

Riddles of the Sands

The late Ian Proctor described current as a ‘helmsman’s ally or enemy depending on whether the boat is trying to sail more with it or more against it’, and he added that the only way to make it a greater ally and a lesser enemy ‘is to have a better knowledge than your rivals of the way in which currents behave and the effects which they might have on your boat’. Here Keith Walker & Roger Palmer help you out

Some effects are more obvious than others: lay lines to marks will be altered and your position in relation to other fixed objects will change and may keep changing; these will include start lines, race marks, moored boats and, of course, the land.

Boat speed and shifts apart, and when the current is uniform across the race area, your position in relation to other competitors will not change, as you and they are on the same ‘conveyor belt’. However, if current varies across the course you will apply the introductory advice above; when it is against you look for areas of weaker current, and look for the strongest area when it is with you. Your ally, favourable current, will reduce the time on that leg. Your enemy, foul current, will increase the time. Obviously, we want to reduce this time as much as possible

Other effects are more subtle. Current creates a ‘current wind’ as it moves boats through the air; this will change the sailing wind of each boat. For example, a current from the leeward side will free and increase the sailing wind (this was discussed in last year’s article); the reverse applies with weather bow current. A current pushing a reaching boat from the stern will increase and head the sailing wind. The

reverse will happen if the current is from the bow. We have all experienced this effect when reaching in through the harbour entrance; as the flood tide intensifies near the Lifeboat Station, so the sailing wind will move forward.

Of course, it is all very well trying to understand all this theory, but once we are racing out on our beautiful harbour decisions are never that easy! No matter how many races we do there is always a combination of course, current and wind direction which we may not have seen before, or if we have seen them, can we remember which is the best way to go? This is the fascination of our sport!

This scenario occurred in the summer of 2007: We had an upwind leg from a start line on Stocker’s Sands to Sandy (which was to be rounded to port). The wind was south westerly 8 to 10 knots, and there was an hour or so to go to the top of a Spring tide. This is an awkward wind direction as there was no lee bow to be had in either the Emsworth Channel or Chichester Channels.

There were two options. Boats either had to work the shallows and slacker current on top of The Winner (route A) or cross the Emsworth Channel to approach Sandy from the Hayling shore (route B). Each route involved crossing

a strong current. The wind shadow of the HISC Clubhouse is a greater factor than in previous years and more likely to affect the Hayling route. Going up the middle was not an option!

The first option was to sail on port towards Stocker and tack where the main channel is at its narrowest in order to reach the shallow water of the Winner as soon as possible. Further tacks close to the Winner buoys would have to be made before a safe layline to Sandy could be reached. It would be better to over stand in order to approach the mark with speed and momentum for the tack. The strong south going eddy borders Sandy point buoy; once there the port rounding could be made.

The alternative was to sail on port all the way to the Hayling shore. This bold tactic looked disastrous as boats could be swept away to the north very rapidly when they crossed the Emsworth Channel. The temptation here would be to point high to minimise the effect of the current. The real effect of this weather bow current would be to head and reduce the sailing wind so it would be essential

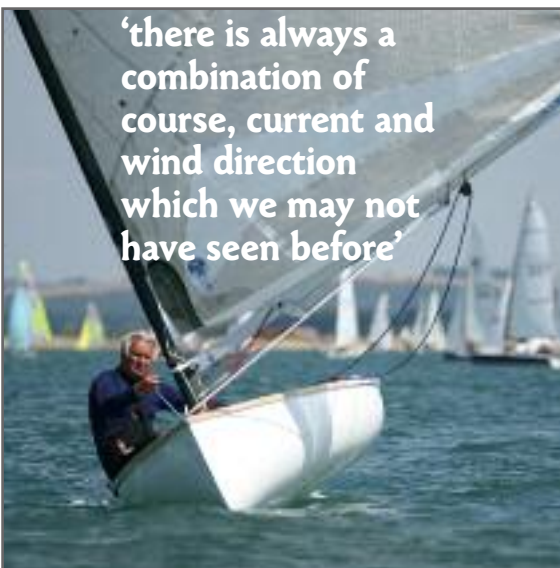
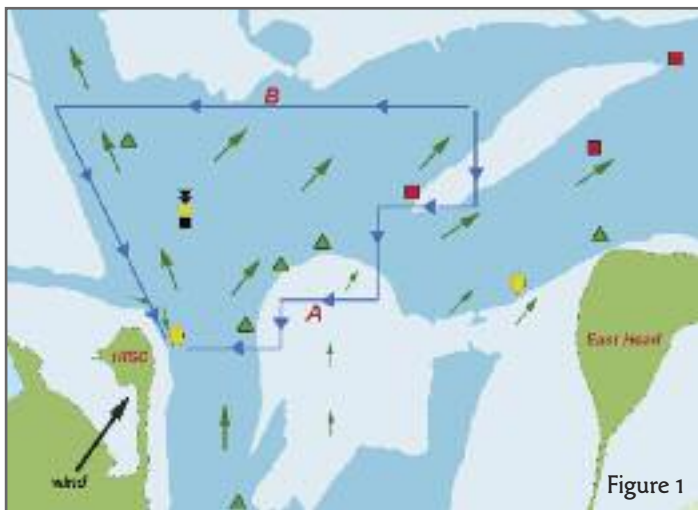
to keep one's nerve and sail fast and 'fat' to cross the stream as quickly as possible. Once inshore of the moorings there would be relief from the current and also the benefit of a strong south going eddy as you approached the end of the moorings.

