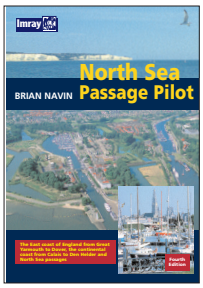

NORTH SEA PASSAGE PILOT

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Caution
Every effort has been made to ensure the accuracy of this supplement. However, it contains selected information and thus is not definitive and does not include all known information on the subject in hand. The author of this supplement and Imray Laurie Norie & Wilson Ltd believe it to be a useful aid to prudent navigation, but the safety of a vessel depends ultimately on the judgment of the navigator, who should assess all information, published or unpublished, available to him/her.

The last input of technical information was July 2007.

THE NEW SUNK TRAFFIC SCHEME AND THE PASSAGES TO AND FROM ESSEX WHICH CROSS THE SCHEME (Nos 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18)

In addition to the Plan included with this supplement it is recommended that you read this in conjunction with *Imray Chart C1 Thames Estuary, Tilbury to North Foreland and Orfordness*. (Edition June 2007) or *Admiralty Small Craft Chart 5607* or the appropriate Admiralty Standard Charts.

The new Sunk Traffic Scheme adopted by the International Maritime Organization and implemented on the 1st July 2007 covers a wide area lying across the north-western end of each of these 11 passages previously recommended in the 4th edition of *North Sea Passage Pilot*. The remaining passages (Nos 1 to 6, 8 and 19 to 22) are not affected.

Because of the increasing amount of commercial traffic particularly to and from Felixstowe and Tilbury the new precautionary areas and associated traffic separation schemes are extensive and impossible for small vessels to avoid completely without considerable diversions northwards or southwards. This note provides suggestions on how to modify the previous passage plans in order to minimize the length of time crossing the area. Alternatively, you may prefer to take the long way round via Calais and the Belgian coast to the south or via IJmuiden and the Dutch coast to the north. As a skipper it is your responsibility to adapt a plan appropriate to your own, your crew's and your boat's capabilities, and to the weather and state of tides at time of passage. These notes are a stimulant to planning, to be used with caution and not slavishly followed in terms of precise tidal timings or of indelible lines drawn on the chart.

Aide memoire: Traffic separation schemes, precautionary areas and International Regulations for Preventing Collisions at Sea.
I assume your vessel is less than 20 metres in length or is a sailing vessel (with an auxiliary engine which, despite the lack of specific mention of this in Rule 10 of the International Collision Regulations, is essential in light or adverse winds). In planning a passage across the Sunk area remember **Rule 10 only applies to the traffic separation schemes within the area, and is not generally applicable to the precautionary areas.**

Rule 10 says that these small vessels shall not impede traffic following a separation scheme and that all crossing vessels should cross so far as practicable at, what is now generally interpreted as, a right angled aspect to the traffic flow (i.e. regardless of current or wind drift). The rule also says vessels not using traffic separation schemes should avoid them by as wide a margin as possible, and when navigating in areas near the termination of traffic separation schemes shall do so with particular caution.

Precautionary areas are associated with traffic separation schemes where traffic lanes cross or converge so that proper separation of traffic is not possible. The SOLAS regulations say that ships should navigate with particular caution within such areas and if not making use of the associated schemes or deep-water routes, should avoid them, if practicable.

SOLAS also warns that where there is a heavy concentration of shipping adhering strictly to rules 5 to 8 of the Regulations - referring to Lookout, Safe Speed, Risk of Collision and Action to Avoid Collision – is particularly important, and also the other Steering and Sailing Rules covering vessels in sight of one another and in restricted visibility and at night.

The New Sunk Precautionary Area and the Traffic Separation Schemes

In or in the vicinity of these areas all vessels, where VHF radio equipment is fitted, are to monitor VHF Ch14 (Call Sign: Sunk VTS, ☎ +44(0)1255 24300), so this applies to virtually all small craft in the vicinity.

Precautionary Area

This now extends about 10M eastwards through the gap between the Shipwash and Long Sand shoals across almost to the end of the Inner Gabbard shoal. It is virtually impossible for a small craft heading in either direction between the Essex Rivers and Belgium to avoid crossing some part of it to miss the shoals. It is divided into two sections: a western 'Sunk Inner Precautionary Area' lying across the

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exits from the Wallet, Kings Channel and Black Deep channels; and a larger eastern 'Sunk Outer Precautionary Area' 4-7M wide and extending about 12M from north to south midway between the Long Sand and Galloper shoals. The Outer Area has a focal point in 'Sunk Centre' (Fl(2)20s, Horn(2)60s, Racon Morse 'C'), the old Sunk Light Vessel which has been moved 7M eastwards and now has a 1m diameter circle round it which is an 'Area to be Avoided'. Sunk Centre, in effect, is anticlockwise roundabout for shipping bound to and from the pilot station in the eastern part of the Sunk Inner Precautionary Area.

