

Cascade Canoe & Kayak Presents...

How to Choose a *Safe Kayak*



Tips and Advice
on Selecting the
Right Kayak for
Fun and Adventure!



Website: www.Canoe-Kayak.com

Phone: 1-888-485-2985

Choosing a Safe Kayak

Kayaking is a marvelous activity that can be enjoyed in a wide variety of conditions and an infinite number of destinations. You can share the ocean with Orca whales, explore tide pools, watch eagles soar and experience dramatic vistas like in no other boat. Kayaks can get you close to nature in a quiet, environmentally friendly manner. Kayaking is a great vehicle for exercise and whole-body strengthening and conditioning – the feel of a kayak gliding across the water under your own power is truly spiritual.

Your primary concern while kayaking should be your safety and the safety of those who paddle with you. For most of us, if you don't feel safe, you're not having fun. One of the critical approaches to maintaining a high level of kayaking safety is to plan for circumstances if things go wrong. This does not mean that things do and will go wrong, it's simply that you have thought it through, made preparations and developed skills that allow you to safely recover. After a lifetime involved in water safety, I've seen first hand the consequences when people do not appreciate the dangers in their environment or take steps to prepare. My experience also has taught me that the process of planning, preparing and developing skills helps you remain in safe conditions for your skill level and avoid those that are hazardous.

At Cascade Canoe & Kayak Centers, Inc. we are very good paddlers with a strong focus on safety. We evaluate each model of kayak we offer for sale, as well as include in our instructional, demo and rental fleets of over 80 kayaks. As kayaks with a higher level of safety are made of superior materials, are longer, and are outfitted with effective flotation and deck rigging, they tend to be more

expensive than kayaks made of inferior materials, are shorter, have little or no flotation and often no rescue lines. The materials and equipment, as well as the time and expertise required for installation, make these kayaks more expensive. Prices for Day Touring Kayaks with solid safety features range from \$650 to \$2500, while Touring Kayaks range from \$1300 to \$4200, with the lighter kayaks being more expensive. Let's look at a few aspects of kayak design that relate to safety.

Your kayak is your primary piece of safety equipment. It keeps you out of the water, provides flotation if you do tip over, is more readily seen by rescuers and is your vehicle to return to dry land. However, not all kayaks are appropriate for all conditions. In fact they are usually designed with particular types of conditions in mind. For example, a kayak that's designed for lakes and protected waters is generally not a safe boat in open waters. Additionally, not all kayaks include sufficient safety characteristics such as adequate flotation, the manner in which the flotation is secured in the kayak, and deck safety lines.

Flotation is absolutely critical in kayaking. The more flotation in a kayak the less water fills the boat if you capsize. This allows the kayak to float higher in the water – providing better flotation, and is easier to rescue – there's less water to either dump or pump from the kayak. Since none of the materials kayaks are made of intrinsically float, without flotation, a capsized kayak will sink. In Washington State, there was an incident in 2007 when a capsized kayaker's boat sank (it had no flotation) and he spent considerable time in very cold ocean water far from shore before rescuers were able to locate him. Fortunately he was wearing a Person Flotation Device.

Flotation is best accomplished with two watertight bulkheads – one in front of the kayaker's feet and one behind the seat. These often double as gear storage compartments. Watertight bulkheads keep water out of the ends of the kayak, allowing it to float higher when capsized and requiring less water to be removed during the rescue process. In composite hulls, the bulkheads can be attached with fiberglass, creating the strongest bond. Rotomolded kayaks must have their bulkheads glued into place. This initially provides a watertight seal, but because the hull and bulkhead are made of materials that expand, contract and flex differently, over time the seal can deteriorate. Care should be taken to properly maintain that seal.

Kayaks 14 feet and longer generally have two bulkheads. Kayaks around 12 feet long usually have one bulkhead behind the seat, but because they are shorter and there needs to be space for the kayaker's legs in front, do not have a front bulkhead. Shorter kayaks often have no bulkheads at all. In these boats, manufacturers often glue in pieces of foam, which does address the flotation issue to some degree, but because water fills into the ends, rescuing these kayaks is difficult. Great care should be taken to maintain the glue between the foam and the kayak.

Rescue lines are usually braided lines that are attached to the perimeter of the kayak deck. These afford an easy place to grab onto the kayak, either for the paddler of the boat that has capsized or another capsized kayaker being rescued. Especially in cold-water conditions, where hands get cold quickly thereby diminishing a swimmer's ability to grip, perimeter lines are absolutely critical. It's much easier to hold onto a perimeter line than the kayak.

Kayak length relates to safety in that you want to have enough length for the kayak to lift on waves before the waves get to you. In short kayaks 14 feet and under, the kayak tends to go through the waves rather than lift. In kayaks 15 feet and longer, there's adequate volume further forward and behind the paddler that causes the kayak to rise over the waves. It is very destabilizing when waves hit the kayaker or land on the top of the deck. Generally, to get lift, touring kayaks that are at least 15 ½ feet long are great for smaller paddlers and should be at least 16 ½ feet long for larger kayakers.

In kayaking, stability is a key safety component, and mostly a function of the paddler's level of skill. Stability designed into a kayak is not an absolute in all conditions, but a compromise between two extremes – initial and secondary stability. Initial stability relates to a kayak sitting on flat water in calm conditions. Kayaks with high initial stability tend to have relatively flat bottoms and that flatness is carried out close to the sides of the kayak. This provides a wide and flat surface that is very comfortable in calm protected waters. Because the flatness of the bottom extends most of the width of the kayak, the sides tend to be very vertical. In rougher waters, these kayaks tend to pitch from side-to-side and the waves tend to slap against the vertical sides of the kayak, making them very unstable.

Secondary stability kayaks have more roundness to the bottom, as you look at the cross sectional silhouette. On flat water they may feel wiggly and take some time to get used to. In rougher water, they perform very well in that the roundness of the bottom lifts and falls smoothly on waves, making them much more stable than initial stability kayaks. In secondary stability kayaks there is little pitching from side-to-side as in initial stability kayaks and since the sides are

rounded, there is little slapping of waves against the sides. Kayaks are designed along a continuum between initial and secondary stability.

When you begin your search for a kayak to purchase, one of the first questions you should ask yourself is, "Where do I want to paddle?" You should keep in mind, not just where you want to kayak today, but also where you're headed in the future. If your destinations are protected waters such as quiet lakes and lazy rivers, choosing a kayak categorized within the industry as "Recreational" or "Day Touring" is appropriate. If you're headed for open waters where rougher conditions may exist, a boat classified as "Sea Kayak" or "Touring Kayak", with adequate length, solid secondary stability, waterproof bulkheads in both ends, and perimeter safety lines is a safer choice.

Dan Henderson, President of [Cascade Canoe & Kayak Centers](#), Inc. is an avid sea kayaker, instructor, author of the International Canoe Federation (the world and Olympic canoe/kayak governing body) Coaching Manual, a former US National Team member, National Team Coach, US World Championship Team Leader, professional lifeguard and Water Safety Instructor, as well as veteran of the US Air Force Air Rescue Service. Dan is also a Masters Candidate in Exercise Science with a focus on the biomechanics of the kayak forward stroke at Western Washington University.