

The Willow Sea Kayak design;
Introduction from our article on building a Willow. *Woodenboat Magazine* Issues 195-197, March–August 2007.

There is no debate about the virtues of sea kayaking, these are simple craft, easy to own and the skill set needed to start paddling is easy to acquire. In most cases, half a day of paddling instruction, and some sound judgment, is enough to get one out on the water safely. Despite this simplicity, kayaks are used for long trips in big seas, explorations to remote places, extended camping trips in more charted waters and those sweet short trips that revive the spirit. In short, sea kayaks are a very accessible way to get out on the water. What is debated, (it is almost a sport unto itself) is what makes a good sea kayak?

A good kayak is one that meets its design criteria, assuming of course, that the goals were sufficiently lofty. So, what were my goals when I designed the Willow? After almost 30 years of kayaking, 15 years of building and nearly as many teaching, I have developed some definite ideas about what I want in a boat. While working at the drawing board or in the shop, I was motivated by a very concise vision.

The overall goal was to create a well performing, aesthetic boat that could be assembled during a week-long class. While a week is not enough time to finish a boat, the lion's share of the work needed be done before the students took their new boats home. From a building and teaching perspective, I wanted a pre-cut kit and chose methods that fit the time constraints but did not compromise my other goals. Willow is built in the stitch-n-glue method, using okoume plywood and fiberglass cloth set in epoxy to create a strong and lightweight hull. I chose a hard chine design because I like the way these boats perform: very predictable handling. I felt building a multi-chined boat would be too time consuming for a one-week class and a fair round-bottomed boat in plywood is difficult to build. The deck is cambered, visually appealing, strong, and installable in a day. These construction concerns were balanced against the overall performance of the boat. As a paddler, I use my Willow kayak for day trips and longer camping adventures along the coast of Maine. As a Maine Guide, I also work out of the boat leading trips and teaching the elements of coastal kayaking to new paddlers. I wanted a dynamic kayak.

Although the Willow is not a bold departure from other plywood kayak designs, (there is only so much leeway here) the overall design is unique. Willow has a lot of rocker for a sea kayak. I think tracking is affected as much by the entry and exit of a hull, as it is by the run and have also found that some rocker adds to stability in really big seas. The dead-rise (V in the hull) is pronounced and this does several things for the boat. First it helps ever so slightly to reduce the wetted surface. It increases volume (read: foot room) but lets me keep the freeboard low. This low freeboard, the moderately deep V and the shape of the hull aft, all work together to control weathercocking. In most seas, Willow tracks very well and the hard chine hull responds to the subtle leans, which change the hulls shape in the water.

Longer boats are generally better boats; with a DWL of 16' 2" Willow has a theoretical hull speed of around 5 knots. In practice I have found that on longer trips, in most

conditions, I can easily cruise at 4 knots. For some reason speed drops off towards the end of the day?? With an over-all length of 17'7 1/2" Willow is a long boat. The overhang adds extra volume at the bow and stern, which helps to keep the boat's ends out of breaking waves or following seas. (Providing heavy gear: tent, water and the like are packed amidships.)

With a beam of just under 23" Willow is narrow, but not in the extreme. The hull does taper in quickly going forward and the deck is steeply cambered in front of the cockpit. The goal here is for paddle clearance and a slippery entrance. The cockpit is keyhole shaped; high forward for room, low aft for bracing, leaned turns and rolling. There is deck where you need it, to brace your knees, but enough length to make entry and exiting easy.

I think the whole venture has turned out very well. Students have consistently built good boats and I have enjoyed countless hours on paddling trips or teaching in my own Willow Sea Kayak.

