

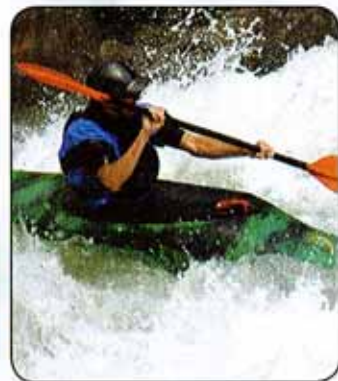


YOUR BOATING
DOLLARS AT WORK

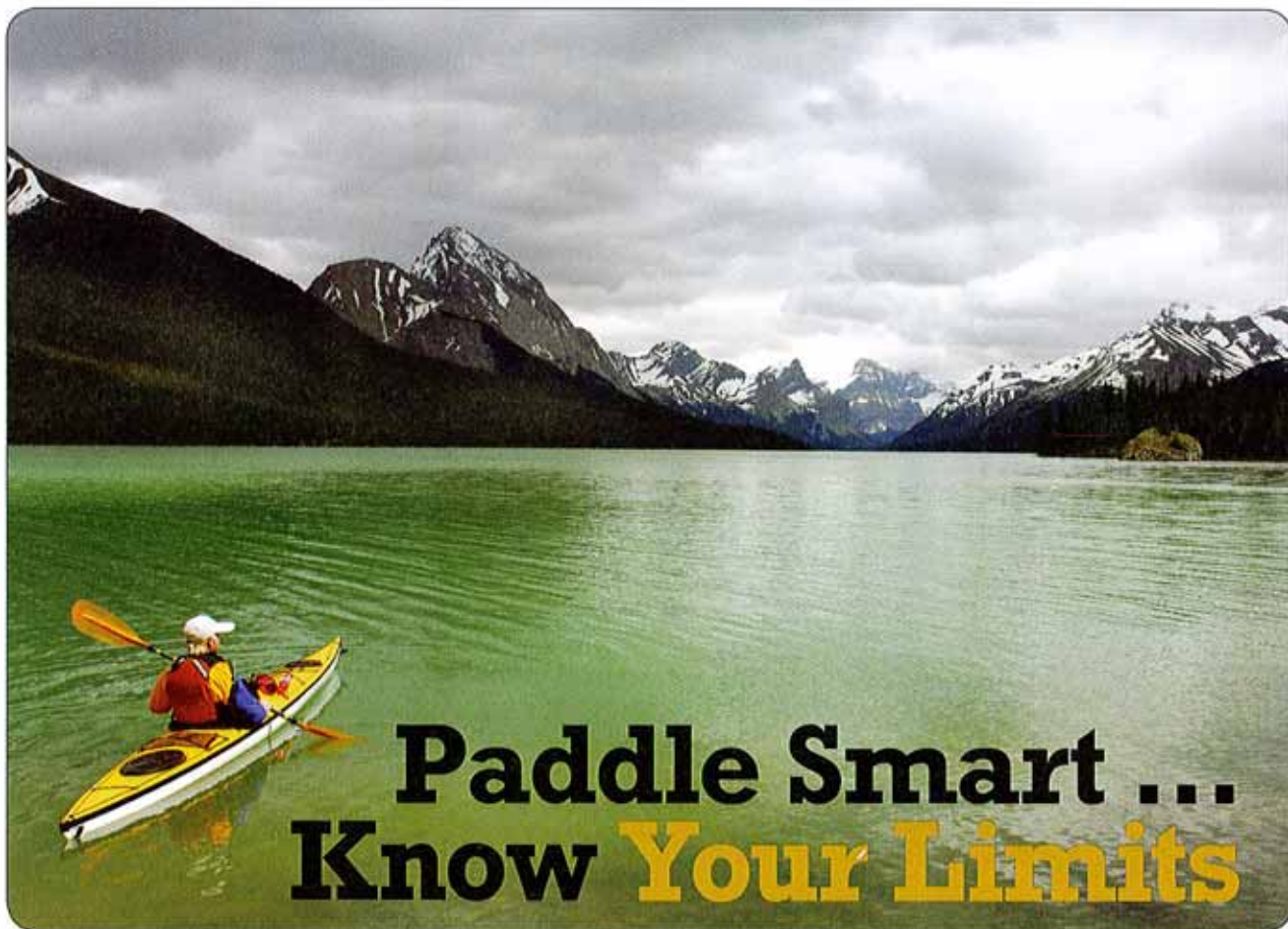


Funding Provided by a Grant from the Sport Fish Restoration and Boating Trust Fund Administered by the U.S. Coast Guard

KNOW YOUR LIMITS



**A SPECIAL SAFETY
PUBLICATION FROM
THE AMERICAN CANOE
ASSOCIATION.**



Paddle Smart ... Know Your Limits

MORE AND MORE PEOPLE ARE GETTING INTO PADDLING. ACCORDING TO A 2006 STUDY BY THE OUTDOOR INDUSTRY FOUNDATION, AMERICANS ARE PADDLING IN RECORD NUMBERS: 20-22 MILLION PADDLED A CANOE, 20-22 MILLION WENT RAFTING AND 10-12 MILLION KAYAKED IN 2005. THE NUMBER OF KAYAKERS REPRESENTS A 272% GROWTH DURING THE STUDY'S FIVE-YEAR PERIOD. THIS GROWTH IS NOT SURPRISING SINCE PADDLING IS A PERFECT WAY TO ENJOY THE OUTDOORS, HAVE SOME FUN AND STAY IN SHAPE.

ALSO NOT SURPRISING, AS PADDLING HAS grown, so has the number of paddlesport-related, on-water accidents. Nearly 75% of those who die in paddlesport-related accidents were not wearing a lifejacket. Alcohol use was also a contributing factor in almost 20% of the cases. Hazardous water or weather conditions are cited as the primary cause in more than 40% of fatal paddlesport accidents.

What do these different risk factors have in common? They are all things that a smart paddler can plan for and, in almost every case, avoid! By recognizing and accepting responsibility for the potential risks you face when you take to the water in a canoe, kayak or raft, you can eliminate or at least greatly minimize the chances of an on-water accident. There is MUCH you can do

to manage the risks, including pre-trip preparation and planning, personal and equipment preparation, and most importantly being safety conscious while on the water and at the put-in and take-out.

