



**Connecticut Water Trails Association**

## **How To Choose The Right Kayak Paddle**

The kayak paddle is your #1 piece of equipment. It provides your propulsion and steering and will be in your hands nearly all the time. Next to your kayak, your paddle is the most important piece of gear you'll purchase.

### **Kayak Paddle Categories**

When selecting a paddle there are several considerations. First, determine the type of paddling you will be doing. There are paddles designed specifically for touring, white water, surfing, or multi use. They come in different weights, shapes and lengths.

#### **Touring Paddles: (Symmetrical Style)**

Touring paddles usually have a long, skinny, asymmetrical blade. They are often lightly built for greater efficiency on long trips. Many take apart into two or more pieces for storage.

#### **White Water Paddles:**

White water paddles are built heavy duty to withstand the ruff and tumble river environment. The blade shape is usually symmetrical, but not always. They have a shorter and wider blade.

#### **Surfing Paddles: (Asymmetrical style)**

Surfing paddles are similar to white water paddles but are often built a little lighter and usually have a short asymmetrical face that is not too large.

## **Multi Use Paddles:**

Multi use paddles incorporate design elements of paddles made for different disciplines. The general outcome is a generic paddle that does a little bit of every thing, but exceeds at nothing.

## **Next Determine Your Style**

- Are you an aggressive power paddler?
  - Look for a larger blade and a more symmetrical shape.
- Are you a long distance or easy going paddler?
  - Look for a paddle with a long skinny shape for greater efficiency.
- Do you do a little bit of every thing?
  - A multi use paddle may be for you.

## **Choosing A Kayak Paddle**

These days, the kayak world is broadly divided into whitewater, recreational, and touring boats, outfitted with the appropriate paddles. There are two kinds of kayak paddles: touring and whitewater. Both have the same variables for you to choose among: length, blade shape, materials, and feathered versus un-feathered. What kind of kayak paddle you choose depends on what kind of paddling you want to do.

### **Kayak Touring Paddles**

Touring kayak paddles are designed for efficiency and comfort during many hours of paddling. Most are two-piece with adjustable ferrule positions, allowing for feathered or un-feathered paddling. These paddles also allow a fair amount of flex, mostly for the paddler's comfort. Blades tend to be narrower and smaller, asymmetrical, and lightweight. Common materials include aluminum shafts with thermoplastic blades, as well as fiberglass, composites (graphite, carbon fiber, etc.), and wood.

## **Kayak Touring Paddles Continued:**

- Kayak touring paddles are longer than whitewater paddles, have smaller blades, and weigh less.
- They must be comfortable and efficient over long days and many miles, but rugged enough to survive the sea and shore. They are commonly sold as two-piece models for ease of storage and transport.
- Most will be feathered and feature right-hand control. Fiberglass is popular and affordable, but wood and high-tech materials appear.
- Touring blades will likely be curved (from end to end) or spooned (across the face), or both, for maximum efficiency.
- Many long-distance touring blades are becoming increasingly narrow, presenting less resistance to the wind and water.
- The paddle will be somewhere between 210 and 240 centimeters.
- A good paddle is a well-balanced one.
- Mixing fiberglass shafts with high-tech blades can combine the best of both worlds-in a well-balanced and well-designed stick.
- Wooden paddles-both laminate and solid wood-are joys to hold, and bring a natural spring to the paddle motion. Laminate weights can be very competitive.
- Oval shafts and molded grips can be found on many composite paddles.
- Lower angles of the blades are increasingly common, mainly for comfort.
- A "double-crank" shaft features "bends" at the hand positions that proponents find more comfortable and efficient. Your first paddle should make a good backup for life, so take your time and choose wisely.

## **Whitewater Paddles**

Whitewater kayaking is about control, and that means a rigid shaft with wider blades (and tip and edge protection). Most are feathered and the most popular materials are fiberglass and wood. Pricy composites (graphite, carbon fiber) are growing in popularity. Most have one-piece shafts, feathered blades, and right-hand control.

## **Whitewater Paddles Continued:**

- Most whitewater paddles have the blades offset, or feathered, between 30 and 90 degrees, and will have right-hand control, which means that when you rotate the shaft between dips of the offset blades, your right hand will stay gripped around the shaft while the left hand opens slightly to let the shaft rotate.
- Whitewater paddles take tremendous beatings and thus require reinforced tips and edge protection.
- All in all, whitewater paddles must favor durability over light weight.
  - Fiberglass and fiberglass composites offer a working balance between weight, durability, and affordability.
  - Wood laminates are light, stiff, and strong.
- Oval shafts and molded grips are essential to whitewater paddles for comfort, control, and safety.
  - In addition to providing a more comfortable grip, the molded grip on the control hand lets the paddler know that his or her hands are properly positioned.
- A decent fiberglass whitewater paddle won't break the bank and shouldn't require any special care.
- Laminate wood paddles are light and beautiful but will require more maintenance than fiberglass.

