. Match the stroke in intensity and form on the opposite side, remembering to retain fixed and unfixed blade control. In back stroking, only the stroke not the blades is reversed for this maneuver. As with a canoe paddle, the kayak paddle can be held at the stern and used as a rudder for slight course changes or corrections. A word of caution, since the rudder is placed at the stern, it does not give much horizontal stability.

### **Controlling the Canoe/Kayak**

As you paddle along, you'll notice that the canoe/kayak doesn't always go straight, even when the paddlers are paddling on opposite sides as they should or the kayaker is stroking the doublebladed paddle on opposite sides, and the boat is trimmed level. In canoeing the easiest way to correct your course is to switch sides. Canoe racing teams do it all the time. Switching sides help to equalize the paddling load on your muscles. A simple signal for switching is for the stern paddler to call a monosyllable such as HUP or HUT. If both paddle on the same side, the canoe will change course faster and possibly tip.

The canoe usually turns away from the side on which the stern paddler is paddling. Direction can be maintained by the stern paddler using the "hook" stroke which is used when paddling solo to keep the canoe going straight. To "hook" you twist the paddle throughout most of the stroke. As you pull back on the paddle, point the thumb of your upper hand forward. This turns the paddle blade so that the edge nearest to the canoe leads as it is pulled back. With a strong hook stroke, a canoe can be paddled solo in a wide circle with the paddle on the inside of the circle. To go straight, take off a little of the hook.

The J Stroke is also an important stroke for whitewater canoeing and is useful for recreational paddling when a change of pace is preferred. The J Stroke may be accomplished at the completion of the Forward Power Phase, and just before the Withdrawal Phase. Before completing the Withdrawal Phase, twist the paddle shaft with the thumb down on the grip hand and make the figure J in the water. Lower arm is straight with the paddle blade near stern. Keep the paddle shaft as nearly straight up as possible and not at an angle during the stroking phase.

Keeping control of your kayak doesn't come easy. Keeping the kayak on a straight course may become frustrating. You will need to make several one-sided recovery strokes if one stroking side is stronger than the other. It will take some practice to perfect equal power stroking and establish good rhythm.

## **Changing Direction Quickly**

The canoe moves straight ahead when both paddlers keep their paddles vertical and pull straight back, parallel to the keel line, and paddle on opposite sides. If either paddler swings the paddle out in a 90 degree arc like an oar stroke, while rotating from the waist, then sweep the paddle away from the canoe, it turns the canoe to the opposite side. This is called a forward "sweep" stroke; the reverse is called a backward "sweep" stroke and is easy to do.

Of the many special purpose strokes, the "draw" is the most useful and frequently used. If both paddlers "draw" on opposite sides of a canoe, it can be pivoted around its center. To "draw" reach with the paddle beyond the side of the canoe as far as comfortable, and a little forward. Immerse the paddle blade and by pushing with the upper arm and pulling with the lower, pull the canoe and paddle together.

An excellent technique to turn your canoe quickly in order to avoid a hazard is called the "cross bow rudder". The bow person, without changing hand positions on the paddle, turns the upper body and shoulders toward the opposite paddling side, swinging the paddle up and over the bow, then places the paddle blade in the water at an angle. The canoe will quickly turn in the position, which the blade is placed. Body bracing is important if the canoe is moving very fast. Practice this technique slowly at first in order to get the good feeling.

Turning the kayak requires paddling techniques and body control. The sweepstroke is used for full or partial turns to the right or left. Begin by placing the forward blade into the water near the bow then make a wide sweeping arc ending close to the stern. A short sweep when combined with a forward stroke on the opposite side can be used for directional control, as an alternative to turning. The draw stroke, like in canoeing is an effective stroke. Lean and reach out with the paddle 90 degrees from the direction the kayak is facing. Pull yourself and the boat steadily and evenly to where the paddle was inserted. The stroke is completed by slicing the blade up toward the stern at the finish. Sculling strokes will keep your boat from capsizing. It is a forward and backward motion of your paddle while making a figure eight in the water as you draw toward the gunwale. The blade never reaches the gunwale because of the return stroke of the figure eight of the blade heads away from the kayak. The sculling stroke is also an excellent stroke for moderate course position changes while continuing downstream paddling. Bracing, high, right or left means that the paddler leans hard and gets support from the paddle blade. Remember, your kayak and the paddle are simply extensions of your arms, legs and body as you develop your paddling skills.

