The Ray Sand

Thames Estuary Crossing

000.57.000E 000.57.500E 000.58.000E 000.58.500E 000.59.000E 000.59.500E 001.00.000E 001.00.500E

51.41.000N 51.40.500N 51.40.000N 51.39.500N 51.39.000N 51.38.500N 51.38.000N

Ray Sand North
'Ron Pipe'
Ray Sand North SWB
51.40.70N 000.59.50E

Ray Sand Middle
Ray Sand Middle SWB
51.40.00N 000.59.00E

N

Ray Sand

Buxy No 2
Q

Outer Crouch No 1
Fl.(G).5s. 1.5M

Outer Crouch No 2
Fl.(R).5s. 1.5M

Outer Crouch No 3
Fl.(G).10s. 1.5M

River Crouch

Ray Sand buoy is at 51.39.08N 000.59.280E. (NtM 4836/2020) Subject to your draught, the 001.00'000E meridian is a half-tide route all the way to the Blackwater including crossing and also once clear of the Ray Sand.

Notes

Depths in metres reduced to CD based upon tidal data provided by the Port of London Authority tide gauges. Positions to WGS 84 datum.

Soundings taken 3rd, 17th and 24th July, 2019

Caution
Soundings taken on leisure equipment. Whilst every care has been taken in the preparation of this data, it cannot be guaranteed that these depths will remain. Contours are hand drawn.

Ray Sand 2020 V1

www.crossingthethamesestuary.com

Notes on the Ray Sand

The Charting Process

The chartlet overleaf comprises data collected on 3rd, 17th and 24th July when over 20,000 soundings were collected. The data collection comprises a series of north-south runs approximately 290 metres apart. One sounding is collected every second so one sounding was collected every 2 to 2.5 metres. The chartlet uses a selection of 511 soundings. The contours are hand drawn, merely to illustrate the profile across the sand.

The last run on 24th July was at local low water (neaps) for a visual opportunity as well as soundings. Amongst other useful data, that run illustrated that it was obviously better to use the 001°00'00E meridian rather than the line of the Safe Water Buoy line if your draught brings you into cautious territory. A reader might well ask why the contours for the drying 1.5m+ on the 001° meridian is isolated. Looking south – this was LW Neaps - it was obvious that the ridge dipped between that isolated contour and the large ridge on the safe water mark line as there was still some water in between. But it was obvious it was only a matter of inches. The visual inspection also shew that the ridge peaks just in from of the Ray Sand Middle SWM:

The image is over ½ nm distant so the small camera used was at the extent of its ability. Note: at the time the photograph was taken the Middle Ray Sand buoy was on the 000°59'.000E meridian. It is now positioned on the 000°59'.000E meridian. Note also that NtM 4836 of 2020 reports that the Ray Sand is located at 51°39'.08N, 000°59'.28E. The old Ray Sand buoy had had to be replaced because of age and the replacement buoy had a small change of position. The chartlet above has been revised.

Chart Datum

All soundings are reduced to chart datum in metres based on actual rather than predicted tidal heights. The Port of London Authority tide gauges at Walton and Shivering Sands are used and then the data is extrapolated based upon Admiralty Co-Tidal chart data. The advantage of three separate runs permits a cross check on the extrapolation and I confirm the correlation was good.

The Best Line

The best line is to use the 001°00'00E meridian. The sand 'peaks' at 1.6m drying along that meridian but for only about 22 metres. The difference between the worst drying sand between the 001° meridian and the safe water buoy line (which 'peaks' at 2.1m drying) is 0.5m. West of the safe water the worst drying sands vary between 2m to 2.2m. The Sand is quite uniform so normally if you have sufficient height of tide at the time adhering to a pedantic line of meridian would not be necessary.

Also before or after the Ray Sand, the best line along Dengie is the 001°00'000E meridian. Obviously aiming for the Ray Sand will not be before or after half-tide when there would be enough water.

BUT NOTE PLEASE:

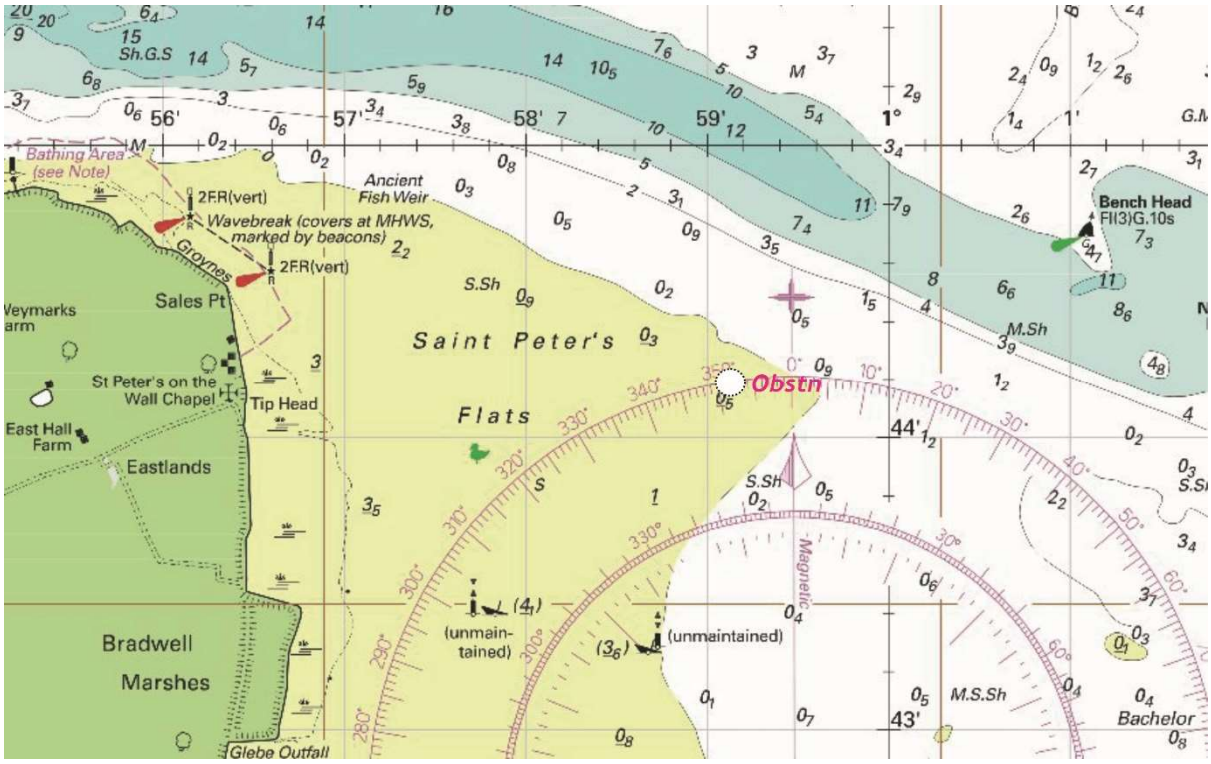
A local oyster fisherman has located a dangerous obstruction on the point of St Peter's Flat. The location (which is shown in the image overleaf) is 51°44'192N, 000°59'156E. The one degree meridian is clear of this obstruction but do NOT cut the corner! The obstruction is an engine and associated structure 1 metre high, 3 meters approx. in length.

The Tide

The quick, easy guide for height of tide at the moment is to listen to VHF Channel 69. Every 15 minutes before and after the hour, the Port of London VTS broadcast live tide heights at four locations: Walton, Margate, Shivering Sands and Southend. The information will be a clipped broadcast: e.g. "Walton 1.4, Margate 1.3… etc.". You will have, at least, that Walton height of tide at the Ray Sand at that time. Although the tide is 25 to 27 minutes later at the Ray Sand, the range of tide at the Ray Sand is about 1.2 of Walton so the Walton height of tide at the moment is a reasonable rule of thumb.

Approx. MHWS at the Ray Sand = 5.04m, MHWN = 4.42m (based on the standard port, Walton-on the-Naze). As a reasonable approximation, multiply the predicted tidal height at Walton by 1.2 for the Ray Sand.

The obstruction location 51°44'192N, 000°59'156E.



Courtesy of Imray

Safe Water Mark location

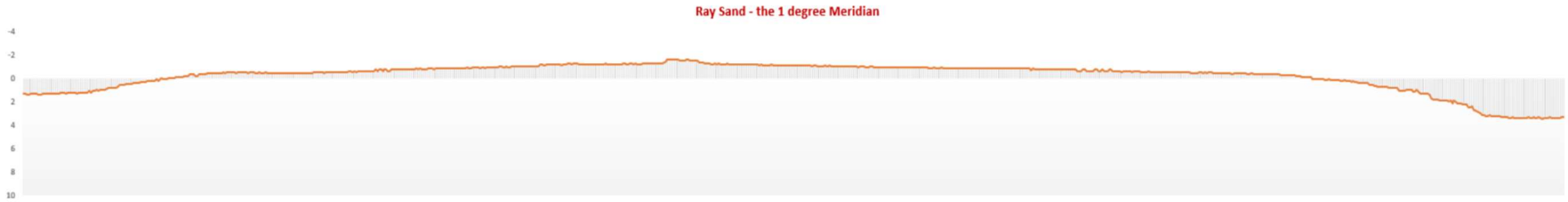
On 31st October, 2019, the Ray Sand Middle safe water buoy went out of position. The official position was recorded as 51°40'00N, 000°59'00E but when I did the survey we noted it as at 000°59'50E. Anyway, the Crouch Harbour Authority notified mariners that the Middle safe water buoy was back in place at **51°40'00N, 000°59'00E**. Personally I would not want to use that meridian if the height of tide that day was tight. The chartlet is amended to the 'official' position.

Profiles

See overleaf.

Please note: Height is exaggerated against the width.

The small ‘peak’ of 1.6m drying on the 001° meridian is obvious.



The Ray Sand North (Ron Pipe) is in approx. 1 m of water chart datum. The Ray Sand Middle dries about 1.9m just south of the ‘peak’ of 2.1m drying. (Note this image is based on data in July 2019, so the Middle SWM has been moved to the west).