## **Kayak Paddle Materials**

Kayak paddles are available in a wide variety of materials which determine the paddle's strength, weight, durability, and cost. The heaviest and least-expensive paddles have metal shafts and plastic blades. Fiberglass or wood is common for mid-weight, mid-price paddles: wooden paddles tend to be as light or lighter than fiberglass, but not as durable. Kayak paddles made from Kevlar, graphite, or carbon fiber are usually the lightest, but they also tend to be less durable and expensive.

## **Touring Paddles Come In A Range Of Materials:**

- **Wood** is unmatched for liveliness, flex, and warmth in the hands. Wooden paddles are slightly heavier than fiber composites, but lighter than plastic and aluminum. They do require some maintenance: from occasionally dabbing varnish on a chipped area, to full sanding and refinishing.
  - Laminated wood paddles are made from strips of wood bonded with strong glues. Since they usually have a wider blade than one-piece wood paddles they work well for touring trips over varied waters. They also suit racing and whitewater paddling.
  - Lamination makes paddles quite stiff, so they transfer power better than one-piece paddles, but aren't as lively or shock absorbing. The more layers of lamination a paddle has, the stronger, stiffer, and more expensive it will be.
- **Fiber Composite** paddles can be made of fiberglass, and carbon or graphite fibers impregnated with resins. They can be made thinner than other materials, and cut into the water more efficiently.

Fiberglass paddles are light, moderately flexible and stiff.
- **Carbon** is stiff and very light. Its extraordinary lightness is welcome during races, when swinging heavier paddles back and forth thousands of times can really thrash shoulders and wrists. Manufacturers blend different ratios of carbon and fiberglass to create an optimum balance of lightness, stiffness, and flexibility. Higher carbon content usually equals higher cost.
- **Plastics** made of polypropylene, polyethylene, or nylon, plastic are durable and very low-maintenance, though heavier than fiber composites. Plastic blades with aluminum shafts make tough, inexpensive spares for touring.

## **Blade And Shaft Weight**

The most expensive kayak paddles are nearly always the lightest in weight. These can weigh well under two pounds, while the heaviest can run more than three pounds. This weight range of little more than a pound can seem insignificant at first, but after a long day on the water it makes a big difference.

The average paddler makes about one thousand paddle strokes per mile, hence, a few ounces in paddle weight over the course of a day begins to count heavily. Bottom line: don't scrimp when purchasing a paddle. Money spent on a decent kayak paddle will seem well worth it in the long run. The lightest paddles are great for long distance touring on flat water, but you may want something sturdier for more challenging conditions or for practicing your skills.

## **The Shaft**

- There are a few types of shafts available depending on the size of your hands.
- Oval shafts are a little more comfortable to hold than round shafts.
- Make sure the shaft is not too big for your hands as your hands will become tired and possibly cramped.
- There is also a double-crank shaft available for longer distance paddling.
- The shaft can be constructed with aluminum, wood, fiberglass, etc.
- Some shafts are colder and not as strong.
- Based on the paddle blade, a certain shaft will be available.

## **Shaft Shape**

Oval shafts are more comfortable to hold than round shafts, and let your muscles index the relative angle of your blades. Too large a diameter for your hand and it will tire; too small and it may cramp. Most shafts are straight, but we're seeing more "double-crank" shafts bent at the hand positions for more comfortable and efficient long-distance paddling.

## **Weight**

Always choose a paddle that has the lightest weight that you can afford as lighter weight paddles are the most expensive paddles. Every ounce heavier will require a lot more energy over the course of the day that requires thousands of strokes. Saving energy is a bonus when paddling.

**Swing Weight** Lighter is better but, combined with durability, costs a lot more.

## **Feathering**

There is no right answer for this ages-old debate. Kayak paddles were originally feathered (with the blades set at an angle to each other) to reduce wind resistance for the blade as it moves forward through the air. A feathered blade slices through the air, an un-feathered blade bulls its way through. The most efficient returning blade is at right angles to the blade in the water, meaning you would need to rotate your wrist 90 degrees with each stroke. You'll not last long doing this. Blades comfortably feathered between 30 and 75 degrees can kite and dive in a headwind, while a beam wind may lift the windward blade of a feathered paddle.

