



Which Way Shall We Go?

As the tides flood and ebb, the surface of the water on which we race moves under the boat and is a major factor in determining the outcome of the competition. *Roger Palmer* and *Keith Walker* give advice on tidal tactics in Chichester Harbour

Some tidal advice is self evident such as avoiding strong adverse flow when sailing into the current and using the strong flows when these are favourable. When a course involves crossing an adverse stream it is better to limit the number of times the adverse flow is crossed.

The flow varies across the channels, being strongest in the middle and tends to be strongest towards the outside of the bends in the channels such as at East Head, Park, Cobnor and Sweare Deep. In the main, tidal flows follow the contours of the channels but changing tidal angles at the bends in the channel are also there to be avoided or exploited.

Where the tidal flow diverges as it does on the flood at Fishery buoy, there is a fan effect where the incoming flow spreads out like a fan. The use of these varying angles can make a great deal of difference.

However, the more interesting problems occur when the tidal flows are across the direction of travel.

The use of the lee-bow effect is central to maximising the effect of current flow. Basically if, in an adverse current and sailing to windward, you are able to point your boat to windward of the current angle, in other words the current is pressing on your lee bow, then you will have the extra pressure in your sails and be able to sail a more advantageous course to marks located in the channels. The tide under your lee bow will push you up to windward while the increased pressure in your sails also makes the boat move forward faster.

Let us now look at some examples and tackle the tidal problems of racing in Chichester Harbour.

Use of lee-bow approach in fan tide

Example 1 Where the tidal flow spreads out such as near Fishery Buoy on the flood there is a fan effect, one element going on to Emsworth at one side while the other part turns through 90 degrees to flow east towards Chichester (see fig 1).

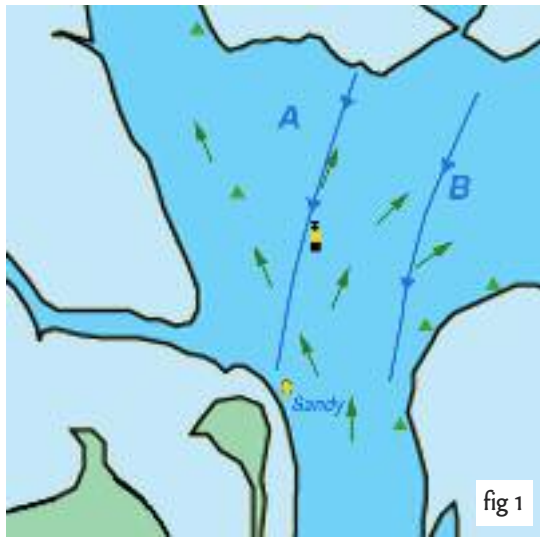


fig 1

The lee-bow approach is central to approaching Sandy mark off HISC and in rounding any mark when beating across an adverse current. In addition, when beating with the tide, this lee-bow effect delivers one of the main benefits of sailing over the Winner bank on the ebb tide from East Head to Treloar, Calvert or Sandy marks. Rather than staying in the main channel with the tide directly under the boat, a parallel course over the winner bank puts the boat into a strong lee bow situation.

In this article we will deal with the approach to Sandy from the east on a flood tide. The course requires boats to approach Sandy in a westerly wind on the flood.

Leave the Winner bank near Mid Winner and sail on port tack towards the Fishery area. Tack and the incoming tide will make the sailing angle to round Sandy to starboard with no further tacking. The two courses illustrated in fig 1 show the effect of a boat going far enough to the west to obtain the lee-bow effect (course A) whilst the boat that tacks earlier is steadily pushed back and away from the track to the mark (course B).

If in doubt it is better to overstand the mark rather than tack short of it.

Planning your windward course between two buoys some distance apart in an adverse tide

a number of considerations have to be taken into account:

What is the state of the tide? At low water or half-tide only a limited area of shallow water is available to escape the worst tide whereas there are far more extensive areas near high water.

Does the wind angle favour one bank more than the other? If the wind and the channel are not exactly in line, a long and short tack is likely to favour one side over the other.