Three short (2-5M long) Traffic Separation Schemes

These enter the Outer Precautionary from North, East and South (named appropriately) to 'better organise' the flow of traffic through the Area.

Long Sand Head Two-Way Route

This is an 11M long north-south corridor from the Long Sand Head Buoy along the west side of the Outer Precautionary area and the Traffic Separation Scheme South and for use mainly by traffic bound to and from the Thames and Medway ports and the Orwell Estuary with pilots already embarked aboard. Specifically, **vessels of less than 20 metres in length, sailing vessels and vessels engaged in fishing may use this route.** It should be noted that a narrow (approximately 2 cables wide) Separation Zone runs along the eastern side of the two-way route separating it from the Precautionary Area and the Sunk Traffic Separation Scheme South. On either side of this Zone the traffic is going in opposite directions so it is essential, 'so far as is practicable'to keep clear of this Zone even though if you are a small vessel going northwards in the two-way route you will also be trying to keep to the outer, eastern side of the large vessels in your lane. A small craft going southwards has no separation zone to worry about but still has to make sure to keep well clear of the Long Sand and Kentish Knock shoals.

Galloper recommended route for ferries

These are primarily bound to and from Ostend and the route runs at 122·5°/302·5° to/from the Outer Precautionary Area and passes just over a mile south of the S Galloper Buoy (Q(6)+LFl.15s *Whis*). This is a useful course marked on the chart of which small vessels should beware.

Sunk Deep Water and Sunk Inner anchorages

These areas are to be avoided by small vessels although they can provide good long distance location marks by day and night, dependent on the number of vessels anchored. The Inner Anchorage marked on the chart is close east of the NE Gunfleet east cardinal lit buoy at the north-eastern end of the Gunfleet shoal and is mainly less than 21m in depth. The Deep Water Anchorage is close north of Sunk W1 yellow pillar buoy Fl(4)Y.10s at the northern end of the Sunk Outer Precautionary Area and is mainly over 20m in depth.

Changes to passages

All of the changes below refer to changes in courses in the short middle sections of the passages where they cross the Sunk scheme. The tidal timings as recommended in the 4th edition still stand since the distances are virtually the same except for Passages 16 to 18 which are now completely revised and require at least 24-hour crossings where the best strategy is to take the whole of a favourable tide outwards at the start of the passages in either direction, targeting for a favourable tide inwards at the end of the passage. In all cases of course you may wish to modify these timings depending on your boat's performance and the weather at the time.

Page 41 **Passage 7 Harwich to Calais**

There is little change necessary for this route but, unavoidably, it crosses the Inner Precautionary Area so be cautious and keep a good lookout.

As before, the ***outward leg*** heads from between the Cork Sand and Cork Sand Yacht beacons at the end of the recommended yacht track from Harwich entrance past and close south of the Roughs Towers then across the Inner Precautionary Area to the vicinity of Black Deep red can buoy (Q.R) which enables an approach to Long Sand Head buoy on the correct side of the channel. It then follows the outer edge of the Long Sand Two-Way Route between Long Sand Head buoy (lit N cardinal) and Kentish Knock buoy (lit E cardinal). The tidal streams in this section of the route, given the timing suggested, are generally favorable.

The ***inward leg*** entails entering the northbound lane of the Two-Way Route at the Sunk SW yellow pillar buoy Fl(2)Y.10s and cautiously following the outer edge of the channel but giving the separation zone a good clearance. On this leg the channel is left near Trinity buoy (lit E cardinal) and the route continues on the reciprocal of the outward route to Cork Sand beacon. Tidal streams here following the original plan may be turning against in the Two-Way Route so could require engine power.

Page 44 **Passages 9 to 12 Crouch and Blackwater to Belgium**

Here a small diversion from the original route involving some minimal course changes is required to completely avoid the Outer Sunk Precautionary Area but does involve a brief crossing of a Traffic Separation Scheme where traffic flow is much more predictable. In both directions it also means a slightly more obtuse-angled approach to the Noord-Hinder South TSS and a course correction to cross its lanes at right angles to and from the West Hinder Beacon.