## **Learn When to Lean Downstream**

A strong downstream lean can save a swamping or worse under many circumstances. The purpose is to raise the upstream side of the canoe/kayak to present the broad bottom of the canoe/kayak to the pressure of the current. The

current pressure on the bottom tends to lift the canoe/kayak. If you run onto a submerged rock, stump, or other object and hang up, your canoe/kayak will quickly swing broadside to the current. Look at a bridge, pier or large rock in a strong current and observe how the water level builds up several inches on the upstream side. This same water level build-up will occur against the side of a canoe/kayak that is hung up, and quickly cause it to swamp. If you are so caught, immediately lean downstream and the water pressure on the bottom may lift you off. If not, keep leaning and shift weight toward one end until you float off.

A downstream lean should also be used when crossing an eddy line between a strong current and backwater where the fast current plays crack the whip with the canoe/kayak.

### **About The USCA**

The United States Canoe Association was formed in 1968 as a non-profit, educational corporation to encourage the growth of recreational and competitive paddling, to preserve our scenic and wild waters, to formulate and disseminate standards, to teach paddling skills and techniques, to develop design criteria for cruising canoes, kayaks and related gear, to encourage affiliated paddling clubs, and to foster inter-club activities. To encourage the growth of paddling as a recognized competitive sport and beneficial lifetime recreational activity through educational programs that will enable persons to enjoy paddlesports in natural valued settings that promote conservation, safety, fitness, good mental health, and participation in family and community life to the fullest extent possible.

USCA offers its members a broad schedule of regional and national canoe cruises, canoe safety and paddling clinics, local and national level marathon canoe competition and canoe triathlons. We provide the medium for your involvement in an active river conservation program. Members may take advantage of a wide range of USCA publications.

MEMBERSHIP includes a subscription to USCA's news magazine CANOE NEWS which contains timely news about conservation, tips on paddling techniques, paddling activities, racing schedules and results, safety and other informative and educational articles.

USCA is in The Guinness Book of Records as a world record holder.

Join in our work and our fun under the red, white and blue shield of USCA. For more information about our five star program of Cruising, Conservation, Camping, Competition, and Camaraderie, fill out the in-formation blank, clip it and mail. We will do the rest.

See you on a river!

## **Safety Tips**

- Think and Practice safety on all waterways
- Wear your life jacket...the experts do
- Wear a quality helmet when kayaking
- Use a spray skirt when needed
- Use proper air bags front and back in kayaking
- Know your ability...and the river's demands
- Don't go out alone...there's safety in numbers
- Become familiar with
  - ✓ Safety Code of American Whitewater Affiliation
  - ✓ River Rating Scale I-VI
  - ✓ Universal River Signals
- Wear a dry or wet suit, dress in layers depending upon weather
- Leave a Float Plan before you put in. Let someone
  - ✓ know where you're putting in, taking out,
  - ✓ and when you will return, and the
  - ✓ description of your car
- Learn river reading
- Learn CPR and First Aid
- Learn use of ropes and other tying materials
- Learn self rescue (including deep water re-entry)
- Take advantage of instructional opportunities
- Purchase quality gear from reputable institutions
- Maintain your gear throughout the year
- Keep your body in good physical condition
- Know how to swim
- Alcohol and water don't mix
- A spray or touring skirt may also keep you dry
- Avoid paddling at night

## **Dangers to Avoid**

For Your Safety---lightning, storms, unstable weather and large boats are obvious dangers to avoid.

