

EastCoastSailing

The online magazine for East Coast sailors

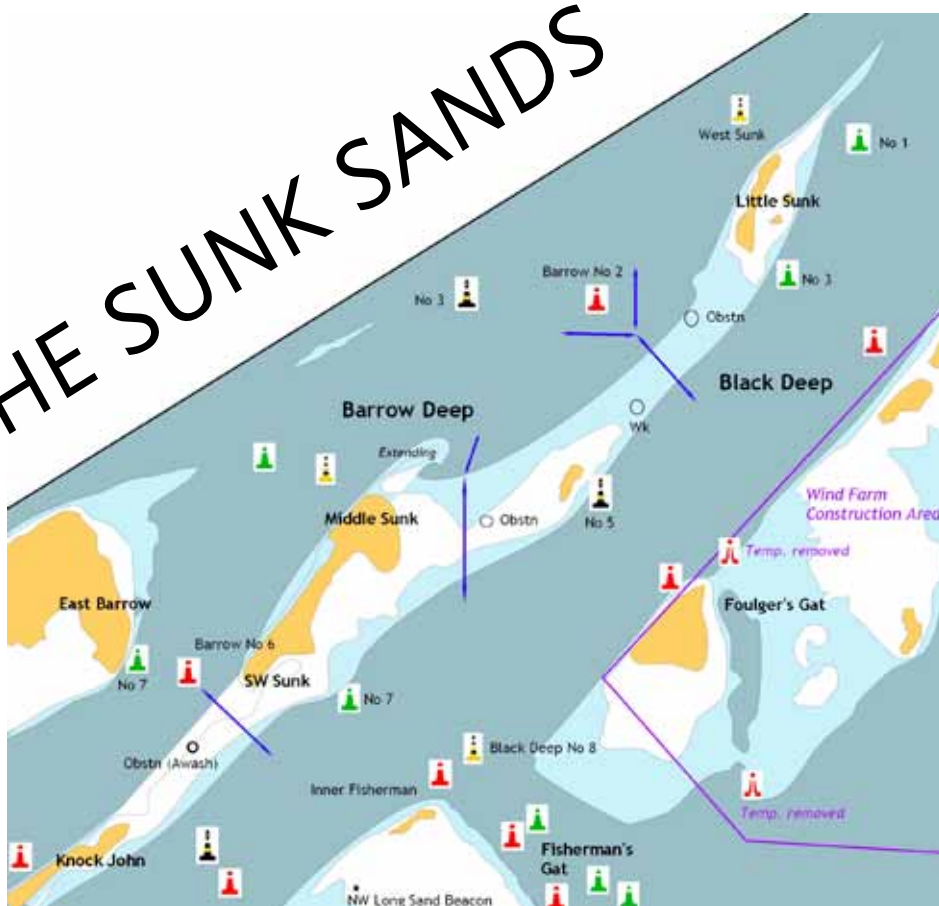
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In any passage across the Thames Estuary – north or south, to or from the Essex and Suffolk rivers – the navigator has to consider how, amongst other things, to cross the Sunk

CROSSING THE SUNK SANDS

Here, **Roger Gaspar**, author of *Crossing The Thames Estuary*, explains the pros and cons of each possible route.



The Sunk is a substantial obstacle sitting across the middle of the inside routes, largely hidden but for tide rips, changing wave patterns at the steep-to edges, or knolls of hard sand briefly exposed at low water springs.

There used to be two convenient beacons to assist us, but both, erected in the 1950s, have collapsed. While these beacons were never erected as a guide to the swathways, but rather for Admiralty surveying practice, they were useful visual marks to reassure the navigator in what otherwise looks like a broad, clear expanse of water.

GPS is perhaps not essential for getting round the Estuary – there are plenty of buoys about – but none of them currently marks a transit across the sands; neither can we find useful transits in the wind farms on the Gunfleet or Kentish Flats, so GPS is certainly more than merely useful if advantage is to be taken of a shortcut across the Sunk.

Why cross it?

Unfortunately, the Sunk Sand sits as a barrier across the middle of the Estuary. Go round it and you have a long trek along the West Swin with,

for those bound to or from the North Foreland, the inevitability of some foul tide to be taken somewhere on the passage and at least 13M extra to sail. To the east is not so bad, for those sailing to and from the Suffolk rivers, but for the Essex rivers, going round the Sunk Head adds over 14M, albeit with a chance of favourable tide all the way. The potential to save up to three hours on a crossing merits a look at the Sunk Sand and the possibilities for crossing it.

