

Bob Fleck's Primer on Local Currents

Sailing on the Potomac is a 'unique' experience to say the least. Your current strategy will make a huge difference in your finish time. During a 5-mile race where you are averaging 5 knots, you will save 61 seconds if you can reduce the effect of current by .1 knots. The effect is more pronounced for slower races: for the same 5-mile race where you average only 3 knots, you will reduce your finish time by 3 minutes and 27 seconds by reducing the current effect by the same .1 knots. The slower the race, the more the current will affect your finish time. So, it pays to know as much as you can about how the current flows in your racing area, how to 'see' the current, and how the current will affect your boat.

Always keep the current in mind. The current, especially on boats our size, is almost always a major factor in finish times. Remember, the Potomac is tidal, so it flows both ways. Generally, the current is stronger in the deep water and on the outside of a bend. Our racing area has a zig-zag in the channel, which changes where the stronger current is, depending on whether the flow is in or out.

Because we have shallows on both sides of our course, sometimes you want (or need) to cross the current. Cross the current when you have more wind, rather than less wind, if you can. Sometimes, in light air, if you are patient, you can try to time the crossing of current with a puff of wind. This works best downwind, of course, when you can travel with the puff. The faster you can cross the current, the better. Sometimes, you can make a gain by focusing on getting across the current, even if you give up some distance to the mark. Also, try to cross the current when the channel is crossing your course. This would be the 'zig-zag' that is between channel markers 6 and 7.

When the tide is changing, it will change first in the shallower water. There are times, during the change, when you can have current flowing in both directions on the river. This is particularly a factor when there is a lot of water coming out of Great Falls (lots of rain in the area, or on the upper Potomac). I've seen times on the river when, during the incoming tide, there would be 2 knots of adverse current in 7 ft of water, but in 50 ft, it was slack. Often this will result in other boats complaining how lucky you are. Just smile and nod.

The current will also change the way the wind looks on the water. A patch of wind is not always wind. You normally look for the wind by seeking a surface disturbance as it moves over the water. The 'normal' rule is to sail in the stronger ripples and stay away from the flat spots. But, sometimes it is not the wind that creates the stronger ripples. On the river, what looks like a 'stronger wind' can just be an indication that there is more current moving against the wind in that area. Also, a 'dead spot' could mean that there is less current moving against the wind there, and not necessarily less wind. You can use these guidelines the most when you are running downwind against the current. Those dead spots that everyone sails away from many times have the same wind but less foul current. You can freak out your competition by chanting a voodoo curse as you sail by them in 'the flat spot.'

Current will also change the apparent direction of the wind. You will notice this most when sailing upwind. Imagine that you are sailing upwind, against the current. You started on the shallow end of the line and went to 5ft of water and tacked out to deeper water. Just when you are thinking of tacking back to the shallows, you get a wonderful lift.

Everyone knows that you don't tack when you're on a lift right? WRONG. You didn't really get a lift; you just sailed into deeper water and a stronger foul current. Let's try from the other direction. You are in deep water, and you head to shallower water. Oh no, big header. Should I tack? Nope. You just sailed out of the strong adverse current. So, here's what you need to remember: when sailing upwind, a foul current will lift your course, and favorable current will give you a header. Sounds completely backwards, don't it? If you want to know why, come ask me and I'll show you how to do a vector analysis, but your head probably hurts enough already.

So now what? Before every race, you should add the current effect to your race strategy. Every race should start with a 'plan.' Even if you are unsure of your plan, make it anyway. Then if you 'follow the leader,' you can at least see if your plan agreed with the other boats in your fleet. If it doesn't, try to figure out what was incorrect after the race. Soon, you'll be able take advantage of your current knowledge while others follow *you*.