This paddlesport safety section has been produced by the American Canoe Association under a grant from the Sport Fish Restoration and Boating Trust Fund administered by the U.S. Coast Guard, as a basic safety primer for use by all paddlers, old pros and novices alike. But it takes more than just reading about types of paddlecraft for all levels of experience at locations across the country. Check out the ACA website (www.americancanoe.org) for more information on paddling courses in your area.

Most people feel that safety is a concern for

the other guy. "It will never happen to me." While paddling is a relatively safe recreational activity when considering its immense popularity, it can also appear deceptively easy and safe – and not just to novice paddlers. Operator inexperience or error is indicated as a leading cause of only about one in four paddlesport fatalities, and about one-third of all fatalities, where experience was reported, are of paddlers with more than 100 hours of experience.

So regardless of your level of experience – whether you are just starting out or have been paddling your whole life – Know Your Limits and always follow the basic safety precautions described in the following pages.

Paddle Safe and Paddle Often!

Wear Your Lifejacket!

EXPECT TO CAPSIZE AND SWIM OCCASIONALLY

when paddling a canoe, kayak, or raft – it's part of the fun! But when you hit the water unexpectedly, even strong swimmers need a Personal Flotation Device (PFD), commonly called a "lifejacket." It allows you to concentrate on doing what's needed to increase your safety and improve your chances of rescue. Over 75% of all drownings involving canoes, kayaks or rafts would never have happened if the victim had been wearing a lifejacket!

