

## **Paddling in Wind**

### **Weather-cocking**

This term describes the kayak behaving like a weathercock in wind; i.e. points into the wind rather than the course the paddler wants it to go. Weather-cocking happens more at certain times than others; for example in gusts or when a swell passes under the boat in a cross sea.

### **Design factors**

Some boats behave better in the wind than others. The amount of freeboard is one factor; it stands to reason that the more there is - the greater the corresponding force acting on the kayak. Another is the amount of rocker, a straight keeled boat being less likely to respond to gusts, and most important the center of effort of the hull under the water, as weather-cocking is caused by an imbalance of the relative centers of effort of freeboard and immersed hull, both of which are producing lift as they pass through their different media. It is my experience that fish shaped boats with a raised foredeck and low after deck are the worst offenders when it comes to weather-cocking.

### **Managing weather-cocking**

The most obvious solutions are the fitment of a skeg or a rudder. They provide lift at the stern of the boat, balancing the lift that steered the boat into the wind. With an adjustable skeg, the lift can be varied to balance the boat according to wind strength or direction.

### **Boats without a skeg or rudder**

Some early sea kayaks, particularly the Derek Hutchinson designed boats went very well in wind and were not particularly prone to weather cocking, others did not go so well. Changing weight distribution to remedy the imbalance is one solution. The only way to get this right is to simply try different configurations, e.g. starting by paddling leaning forwards or backwards, observing any changes and building on that with ballast.

### **Weather-cocking and leeway**

An alternative way to view weather-cocking is to see it as an unbalanced boat's attempt to gain lift from the water to counteract wind's force to leeward; without which it would simply "skid" downwind. As we don't want the boat to do this, then there are clearly positive aspects to weather-cocking which we need to exploit, whilst minimizing the negative aspects lack of control etc. Consider this: each time the paddler performs a large sweep on the windward side to push the boat back on course, they are in effect pushing to boat down wind and adding to the leeway the boat is already making.

### **Leeway**

A weather-cocking boat can be more successfully managed through a bigger picture of what the boat is doing. How much lee way is being made for example? This can be monitored through reference to a compass bearing made on your destination – how is the bearing changing? Or through the boats deviation from a transit made on the destination.

Having done this it is possible to determine how much to let the boat weathercock as opposed to keeping directly on course.

### **Hip flick and sweep**

This works for me in wind with a boat that wants to weathercock:

1. Work out how much leeway the boat is making
2. Decide correspondingly how much you want to let the boat weathercock

3. Let the boat weathercock in gusts or a when swell passes under, both of which will probably initiate a turn to windward. When the boat has gone too far to windward for too long it can be brought back on course with a sweep or sweeps to windward (with the whole of the paddle if using a Greenland Paddle), coupled with a flick of the hips also to tip the boat to windward – the two work really well together.
4. Once round the boat may well be pointing below the chosen course before coming up on the next puff/cross sea. With the transit/bearing (see “leeway” above) it is possible to monitor how long the boat can stay pointing downwind of the chosen course before allowing it to point up a bit.
5. Keeping the boat heeled to windward works well i.e. the windward side of the boat is lower than the leeward side.
6. Unless you have a rudder paddling in a cross wind will always be a bit of a zig-zag affair, but that doesn’t matter so much so long as the boat keeps moving.
7. Avoid stopping the boat with any kind of sweep to leeward if at all possible. Even if it may not be going exactly where you want it to, at least a moving boat is proceeding towards your destination in one way or another. A stopped boat merely drifts to leeward. In a wind it takes a surprising amount of energy to re-establish a proper flow around the hull.

Other topics related to paddling in wind to follow when available