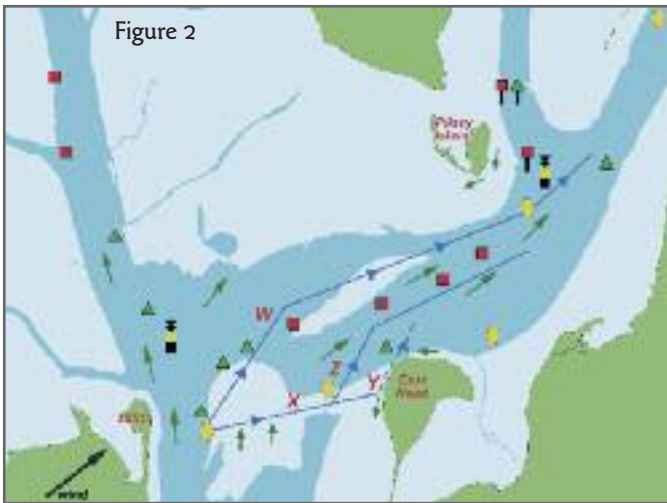
So who did best? It was more or less a dead even but we suspect that had the wind been lighter the Hayling route would have paid.

Flood to ebb, currents in transition - a typical downwind leg in Fed Week

We can set the scene by first looking at the factors which influence our upwind tactics. In a south westerly we usually beat to a laid inflatable in the harbour entrance, or an existing mark such as Calvert. In weighing up our strategy we are aware of the back eddy close to East Head, which begins to run about an hour and a half before high water (the bigger the tide the earlier the eddy starts). Less obvious is the counter current which runs strongly on the southern point of Pilsey Island. When the wind is more west than south west, the Pilsey route can pay, depending on the position of the windward mark.

As high water approaches, these eddies grow. They become stronger, longer and wider, and eventually develop into the complete ebb current. The East Head eddy is a good example; soon after high water it ex-





Chichester Channel north of the Stocker's bank, this would give an effective sailing angle towards Thorney and beyond. Do not leave your gybe so late that you end up sailing against the foul current which will be pouring around the tip of Pilsley Island; this is more likely to be an issue if you have an asymmetric spinnaker as you may be tempted to sail to the 'corners' of the leg, especially if Park is the leeward mark.

If you had left Calvert on starboard gybe (route X) you would have had weather bow current; (remember the current has shifted the sailing wind towards the west), there would be more traffic and, most important, you would risk positioning your boat so that you end up dealing with the strengthening foul current on the corner of East Head (route Y). If for other tactical reasons you have to start the leg on starboard, it is very important that you gybe early enough to avoid the East Head eddy and the crush of other boats sailing upwind (route Z).

tends south westerly towards Dunes and also runs strongly to the south next to the beach (as discussed in last year's article). It demonstrates the well-established phenomenon that the current generally changes inshore first, though, in the case of East Head, there may also be topographical factors involved.

Our tactics for the downwind leg from Calvert to Thorney or Park will depend on where we are in the tidal cycle. With between two hours and one hour to go the flood will be dominant throughout the harbour; sailing down wind we would, in general terms, avoid the slacker current at the edges of the channels and simply stick to the main stream.

In the hour before HW which is often around the time we would sail this leg, the main flood will still be running strongly; it will generally pay to leave Calvert on port gybe (route W) to avoid most of the upwind traffic and in so doing the current will be on your leeward side; the south westerly will be veered more to the west by the north going flood. Depending on shifts and traffic you can later gybe on to starboard when you are in the main stream of the

In the hour after HW it will still pay to avoid the edges and the corners at Pilsley and East Head. Obviously, the point will be reached where the main ebb current is dominant and, ultimately, you will have no choice but to seek the weaker current at the edges of the channels. This is not a common scenario in Fed Week as we are normally ashore at this stage!

In the next issue we will look at how the conventional tactics for Spring tides subtly change at Neap tides. In addition we will consider situations where sailing in the strongest favourable current is not always the best option. ❁

In a sailing career spanning over fifty years Keith Walker has raced everything from Fireballs to Maxis. He has been a member of HISC since 1969 and knows most of the harbour well. He has accumulated a large number of Fed Week plates. Keith has raced countless miles offshore including many Fastnet races. He navigated the overall winner in 1993 and the first British boat home in 1997 and has twice been a member of the winning Commodores Cup team. Keith has had articles published on tactics for the Round the Island Race and also for the Fastnet Race.