Many people think a lifejacket has to be bulky and uncomfortable, but this isn't true any more. The U.S. Coast Guard places PFDs into five categories.

Type I or II PFDs are safe and will turn an unconscious person face up, but they are generally too bulky for paddlers.

Type III PFDs are designed to be worn all

the time. They come in a wide variety of designs, colors and prices. Lifejackets for most paddlers fall into this category. Their minimum buoyancy is 15.5 pounds, although a few models are available with higher flotation (used primarily for very large paddlers).

Type IV PFDs cover a variety of "throwable devices," like ring buoys and seat cushions.

Type V covers a variety of "special purpose" PFDs, including whitewater rescue lifejackets, PFDs used by commercial rafters and even a new breed of inflatable



lifejackets (low-profile PFDs built for comfort, but not approved for use in whitewater).

Because paddlers wear their lifejackets all day, make sure yours has a secure yet comfortable fit. When wearing the right lifejacket you'll hardly know you have it on.

Although all approved Type III PFDs meet certain strength and buoyancy standards, they're not all the same. Spend some extra money for a higher-quality model. It will have softer

foam, a more comfortable cut, and improved adjustability. Make sure your lifejacket adjusts easily and fits snugly over clothing worn for different weather conditions.

Few universal-sized lifejackets fit as well as models sized small, medium, large and extra large.

Very large men will need an XXL version. Check the length to be sure that your lifejacket will be out of the way when paddling.

Women and kids can be hard to fit. Women are smaller and shaped differently than men. They also have shorter torsos, making many unisex PFDs too

long. Fortunately, several companies have designed special ladies' models that fit well.

Kids also require specially sized lifejackets. You should be able to lift children by their lifejackets without having them fall out. With very young children with flat torsos, a crotch strap is a good idea to help hold the lifejacket in place. The Coast Guard places kids less than 90 pounds into a separate sizing category; if a child is heavier than that, look for an extra-small adult jacket.

Most importantly, although many PFDs are sold in sizes such as small, medium, large, etc., the correct size is always dependent on the wearer's weight. Chest size and fit is very important, but so is the correct size by weight. Always check the PFD's label for size/weight limits and specifications.

LIFEJACKETS MATTER!

Consider the following statistics:

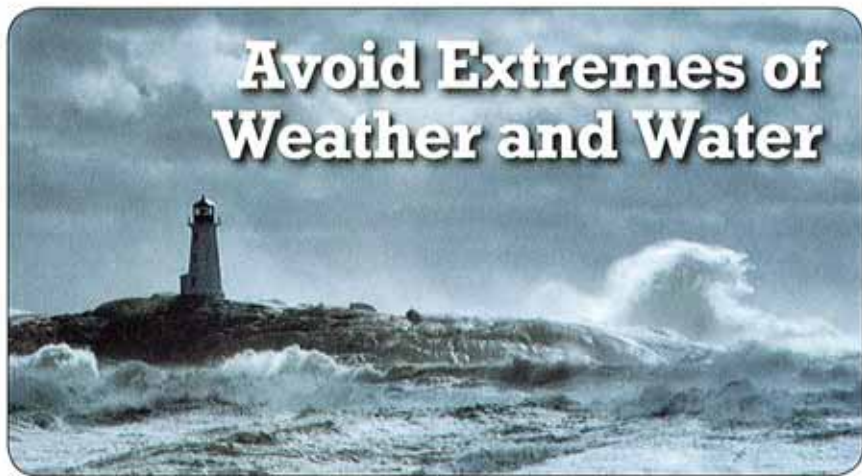
- * 98% of all canoe/kayak operators had a PFD with them
- * 63% of all paddlecraft operators wore their PFD all or most of the time
- ** 75% of all canoe/kayak fatalities were not wearing a PFD

* Source: 1998 National Recreational Boating Survey, conducted by JSI Research and Training Institute, Inc.