The Sunk Sand

The Sunk Sand is just over 20M in length if we include the Knock John Sand at its SW tip (at Knob Gat) and its northwest point at the Sunk Head Tower. It comprises a number of sands – from southwest to northeast:

- North Knob charted as drying 1.7m*
- Knock John charted as drying 1.3m*
- A charted drying patch of 0.5m adjacent to the wreckage of the old South West Sunk Beacon (rarely seen in my experience)*
- SW Sunk itself charted as drying 1m*
- The Middle Sunk drying 1.8m*
- A drying patch of 0.6m adjacent to the Black Deep No.5 ECB*
- The Little Sunk drying 1m*

Between these 'knolls' lie waters of

different depths, which provide us with some opportunities.

These charted drying heights are a record at a moment in time. The latest Admiralty Chart records detail from surveys completed between 2003 and 2006; at best five years ago. Yet

Gone! The SW Sunk beacon. It now lies collapsed on the seabed, a potential hazard.



Photos © Roger Gaspar

this is an area in which the sands continue to move. Not perhaps with the frequency of the Knolls off the Ore and Deben, but a UKHO survey of the Black Deep in 2008 demonstrated that the Little Sunk had expanded into the Black Deep near the No.3 buoy by 190m since 1996 (16m per year). The Middle Sunk has also extended a finger northeast along the edge of the Barrow Deep in way of the Barrow No.4 WCB in a similar period, while in the North Edinburgh Channel it is estimated that some 6,000,000m³ of sediment moves per year within a 4km strip.

The Choices

All of the visible marks on the Sunk Sand have disappeared now and the authorities do not survey the sand beyond where it meets the deep water channels, so what's to be done? Let's unpick the choices. Assuming a crossing either side of the Knock John to be too far west to be of value to us, there are three reasonably well known opportunities: adjacent to the Barrow No.2, at the Middle Sunk and at the South West Sunk.

Crossing by the Barrow No.2 (Fig 1)

The crossing of the Sunk Sand adjacent to the Barrow No.2 is the most northeasterly option, particularly suited to those coming to or from the Suffolk Rivers. For those using the Essex Rivers it adds about 3M

over the most direct option, more if Foulger's Gat cannot be used.

It is across a generally flat bed of sand between two shallow dangers just over 1M apart on the sand. Although charted at between 2.4 and 2.9m, there are reports of not less than 3m at CD in 2008, coming direct from the Inner Whitaker, and 4+m in 2006 from the Spitway. The Black Deep edge is steep to, which can provide an interesting popple at the edge in a fresh southeasterly. Although 'labelled' the Barrow No.2 crossing point, visual marks are distant and transits non-existent. The Barrow No.2 from the Black Deep side of the Sand is just under 1½M away, but as the chart shows it is not necessary to go to it. The Black Deep buoyage is similarly too far away to provide any useful visual transit. Use of GPS and a target waypoint is therefore important.

The waypoint indicated in the Black Deep is a convenient extension of the transit through Foulger's Gat and positioned for a choice of direct rhumb lines to the Inner Whitaker or Swin Spitway. For those bound to or from the Suffolk rivers, a second waypoint is provided to clear the obstruction on the sand to the northeast. These waypoints should be checked and amended as required for personal preference.

When Foulger's Gat was in full use, this crossing point was ideal for those coming to and from the Suffolk rivers

being the shortest inside route. Care had to be taken crossing the Black Deep to avoid the tide taking you off transit from the Long Sand Inner safe water mark and to avoid the heavy commercial traffic that frequents the main channel. Now, with the Foulger's Gat uncertain and the safe water marks removed, those heading south will need to arrive at the Black Deep waypoint on the flood and those heading up the Black Deep from Fisherman's Gat for the waypoint will prefer the ebb. Bear in mind that the third hour of the spring flood in this area can run at 2.6kn and the second hour of ebb at 2.1kn.

The Middle Sunk (former 'Sunk Beacon') route (Fig 2)

This route across the Sunk Sand never seemed to be as popular as either the old SW Sunk crossing point or the Barrow No.2. That always seemed a little odd, because in the past it was well marked with the Sunk Beacon and has reasonable depths. Experience from users this year suggests that there is not less than 1.75m at CD over the Sunk at this point. However, this crossing has not been surveyed.