As before, the ***outward leg*** follows either the

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King's Channel from the Crouch to the Sunk Head Tower buoy (lit N cardinal) or follows the Wallet Channel from the Blackwater to Wallet No.2 buoy Fl.R.5s. From each of these the courses lead to the vicinity of Black Deep red can buoy (Q.R) enabling an approach to Long Sand Head buoy on the correct side of the channel; vessels rounding Wallet No.2 buoy also should take care to sound round end of the Gunfleet Sand. When abeam of Sunk S2 red and white pillar buoy LFl.10s which marks the beginning of the northern end of the Separation Zone in the Sunk Traffic Separation Scheme South, turn at right angles to and cross the two lanes of the Two-Way Route and the two lanes of the TSS South as quickly as possible (engine power is advisable) and when clear of the final lane alter course for the West Hinder beacon as in the original plan. Tidal streams in this section of the route, given the timing suggested, are generally favorable and turning southwards crossing the TSS.

The ***inward leg*** requires crossing only the two TSS South lanes at right angles between the two red and white pillar buoys Sunk S2 LFl.10s and Sunk S1 Iso.5s marking each end, before joining the northbound lane of the Two-Way Route with the usual caution about keeping clear of the narrow Separation Zone. Following the original suggested timing tidal streams could be running strongly NE requiring a significant course correction and possibly engine power on closing towards the TSS South.

Page 47 **Passages 13 to 15 Harwich (Landguard Point) to Belgium**

These routes recommend the same courses to make good to and from the Cork Sand Beacon as in Passage 7 above so require the same warning about the Inner Precautionary Area. They also recommend the same crossings of the Two-Way Route/Sunk TSS South as in Passages 9 to 12 above, and later an obtuse-angled approach to and from the West Hinder. However, they start later on the tide and on both the ***outward and inward legs*** streams are likely to be slack or turning southwards crossing the TSS.

Page 51 **Passage 16 Harwich (Landguard Point) to Vlissingen**

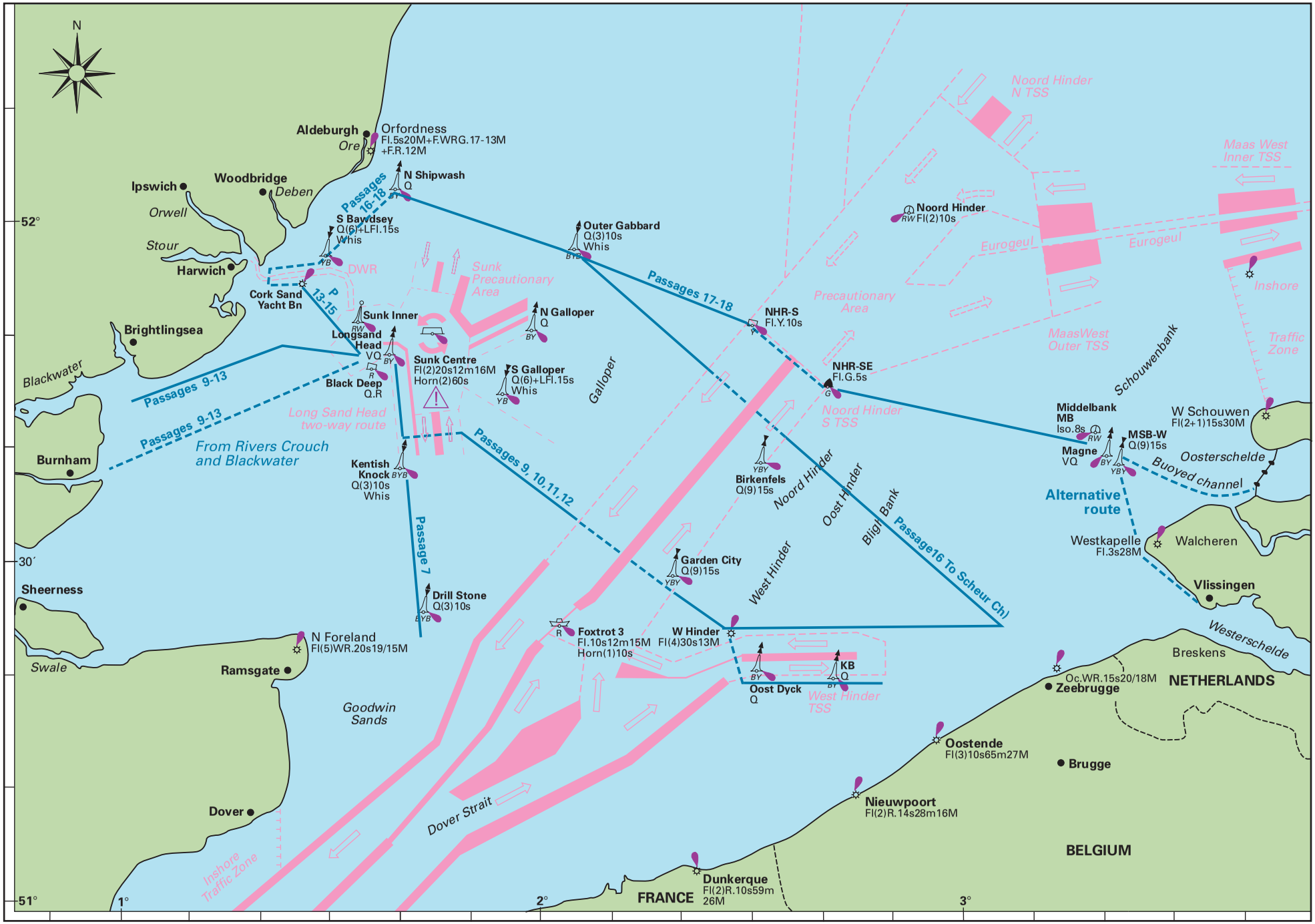
Page 52 **Passage 17 Harwich (Landguard Point) to Roompot**