** Source: 1999 U.S. Coast Guard Boating Statistics



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Avoid Extremes of Weather and Water

FOR PADDLERS WHO WEAR LIFEJACKETS, EXTREME WEATHER AND WATER CONDITIONS ARE THE USUAL COURSE OF TROUBLE. IF YOU ENCOUNTER THESE CONDITIONS, STAY OFF THE WATER. SKILLED PADDLERS WITH PROPER GEAR CAN HANDLE SOME EXTREMES SAFELY, BUT EVEN THEY KNOW WHEN TO BACK OFF. HERE ARE SOME THINGS TO KNOW ABOUT:

COLD WATER

Cold water is extremely dangerous. It quickly robs the body of its strength, diminishes coordination and impairs judgment. Immersion in water as warm as 50-60 degrees can initiate what has been determined to be "Cold Water Shock." When a paddler capsizes and is suddenly immersed in cold water the body's first reflexive action is to gasp for air, followed by increased heart rate, blood pressure and disorientation, and can even lead to cardiac arrest. Without proper equipment and apparel, the body can become incapacitated in just a few minutes, and without a lifejacket this can be a very dangerous and often fatal combination. When paddling in places where the water temperature is 60 degrees Fahrenheit or colder, a wetsuit is a must and a drysuit is highly recommended. This is also the case if the combined air and water temperatures are below 120 degrees Fahrenheit.

Another dangerous situation that can occur in cold water or cold weather is hypothermia. Hypothermia occurs when exposure to the elements prohibits the body from reheating and maintaining its core temperature. Typical symptoms of hypothermia include: shivering, impaired judgment, clumsiness, loss of manual dexterity, and slurred speech.

Methods of treatment for cold water shock and hypothermia vary depending on the severity of the situation. The most important thing to remember is that the individual in either of these situations needs to be warmed slowly.

STEPS TO PROTECT AGAINST THE EFFECTS OF COLD WATER

- Select and layer clothing properly

- Have spare clothing available in a sealed dry bag while on the water
- Always wear your lifejacket
- Keep yourself well-hydrated and fueled with high-carbohydrate foods

HIGH WATER

High water makes a river move faster and with much greater force, adding power to even the mildest drop. As river current gains speed, rescue becomes more difficult. As a river floods, water spills over the banks and can rush through surrounding trees and brush, creating strainers. Rivers rise and fall with the seasons, and the flow varies with rain and snowmelt. Fluctuations from a few feet to as much as ten feet are not uncommon. The river you ran last year, or even last week may be completely different when you return. Know what the river level is and what it means to paddlers before you get out on the water.

HIGH WINDS AND STORMS

High Winds and Storms over open water turn the placid surface of a lake or bay into a wild, unfriendly place. The bigger the body of water, the rougher it can get. Experienced lake and coastal paddlers monitor the weather closely, checking forecasts beforehand and watching the sky when on the water. A knowledgeable and safe paddler is not afraid to postpone a trip if necessary, or to head for shore if conditions start to deteriorate.

INTERNATIONAL SCALE OF RIVER DIFFICULTY

The following rapid-rating scale is only a guide and is often interpreted differently by different people. Since many rivers don't fit

neatly into a system, check several sources before assuming you have the ability to run the sections. Fluctuating water levels caused by rainfall or river releases may change the class rating. Temperatures below 50 degrees F should change a rating to be one class more difficult than normal.

Class I – Easy

Moving water with a few riffles and small waves. Few or no obstructions

Class II – Novice

Easy rapids with waves up to three feet and wide, clear channels that are obvious without scouting. Some maneuvering is required.

Class III – Intermediate

Rapids with high, irregular waves often capable of swamping an open canoe. Narrow passages that often require complex maneuvering. May require some scouting from shore.