Are the buoys closer to one bank than the other? How will you get from the first buoy to the shallows and how will you approach the next mark out in the tide? Is there likely to be a lee bow effect when crossing the tide to the buoy? If there is no lee bow to be had it is best to cross the tide fast and not hang about in a bad place.

Example 2: I wish to sail against the south-westerly wind from Park mark towards Elnanore mark which is on the east side of the same channel not far from East Head mark. Which side of the reach would I go for and why?

Fig 2 shows two choices. Firstly, to evade the current by taking the west side and tacking up the shallows off the tern colony by the stakes, crossing the spit near Astra and thence to the Pilsey Island shore where the tide can be avoided. A starboard tack up the Pilsey shore

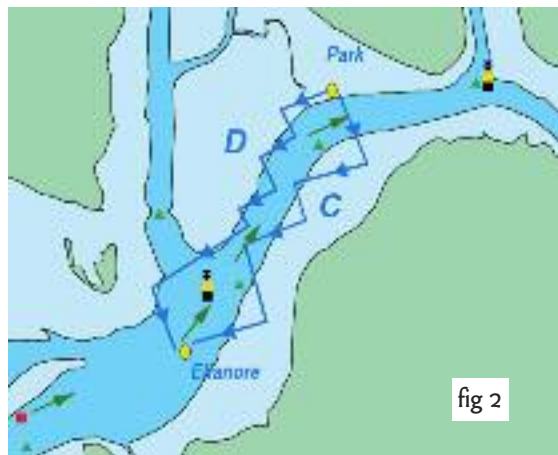
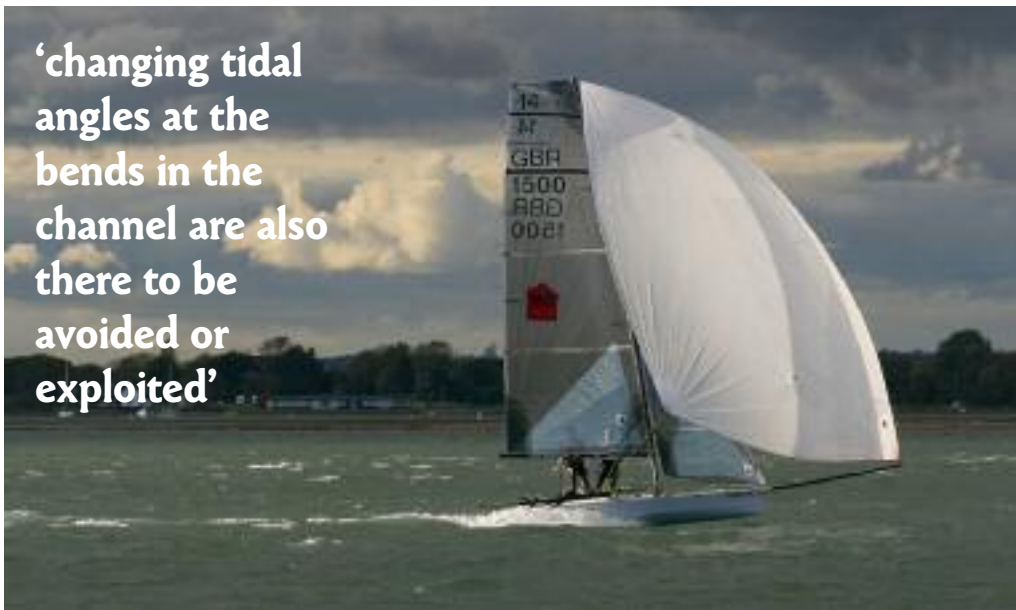


fig 2

‘changing tidal angles at the bends in the channel are also there to be avoided or exploited’



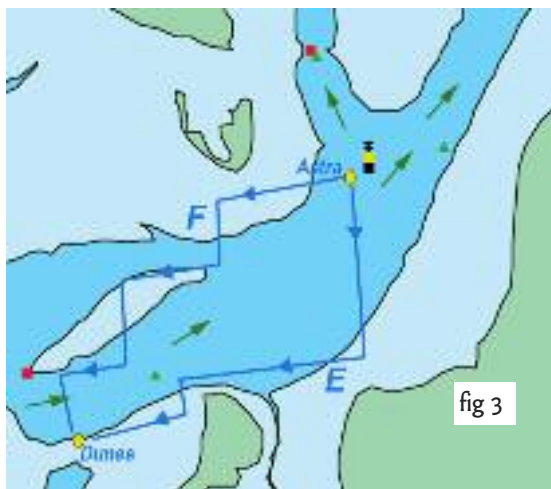
leads to a long board on starboard tack across the channel towards Ellanore (Course D).