## **Strainer**

Fallen trees, log jams, pilings, willow thickets, and any-thing water can run through or under, but where you and your canoe/kayak cannot, are called strainers. If you get caught against a fallen tree or other strainer, immediately lean downstream, and work the boat free. If against a fallen tree, everyone should grab the branches and lean downstream, and, if the boat should swamp, pull yourself into the tree. If you follow the instinct to lean away from the tree, the boat is certain to swamp, spilling you into the water. You and the boat will be swept under the tree where you could be caught on a branch and drown.

## **Cold Water**

Cold water numbs you quickly, both the body and the mind. In 40-degree water you become too numb to help yourself in a few minutes and may become unconscious in only 12 minutes. Hypothermia kills! Water below 60 degrees is dangerously cold. A cold water dunking in a small shallow stream, which you can walk out of, could be only uncomfortable if the air is not cold, but in rapids or on a deep river it could be fatal. A wet or dry suit provides the only practical protection from cold water. Good paddling sense to remember is if the air and water temperature do not add up to 100 degrees, then wet suits should be worn.

## **Flood Water**

The current may be as fast as in a rapid but it may be too deep and smooth bottomed to develop the turbulence of white-water. It provides no shallows to recover in and may be complicated by cold water, fallen trees, current flowing through standing tree limbs, floating debris and log jams. High waters also bring on weirs, ledges, reversals, holes and hydraulics.

## **Whitewater**

Rapids are exciting but dangerous. Until you've developed sufficient skill, go only with experienced whitewater paddlers. PFD's are mandatory on the paddler, and in cold water, a wet suit can save your life. If it's never called on to do that, it increases your comfort amazingly. Add extra flotation to your canoe (even an inner tube will do if it is securely tied in) and carry a bailer. A sponge or scoop cut from a plastic bleach bottle will do nicely. When in doubt, SCOUT! If you don't know what's ahead, pull out and scout the river from the bank. Finally, don't hesitate to carry your canoe/kayak around a rapid that is beyond your capability.

## **Dams and Falls**

Even low ones with little drop can be dangerous. Below a low head dam there is a horizontal eddy which can grab and circulate you. You will be pulled down at the face of the dam, dragged along the bottom, surface at the boil and be pulled along the surface back to the face of the dam. There the cycle will begin again. Whether you wash over the dam or are sucked into the boil from downstream, the results are the same: entrapment and, too often, death. Portage around dams.

## **Current**

Strong moving current can cause difficult eddies, volume and wave conditions even on still days due to adverse weather conditions. A most familiar set of rapids that has given you great times in the past may all of a sudden become explosive when water conditions change. Broaching may occur when your canoe/kayak is pushed sideways against a rock by strong current and it collapses and wraps itself around the rock. To avoid pinning, throw your weight down-stream toward the rock. This permits the current to slide harmlessly underneath the hull of your boat.

## **Fog**

Fog can cause total disorientation. You should carry a compass.

## **Alcohol**

When it comes to canoeing/kayaking, alcohol and water don't mix. Drinking endangers you...and your companions. Coast Guard statistics show that alcohol is a factor in more than 50% of all boating accidents. In many cases, drinkers are sinkers. Unable to practice even basic self-rescue, they often go under once and fail to surface.

## **Upsets**

Learn to swim before you step into a canoe/kayak and wear your lifejacket as the manufacturer intended it to be worn. You can be up-set by hitting a submerged log or rock, by a motorboat wake, or other causes. Stay with your canoe/kayak! It should have sufficient flotation built into it to support the occupants by hanging on to the gunwale of the canoe. With the kayak, the air bags placed in the bow and stern should keep you and the kayak afloat. If you are in fast moving water, stay upstream of your canoe/kayak hanging on to an end rope or the gunwale (kayak cockpit, upstream grab loops). You will be able to keep the canoe/kayak parallel to the current, and get through rocks safely. If you are downstream, a canoe/kayak filled with water in a fast stream can pin you against a rock or obstruction with a six ton force.