Class IV – Advanced

Long, difficult rapids and constricted passages that often require precise maneuvering in very turbulent waters. Scouting from shore is often necessary, and conditions make rescue difficult. Canoeists and kayakers should have a reliable roll.

Class V – Expert

Extremely difficult. Long, very violent rapids with highly congested routes, which nearly always must be scouted from shore. Rescue conditions are difficult, and there is a significant hazard to life in the event of a mishap. Ability to roll is essential for all boaters.

Class VI – Extreme and Exploratory Rapid

Difficulties of Class V carried to the extreme of navigability. Nearly impossible and very dangerous. For teams of experts only, after close study has been made and all precautions have been taken.

Source: *American Whitewater*

DID YOU KNOW?

- Not wearing a lifejacket in a boat is like not wearing a seatbelt in a car. When you need it, it is too late!
- Many boat-related fatalities involve alcohol. Stay sober and stay alive.
- Standing up in swift current is dangerous. If your foot gets trapped under a rock or root, the force of the water can push you over and hold you under the surface. Keep your feet up!
- Paddlers don't often notice they are thirsty when having fun on the water. Take plenty of potable water with you and drink frequently.
- The body loses heat 30 times faster when immersed in water. Dress for immersion – plan on it.

Safety Tidbits

UNIVERSAL RIVER SIGNALS



Stop: Potential hazard ahead. Wait for "all clear" signals before proceeding or scout ahead. Form a horizontal bar with your paddle or out-

stretched arms. Those seeing the signal should pass it to others in the party.



Help/Emergency: Assist the signaler as quickly as possible. Give three long blasts on a whistle while waving a paddle, helmet or PFD over your

head in a circular motion. If a whistle is not available, use the visual signal alone. A whistle is best attached to the zipper of the PFD.



All Clear: Come ahead (in the absence of other directions, proceed down the center). Form a vertical bar with your paddle or one arm

held high above your head. The paddle blade should be turned flat for maximum visibility. To signal direction or a preferred course through a rapid around an obstruction, lower the previously vertical "all clear" by 45 degrees toward the side of the river with the preferred route. Never point toward the object you wish to avoid

(Source: American Whitewater).

SPOTTING A POTENTIAL ACCIDENT

Accidents don't just happen. They usually result from the interaction of a series of smaller events or misjudgments, which culminate in a major accident. Experts analyze accidents in terms of their human, equipment and environmental factors. Usually, any one factor will not lead to an accident. However, the presence of three or more factors in a paddling situation is a sign of serious trouble.

Human Factors:

1. Consumption of alcohol
2. Not wearing a lifejacket
3. Lack of familiarity with river
4. Insufficient skill level
5. Being out of shape
6. Paddling alone or in a group with less than three boats

Equipment Factors:

1. Poorly maintained equipment (i.e. cracked paddles, leaky rafts)
2. Little or no flotation
3. No spare paddle
4. No first aid kit
5. Improper or inadequate dress

Environmental Factors

1. High water
2. Cold water
3. Dams (hydraulics)
4. Strainers (downed trees)
5. Undercut rocks
6. Remoteness
7. Changing weather conditions



THROW ROPE BAG

The throw rope bag is a rescue device that can be thrown quickly to a swimmer or used to unpin a boat. It can be easily stored in a boat ready for quick use. It should contain between 50 and 70 feet of 3/8" soft-braided polypropylene rope, stuffed randomly into the bag and extending through the bag to form a loop. When throwing the bag, first loosen the drawstring. Hold the end loop in one hand (don't put your hand in the loop) and throw the bag at or behind the victim in the rapids. A second bag works best if you miss with the first. If you have only one bag and have another chance to make a throw, drop the rope as it lies at your feet when you retrieve it. Leave some water in the bag for ballast and throw it again to the victim. If the victim grabs the rope, "belay" yourself (sit down, brace yourself and run the rope behind your hip) and let the victim swing to shore.

