

Coach's Corner by Chris Crain

Rudders vs Skegs

So which is better, a rudder or a skeg? Well, the Inuit paddled kayaks for thousands of years without either, relying instead on paddling technique. I'll circle back to that later, but rudders and skegs clearly have their place, when used correctly and in appropriate situations. They can help maintain a chosen course when winds want to turn the kayak off course. If its not windy, rudders and skegs are not needed, and only add to drag.

So, what's going on and why do you need them? When underway, kayaks create 'V' shaped bow waves, which 'pin' the bow in place. The stern has no such resistance and is free to pivot around when winds hit it from the side or stern. Thus, on windy days the bow will be held relatively in place (by the bow waves) and the unanchored stern will be blown downwind. Kayaks under motion will turn (cock) into the wind (weather), a phenomenon known as 'weathercocking'. Weathercocking forces the kayak off the paddler's intended course, requiring corrections.

Corrective techniques which all paddlers should master include sweep strokes and edging, both of which can correct weathercocking, turning the kayak back toward its intended course (see prior Coach's Corner articles on the club website for discussion of those techniques). Sweep strokes and edging should both be on the windward side, turning the kayak toward the downwind side to offset the wind's weathercocking effect. In light winds and for short distances, those techniques are often enough, but they become tiring and less efficient in strong winds and over long distances. That's where rudders and skegs come into play.

So, what are rudders and skegs and how are they used?

Rudders are blades mounted at the stern of the kayak, typically stowed on top of the deck when unused. Once deployed, usually by a line alongside the cockpit, they drop fully into the water and can then be rotated side-to-side via foot pedals and attached cables, deflecting the water flow to 'turn' the kayak back into the wind, offsetting weathercocking. The degree of required blade deflection varies with wind speed and direction; start with a modest setting and adjust from there, rather than flopping the rudder fully from side to side. Note: Some paddlers will quickly deploy their rudder immediately upon launching, spending their day sloshing the rudder from side-to-side as they steer their kayak all day long. Far better would be to employ correct paddling techniques, deploying the rudder only in windy conditions. Doing so helps develop basic paddling skills, also reducing drag and maintaining solid foot braces for optimal strokes.

Skegs are typically mounted in a recessed box under the keel, towards the stern of the

kayak. They remain tucked into the box until needed, at which point they are deployed (lowered) to offset side winds by anchoring the stern (keeping it from being pushed to the side). Skeg deployment depends on the wind's strength and direction. As a guideline, use noskeg when paddling directly into the wind, use full skeg when wind is directly from the rear, and use partial skeg when wind is from the side (adjusting depth until finding the right balance point). Skegs move only up or down, without the side-to-side movements of rudders, thus retaining solid foot braces (which helps with paddling, edging, bracing, sculling, etc).

Pros and cons: Relative merits and downsides are endlessly debated, though following are my thoughts of the more important ones.

Skegs retain solid footbraces, leave clean decks (aesthetics), and are simpler (fewer moving parts and slightly less weight). Arguing against, they are less intuitive to operate and the skeg box takes up some space in the rear hatch (not relevant for day trips).

Rudders offer very strong corrective action, are intuitive to use, are better in following seas (assuming you paddle in such conditions), and offer an advantage in distance or racing. Arguing against, footbraces often have a 'mushy' feel (affecting many paddling techniques), the assembly is more complex and perhaps a pound heavier, an undeployed rudder is a bit of a sail on top of the deck, rudders can get in the way of some recovery techniques, and improper use may delay skills development.

Rudders and skegs are often not found on shorter kayaks, whose course is less affected by winds. They are generally found on boats of 14 feet or more, especially so as length increases and the kayak is more affected by winds. The kayak's hull shape often dictates one or the other. Generally, a maneuverable rockered kayak (British style) will work better with a skeg, while a straight-tracking (Northwest style) kayak will generally come with a rudder. So, to some degree, the choice between rudder and skeg comes down to what kind of handling you want in a kayak (maneuverability vs tracking); the kayak manufacturer will already have made the matching rudder/skeg choice. Picking your preferred paddling style will help with the choice of kayak (and associated rudder/skeg). Just be aware of some of the relative pros and cons of rudders/skegs, and also make sure you're using your rudder or skeg correctly.

So, which do I prefer? Well, fewer than 10% of my kayaks have rudders, though that statistic may speak primarily to a different issue.