Two problems confront us today. First, the Sunk Beacon has collapsed in on itself and is unmarked. We have reports that the stump has been seen about an hour after low water springs, so knowing your position and that



Fig 1

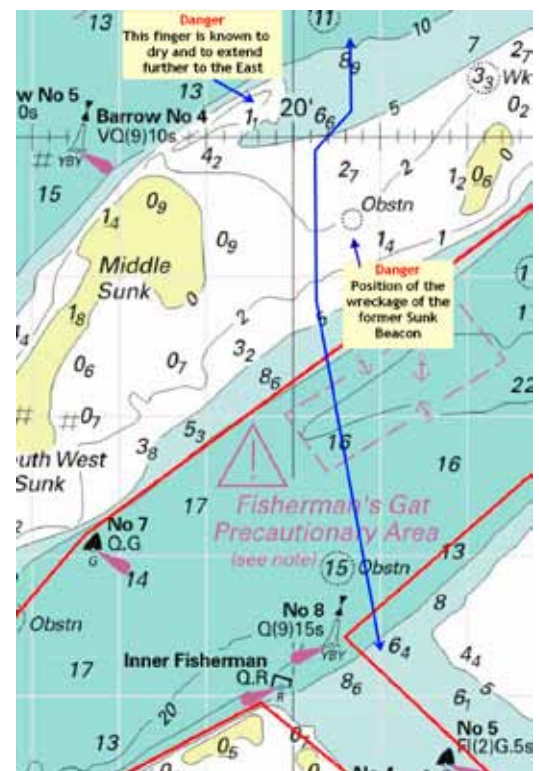
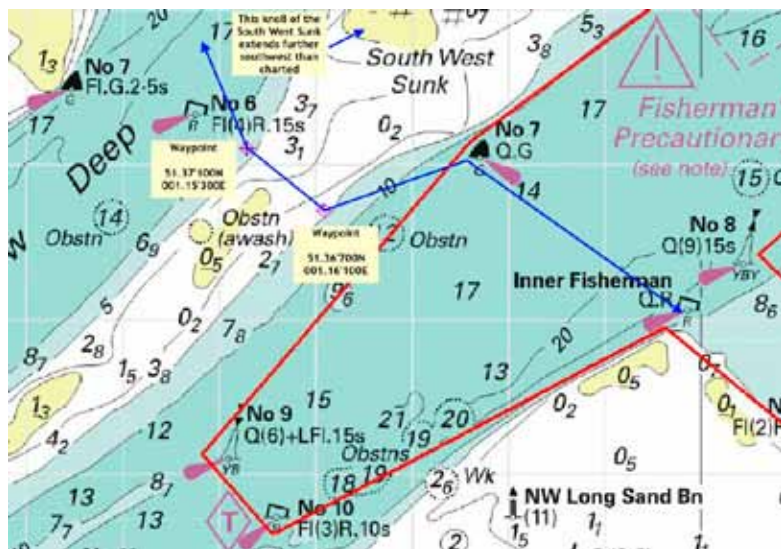


Fig 2

Chart images based on Imray ID10



◀ Fig 3

of the former beacon is essential. Second, the Middle Sunk has been growing inexorably over the last 10 years, producing a finger of hard, drying sand that now extends due north of the former position of the beacon. Seals have been observed basking on this extension of the Middle Sunk, again an hour after low water springs.

It is clear that this 'finger' of the Middle Sunk now extends further to the east than shown on current charts. There is a way round this to the east, but it needs to be remembered, because it is easy to assume (travelling north) that you have reached the edge of the Barrow Deep as the water deepens after passing the position of the old Sunk Beacon. You haven't!

The nearest marks are the Barrow No.4, the Black Deep Nos.7 and 8. None provides a transit or start/finish point, although the Black Deep No.8 is useful for visually checking cross track error caused by tide as you cross the Black Deep.

The joy of this crossing point is that to or from the Essex rivers, it is in line with Fisherman's Gat and pretty direct, saving 2.5M over the Barrow No.2 option. Whilst yachts have proved this year this is passable, it is still, perhaps, not one to be recommended for first time crossers.

The South West Sunk (Fig 3)

Once a very regular crossing point, the collapse of the SW Sunk Beacon, to lie as unmarked wreckage, awash, changed opinions. The old crossing point was close to the beacon, although both sides were used. Given the pile of wreckage on the seabed,

nobody would now recommend crossing close to the site of the old beacon. Indeed, there are positive warnings to avoid the wreckage. However, come half a mile northeast and there is a usable swatch of about ½M width, ¾M across the Sand with at least 2.5m at CD.

The key to this swatch is the Barrow No.6 PHB, which for once is a mark in a useful position. A track of 130°(T) from the Barrow No.6 follows the swatch and, when crossing southwards in clear weather, there's the handy sight of the NW Long Sand Beacon in the distance on the other side of the Black Deep.

Assuming no tide, that beacon will lie 10° off your starboard bow; but beware, the Barrow No.6 is tethered in 20m in the Barrow Deep where tides can run at 2kn on the flood and 1.9kn on the ebb. The effect of the tide reduces dramatically as you pass into shallower water, but initially, as in the case of all of these crossing points, you will need to note the effect of the tide and steer to offset it. The great advantage of starting from the Barrow No.6 is that it is the best crossing point for providing a clear point of reference upon which to judge the impact of the tide.