SELF RESCUE

When spilled, check on your partner, get to the upstream end of the craft and swim to the safest shore (a 15-foot canoe hurled against a rock by a current of 10mph can exert a force of over four tons). Leave the boat only if it will improve your personal safety. If a rescue is not imminent, if the

water is numbing cold or if a worse set of rapids is approaching, strike out for the safest shore. To lessen your chance of injury, adopt the safe swim position by floating on your back with your feet pointing downstream and at the surface of the water. Don't attempt standing in moving water at knee-deep levels or deeper because of the possibility of foot entrapment, even in relatively slow-moving water. Many drownings have occurred when a novice paddler has had a foot or leg caught between rocks in a strong current.

LAYERING YOUR CLOTHES

Layered clothes insulate in cool weather better than a single garment of the same thickness (two medium-weight sweaters offer more protection than one heavy sweater). Cover the sweaters with a paddling jacket for more warmth. To trap heat and keep water out, the paddling jacket should fit tightly around the neck, wrists and waist. Layers can be mixed to maximize the strengths of each layer. Some paddlers use a farmer john-type wetsuit (no sleeves) coupled with a sweater and paddling jacket, allowing freedom of movement and extra protection while swimming. The layering system also allows you to easily adjust your body temperature.

PARTICIPANTS' PREPAREDNESS AND RESPONSIBILITY

1. Be a competent swimmer with the ability to handle yourself underwater and in moving water.
2. Be certain to have a properly fitting lifejacket and WEAR IT.
3. Be suitably equipped.
4. Keep craft under control (control must be good enough at all times to stop or reach shore before reaching any danger). Know your boating ability. Don't enter a rapid unless you're reasonably sure you can safely navigate it or swim the entire rapid in the event of capsizing.

KNOW CPR

Cardio Pulmonary Resuscitation (CPR) is an emergency first aid procedure that allows the rescuer to maintain life until a victim recovers sufficiently to be transported, or until advanced life support is available. It involves recognizing respiratory and cardio arrest and starting the proper application or resuscitation. CPR procedures following a near drowning should be performed as quickly as possible. Optimally, only seconds should intervene between recognizing the need and starting treatment. CPR is a basic form of life support that can be taught to anyone. If you've been trained in CRP, review it periodically and make sure your registration is current. If you haven't, contact your local Red Cross as to when to enroll in the next course. Your paddling partner's life could depend on it.



Safety Tips For

TOURING/COASTAL KAYAKING

ESSENTIAL EQUIPMENT

TOURING

Sun hat
UV-protection eyewear
Lifejacket
Spare paddle
Sunscreen
Water bottle

WHITewater

Helmet
Lifejacket
Whistle
River knife
Throw rope
Appropriate clothing
Dry bag (with first aid kit)

OTHER SAFETY EQUIPMENT

SEA KAYAKING

Bilge pump, paddle float, sling, sponsons or other self-rescue device, map/chart and compass, signal mirror, tow line

RAFTING

Patch kit, (with glue, patch material and scissors), pump, spare lifejacket, wrap pulley system, bow line, footwear for scouting/portaging

CANoeING

Bail bucket, float bags and pulley system (for whitewater), painter lines

WHITewater KAYAKING

Footwear for scouting/portaging, float bags, bulkhead or beam, dry bag with spare clothes, breakdown paddle, z-drag system, rescue harness



• LEARN RE-ENTRY, AND PRACTICE IN CONTROLLED CONDITIONS

Slide your belly across the boat, then your butt, then your legs
Assisted rescue
Paddle float for decked kayaks

• KNOW YOUR HAZARDS

Tidal currents
Landings in surf
Other traffic

• KEEP YOUR GROUP CLOSE TOGETHER

File a float plan



• CHOOSE A ROUTE

Close to shore
Without fast currents
With protected coastlines and surf under one foot