If your canoe/kayak has turned over in quiet water, roll it back upright, flutter kick your way into it, and bail or splash out the water. An easier way is to shake the canoe/kayak dry. Grab the gun-wale close to amidships (amidships if you are alone), and push it below the water. As the water in the canoe comes rushing out, push the canoe quickly away from you, so that it rights itself before the water has a chance to flow back. When you become detached from your kayak quickly get upstream of the overturned boat and guide it toward shore while hanging on to the upstream grab loop. **Never get downstream.** A pleasant afternoon spent learning these skills in the shallow part of a warm lake will pay big dividends. Wear your PFD when you do it. The moves feel different with the added buoyancy.

## **Loading Capacity**

There is a definite carrying capacity for each canoe, usually printed on a tag affixed to the canoe. Never load any canoe so heavily that you have less than six inches of freeboard; in other words, six inches of 'side' between the water and the top of the gunwales. That load includes the paddlers, of course. The load should be kept as low as possible to keep the center of gravity low. It should also be placed in such a way that the boat maintains level fore-and-aft trim.

The kayak is different from the canoe. Cargo space is at a premium in a kayak. You should only take the minimum amount of safety equipment, food, clothing,

shoes, water, camera, lightweight back-packing gear and other portable equipment in stern bag(s) to give yourself more room behind the cockpit.

### **Wind and Waves**

Avoid paddling when whitecaps are visible-they can upset a canoe/kayak, and make it difficult to control. Get a weather forecast each day you are out. Bucking a strong head wind and wind blown waves can be brutal work, and can blow you upstream. If you are bow light, wind can blow your canoe around or cause control difficulties with your kayak. When heading into a strong wind, trim the canoe bow down. This will enable the stern, while setting high in the water, to weathervane and align itself with the wind. The simplest way to do this is for both paddlers to kneel in front of their seats, or move cargo for-ward.

In a strong back wind, trim the bow light. When paddling on large waves, without heavy wind, trim the bow light; this will help the canoe rise on the waves. Waves created by a motor boat can best be parried by taking them at a 90 degree into the waves so that its force strikes the bottom of the canoe/kayak.

### **Instruction**

Before you begin paddling be honest about your abilities and always prepare yourself to understand the environment you're going into or be prepared to accept the additional risks that it presents. A little instruction can offer a lot of insurance. Many canoe/kayak clubs, American Red Cross chapters, canoe/kayak dealers, YMCA's, and some liveries offer instructional programs. As little as one hour of competent instruction significantly reduces your chance of a serious accident.

### **Competition**

The United States Canoe Association is the recognized U.S. jurisdictional authority for competition in open cruising or pleasure type canoes. The USCA has formulated rules governing dimensions and limits controlling stability for cruising canoes and regulations governing the conduct of competition and classification of competitors. Also, specifications are written for certain types of kayaks. Marathon races are held for men, women and mixed teams, and shorter races for youth. State, divisional and national marathon championship races are held on waters ranging from flat, class I, Easy, to class II, Novice, straightforward rapids with wide, clear channels according to the International Scale of River Difficulty.

See You on a River!

Canoeing/kayaking is a great lifetime paddlesport. Paddling can be as moderate or as vigorous an exercise as you wish. All of us in the USCA family of paddlers invites you to join in our fun. Come paddle with us under the red, white and blue shield of the United States Canoe Association.

## **USCA MISSION STATEMENT**

The purpose of the United States Canoe Association is to actively promote a FIVE STAR program of:

- ★ Competition
- ★ Cruising
- ★ Conservation
- ★ Camping
- ★ Camaraderie.

Welcome Paddler is available in bulk lots to clubs or organizations. Send requests to:

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Box 5743  
Lafayette, IN 47903

For single copies, send a stamped, self-addressed envelope to the above address. The printing and distribution of Welcome Paddler is made possible through the USCA Education program.