A feathered paddle in the 75-degree range is more aerodynamically efficient than an un-feathered paddle. Virtually anyone can master a feathered paddle, though some people complain of wrist pain from the repetitive rotation it requires. Choose whichever is more comfortable for you - that is what is best for you.

## **Paddle Length**

### **Paddle Sizing**

There are many different ways of sizing paddles and many strong opinions based on these ways. They all have as their goal to provide the paddler with a paddle length that will put the whole blade in the water during the power phase of the stroke while leaving the body in a comfortable paddling position. This moves the vessel efficiently through the water and allows the paddler to focus on precision, grace and endurance.

In modern straight shaft canoe paddles the most common sizes are:

- 56"-58" for men
- 52"-54" for women.

Bent shaft paddle common sizes are mainly 54" for men and 50"-52" for women.

These size ranges are based on the average body sizes of 5' 10" for men and 5' 6" for women utilizing an average blade length of 20"-22".

The following is a guideline for you to determine your specific needs, based on your body dimensions, paddle type and blade size of your type of paddle:

- Sit on a flat surface
- Measure from your seat to your eye level
- Add the distance from your boat seat to the water line
- Add the length of blade for your desired paddle

Once you've combined the above measurements, you have a good idea of the range you should look for. It is worth noting that you may want to contemplate your position in the boat as some bow paddlers prefer shorter paddles. There is no science to picking your paddle length, as proven by the broad range of measuring methodology you may experience while shopping. While the formula above acts as a guide, no better standard exists than experience.

## **So What's The Right Length?**

- There is no formula for selecting the correct kayak paddle length. Beyond a few basic considerations, it's a matter of personal preference. The most common length for a general touring paddle is between seven and eight feet or 210 to 240 centimeters.
- A good rule of thumb is to raise your right arm straight over your head; now take a paddle, stand it on end, and if the top of the uppermost blade reaches the top of your hand, you're in the right ballpark.
- The best paddle for you is one suited to your strength and the size and handling of your kayak. Wider kayaks require longer paddles and narrower kayaks require shorter paddles. Longer paddles put more leverage into each stroke, but require more effort. Shorter paddles require less leverage and allow for a faster cadence and smoother acceleration.
- Paddle length depends on the paddlers torso length and the beam of the vessel. The taller the person and the wider the beam, the longer the paddle needed. The

following examples are not universal solutions, only suggested starting points in your selection. You need to identify your best length by paddling your style and in your normal conditions to nail it down.

- If you hold your paddle high, like a racer, and paddle with a rapid cadence, shave two to four centimeters off the length.
- If you paddle with the shaft low (navel-high), and with a slower cadence, you'll want a slightly longer paddle.
- The proper shaft length puts the junction of your paddle blade and shaft right at the waterline. Long, narrow blades create an overall longer paddle than short, wide ones.
  
- **Height 5' 3" - Beam 17-22" .....Paddle Length Of 210cm**
- **Height 5' 3" - Beam 23-26" .....Paddle Length Of 215-230cm**
- **Height 5' 3" - Beam 27-32" .....Paddle Length Of 240cm**
- **Height 5' 9" - Beam 17-22" .....Paddle Length Of 215-230cm**
- **Height 5' 9" - Beam 23-26" .....Paddle Length Of 215-240cm**
- **Height 5' 9" - Beam 27-32" .....Paddle Length Of 225-250cm**
- **Height 5' 9" - Beam 17-22" .....Paddle Length Of 220-240cm**
- **Height 5' 9" - Beam 23-26" .....Paddle Length Of 220-240cm**
- **Height 5' 9" - Beam 27-32" .....Paddle Length Of 225-250cm**

Additional consideration should be made to your length when a special blade is used. When you have a longer blade you may want to adjust your paddle length so that your effective shaft length is not shortened when using the above length examples.

### **Blade Shape**

- Touring blades tend to be longer, narrower, and smaller, for a smooth and efficient paddling stroke that can be maintained all day. Smaller blades are easier to control in the wind.
- Whitewater blades tend to be shorter and wider than their touring counterparts in order to provide power and grip in aerated water.

## **Blade Symmetry**

Imagine a line down the paddle shaft and continued across the blade. If both halves are mirror images, the blade is symmetrical. There's a growing trend toward asymmetrical kayak blades. The asymmetry equalizes the force on each side of the blade (top and bottom), resulting in less twisting of the paddle.

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