• CHECK THE WEATHER AND OTHER LOCAL CONDITIONS

Fog
Wind

• DRESS FOR AN UNEXPECTED FLIP

Hypothermia is a serious threat in kayak touring—wear a wet suit or other protective clothing
Wear your PFD-fastened and snug

All Disciplines



ABOVE PHOTO BY ISTOCKPHOTO © MICHAEL OLSON/ ANGEL HEIRERO DE FRUTOS

WHITEWATER KAYAKING & RAFTING

• PICK AN APPROPRIATE RIVER

Match your skills and experience to the difficulty of the river

• USE PROPER EQUIPMENT

Lifejacket—fastened and snug
 Helmet—use varies by river difficulty, water level, and local custom
 Adequate flotation for kayaks and canoes
 No loose lines; avoid entanglement
 Protective footwear and cold water protection

• RECOGNIZE AND AVOID HAZARDS

Trees, branches and other strainers
 Rocks and low-head dams
 Backwash in hydraulics
 Stay on the inside of bends

• SWIM AGGRESSIVELY

Away from hazards (toward calm water, shore or your raft)
 If rafting, pull swimmers aboard immediately

• DEFENSIVELY SWIM

Feet up and pointed downstream
 Backstroke to maneuver
 Don't stand up

• IF IN DOUBT, GET OUT AND SCOUT

Walk or carry around danger spots
 Keep your group close together

CANOEING

• CHOOSE AN APPROPRIATE LAKE OR RIVER

Cross big lakes and run swift rivers only if you have the necessary skills

• HAZARDS CAN EXIST EVEN ON QUIET WATER

Watch for changing weather and water conditions
 Keep an eye out for other boat traffic
 Pay attention to all safety warnings

• WEAR THE RIGHT GEAR

Keep your PFD fastened and snug
 Wear appropriate clothing for the conditions
 Keep your shoes on—sharp objects abound near shore

• TAKE THE RIGHT EQUIPMENT

Make sure you take plenty of water and food
 Carry lights if you'll be out in low light conditions
 Carry an extra paddle
 Carry flotation if you're paddling whitewater

Safety Resources for Paddlers

LOOKING FOR MORE INFORMATION
ON PADDLESPORTS SAFETY?
CONTACT ANY OF THE FOLLOWING
ORGANIZATIONS FOR MORE ADVICE
ON PADDLING AND SAFETY:

AMERICAN CANOE ASSOCIATION

1340 Central Park Blvd., #210
Fredericksburg, VA 22401
540-907-4460; www.americancanoe.org

AMERICA OUTDOORS

PO Box 10847, Knoxville, TN 37939
865-558-3595; www.americayoutdoors.org

AMERICAN WHITEWATER

1430 Fenwick Lane, Silver Spring, MD 20910
301-589-9453; www.americanwhitewater.org

PADDLESPORTS INDUSTRY ASSOCIATION

PO Box 7189 Silver Spring, MD 20907
703-451-3864; www.paddlesportsindustry.org

TRADE ASSOCIATION OF PADDLESPORTS

PO Box 243
Milner, BC Canada, V0X-1T0
(800) 755-5228; www.gopaddle.org

UNITED STATES CANOE ASSOCIATION

606 Ross St. Middletown, OH 45044-5062
513-422-3739; www.uscanoe.com

USA CANOE AND KAYAK

301 South Tryon Street, Suite 1750 Charlotte,
NC 28282
704-348-4330; www.usack.org

THE FOLLOWING ORGANIZATIONS
PROVIDE GENERAL INFORMATION
ON BOATING SAFETY:

UNITED STATES COAST GUARD OFFICE OF

BOATING SAFETY
www.uscgboating.org

UNITED STATES COAST GUARD AUXILIARY

www.cgaux.org

NATIONAL ASSOCIATION OF STATE BOATING

LAW ADMINISTRATORS
www.nasbla.org

NATIONAL SAFE BOATING COUNCIL

www.safeboatingcouncil.org

UNITED STATES ARMY CORPS OF

ENGINEERS
www.usace.army.mil

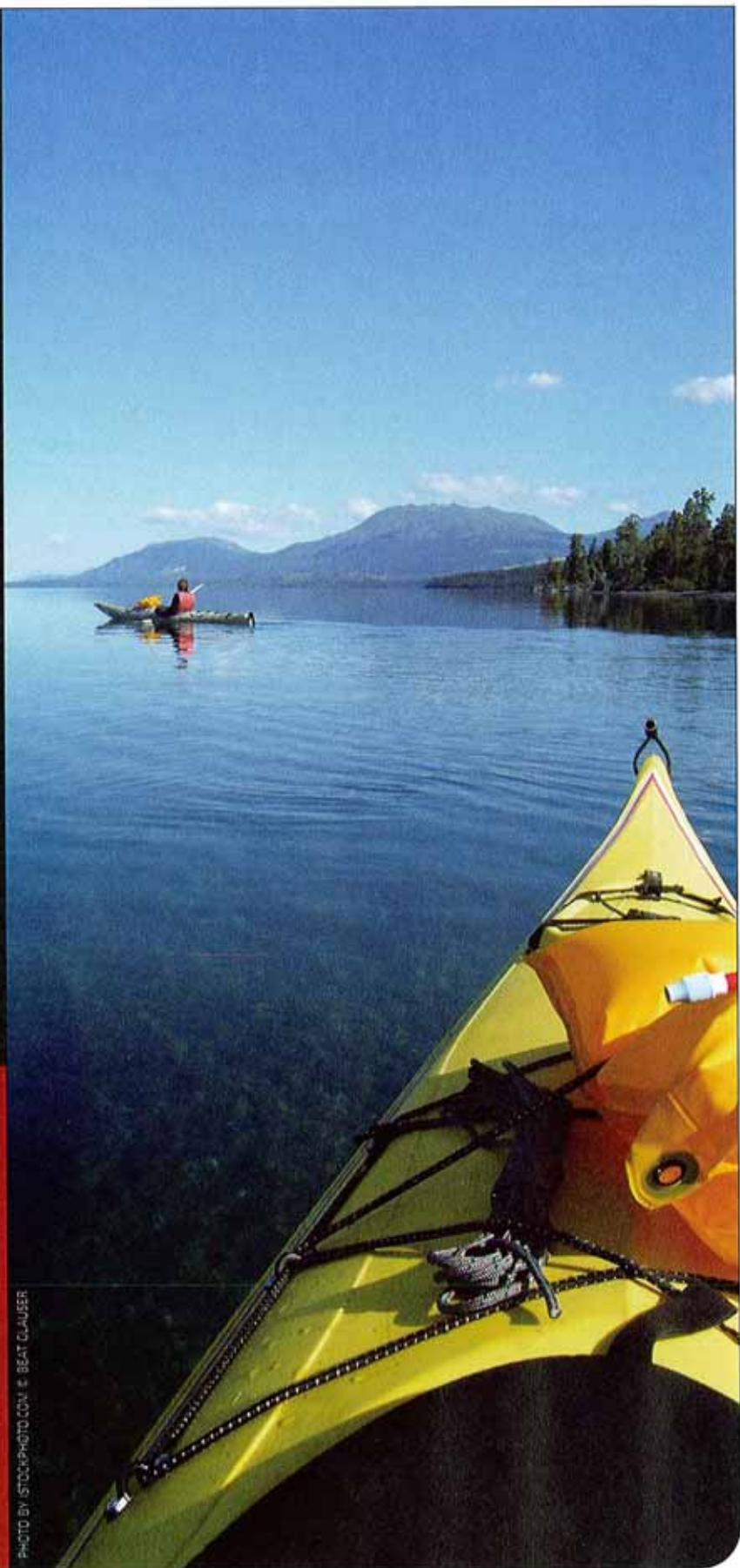


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