The alternative is to tack towards the east shore and tack up the shallows until longer tacks can be had near Rookwood/Peacock marks (Course C). After a few more tacks the Ellanore mark is ready to be rounded. Always do tacking out of the current, overstanding the mark if necessary. An extra tack in the strong adverse flow is a slow manoeuvre.

Generally this second option, course C, will be best as it involves using slacker water on the inside of the bend and there is more shelter from the tidal flow on the shallower sloping east bank. The point of leaving of the bank is easier to judge as the Ellanore mark is positioned over on the east side nearer the bank.

If the mark to be rounded had been Thorney, the west bank would be favoured because of the closeness of this mark to the Astra area and the alternative course to the Rookwood shore (course C) would involve two crossings of the flow as against one on the west side.

Example 3: I wish to sail from a start line near Astra buoy to Dunes buoy on the Winner bank in a south-westerly wind on a flooding tide.



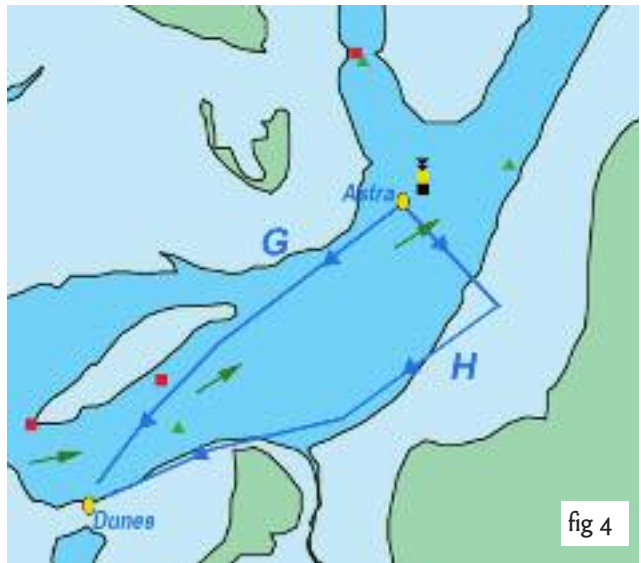
Should I take the eastern side and travel across the adverse stream to the Ellanore shore then tack around East Head before crossing to Dunes (course E fig 3) or should I work the Pilsey shore and then work over the Stocker bank to the red buoys and cross over to Dunes (course F fig 3)?

Option E entails the loss of position in crossing the adverse flow of the main flood in Thorney and Chichester channels shortly after the

‘it is more advantageous to have the tide pushing the boat from one side’

start; whereas option F brings greater exposure to adverse flow over the Stocker bank.

Here, lee-bow consideration of the course over the tail of the Stocker bank will dictate the answer. If the boat on port tack can point above the direction of the current as in fig 4 then Stocker bank will pay (course G). Otherwise the shelter of East Head with its reverse eddy running inshore will more than compensate for the extra distance sailed (fig 3 course E). Figure 3 shows the wind more in the south west whereas in figure 4 the wind swings more to the south allowing the lee-bow to favour the direct route on the Pilsley side (course G) over the East Head side (course H).



favourable bend it is better to go towards the inside and then out across the exit flow. This increases the apparent wind in the sails and is a useful tactic when going with the stream around the change in direction off East Head and at Park.

In general terms it is more advantageous to have the tide pushing the boat from one side than up the transom.

Articles and examples of this will appear in other scenarios in future editions.

Running

When running it is best to get an angle on the flow. This increases the apparent wind and results in an increase in speed as most boats reach a good deal faster than they run. In a

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