A downloadable chart for this crossing point, based upon soundings taken on 12th May, 2011 is available in PDF format at www.eastcoastsailing.co.uk/chartlets.html. The following waypoints are suggested at either side of the Sand at this point:

Barrow Deep side: 51°37'.100N, 001°15'.300E

Black Deep side: 51°36'.700N, 001°16'.100E

It's a great shame that you can't do

a simple transit between Barrow No.6 and Black Deep No.7, but don't try it, you can't! It would set you on the edge of the knoll at the SW Sunk. The chances are, below half tide, you will be able to see the tide rip on this knoll. Nor is there a useful transit with the avenues of the Gunfleet Wind Farm when sailing north.

In the direction of the wreckage of the SW Sunk Beacon, the water can be featureless, which reminds us how useful the old survey beacons were. To the south, the Black Deep No.9 SCB may be just visible from the Barrow No.6 – not to be confused with the Black Deep No.7. As in the case of the No.7, do not use it as a transit from the Barrow No.6 to the Black Deep No.9. It would take you over shoal water and the wreckage of the old beacon. Coming south, head from the Barrow No.6 to the suggested waypoint on the edge of the Black Deep, which should be your starting point if going north.

Once in the Black Deep, take stock of the commercial traffic. It's large and fast. This is the Fisherman's Gat Precautionary Area and the Black Deep is 1.5M wide here. To go direct from the waypoint to the Inner Fisherman PHB is 2.4M. Yachts definitely come second in priority, so struggling diagonally across 2.4M of the Black Deep against the tide ahead of oncoming traffic will make you unpopular, unsafe and probably get you a badge for poor seamanship.

Getting to the Sunk Sand

There has always been a decision for the navigator as to which of three possible crossing points to take over the Sunk Sand. That choice is generally influenced by the route taken north and south of the Sand. To the south lies the Long Sand with three obvious routes; to the north the East Barrow Sand, which is easily skirted. The three obvious routes through the Long Sand are the un-buoyed North



The crucial Barrow No.6 PHB.

Edinburgh Channel, Fisherman's Gat and Foulger's Gat.

The North Edinburgh links up with a crossing point over the South West Sunk, Fisherman's Gat either to the South West or Middle Sunk while Foulger's Gat was ideal for those wanting to cross the Sunk Sand adjacent to the Barrow No.2 PHB or to make passage in the Black Deep and round the top of the Sunk Head towards the Suffolk rivers.

The buoyage in the North Edinburgh Channel was removed by 2000 and any remaining visual help from the Knob Channel buoys went in November last year. Although there is nothing to stop yachts continuing to use the North Edinburgh, the lack of visual marks is a handicap exacerbated by the use of the centre of the old channel as a spoil dump for material dredged from the Princes Channel. There are also reports that the channel is migrating eastwards.

2011 has added one additional consideration with the construction of the London Array making use of Foulger's Gat uncertain. The removal in May of the two Long Sand Safe Water Marks is a clear clue that the

authorities would prefer us to stay away from the Wind Farm construction site, although the only mandatory restriction is to conform to the safety rules. During construction this is an exclusion zone of 500m radius around wind turbine foundation structures and the offshore substation platform and 50m radius around all wind turbines, met masts, offshore substation platforms and associated foundation structures once installed, complete or incomplete. This certainly means that when the construction teams are working adjacent to Foulger's Gat, it will be closed to us.

Although we have been officially encouraged to leave Fisherman's Gat to the professionals in previous years, improvements in Prince's Channel seem to have reduced the traffic through the Gat and there is ample room outside the buoyed channel to keep out of the way. The exception to the 'ample room' statement is the corner inside the Inner Fisherman PHB where the Long Sand is shallow and steep to at the corner between Fisherman's Gat and Black Deep. Since this is a sharp turning point for commercial vessels, it is incumbent

upon on us (and sensible) to stay out of the way of any traffic.

Listening to London VTS on Ch 69 has two benefits: each ship reports her movements at various points in the estuary and you can get a picture of activity, albeit that listening to the clipped professional transmissions is an acquired skill; also though, London VTS broadcasts tidal heights above chart datum at four tide gauges at 15 minutes to and 15 minutes past hour. Add the height at the nearest gauge to the expected depth over the Sand for greater confidence.

Making a choice

So which is best? The SW Sunk has been checked this year and is viable. It is the shortest route for the Essex rivers and links up nicely with Fisherman's Gat and the skirting of the East Barrow, which gives a nice lee in strong southwesterlies. The Barrow No.2 will be the preferred choice still for the full inside route for the Suffolk rivers and remains feasible if slightly longer for the Essex rivers. The Middle Sunk is a central option for both Suffolk and Essex rivers, but is probably the bravura choice. **ECS**

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