Page 53 **Passage 18 Crouch and Blackwater to Roompot**

Rather than adapting these 100M passages to crossing the Sunk Traffic Scheme it is far more practicable to consider adding 10-15M to their distances and adapting them to avoid the Scheme altogether by looping northwards rounding the prominent N Shipwash buoy (north cardinal Q.7M.Bell. Racon(M)10M) as in Passages 19 and 20 then heading eastwards past the buoys marking the northern end of the Inner and Outer Gabbard Banks, then direct courses to the Middelbank red and white buoy Iso.8s off the Roompot (Passage 16) and the beacon and group of buoys marking the entrance to the Scheur Channel leading to Vlissingen (Passages 17 and 18). These are all 24 hour or more passages with around two complete tidal cycles so, in either direction if advantage of the full outgoing tidal stream is taken to start off with it is often possible to obtain a slack or ingoing stream in the final approaches.

Final Cautionary Note

Like the passenger ferries, all of the small craft passages in North Sea Passage Pilot cross some of the world's busiest shipping routes which are becoming busier, so make sure you keep a listening watch on your VHF in the various VTS schemes, keep your charts up to date and keep up with the shipping news as the regulations could become much more stringent. If you prefer coast-hopping but live in the UK and wish to visit the continental coasts it is still necessary at least to cross the Dover Strait, the busiest TSS of all but is a short passage which is possible in daylight.


N
Aldeburgh
Orfordness
Fl.5s20M+F.WRG.17-13M
+F.R.12M
Ore
Ipswich
Woodbridge
Deben
Orwell
Stour
Harwich
N Shipwash
Q
Passages 16-18
S Bawdsey
Q(6)+LFl.15s
Whis
Outer Gabbard
Q(3)10s
Whis
Noord Hinder
Fl(2)10s
Noord Hinder N TSS
Eurogeul
Eurogeul
Maas West Inner TSS
Inshore
Traffic Zone
52°
DWR
Sunk Precautionary Area
Cork Sand Yacht Bn
Passages 13-15
Sunk Inner
Longsand Head
VQ
Black Deep
Q.R
Sunk Centre
Fl(2)20s12m16M
Horn(2)60s
N Galloper
Q
S Galloper
Q(6)+LFl.15s
Whis
Galloper
Passages 17-18
NHR-S
Fl.Y.10s
Precautionary Area
MaasWest Outer TSS
NHR-SE
Fl.G.5s
Noord Hinder S TSS
Schouwenbank
Middelbank
MB
Iso.8s
Magne
VQ
MSB-W
Q(9)15s
W Schouwen
Fl(2+1)15s30M
Oosterschelde
Buoyed channel
Alternative route
Brightlingsea
Blackwater
Passages 9-13
Passages 9-13
From Rivers Crouch and Blackwater
Long Sand Head two-way route
Burnham
Kentish Knock
Q(3)10s
Whis
Passages 9, 10, 11, 12
Passage 7
Drill Stone
Q(3)10s
Birkenfels
Q(9)15s
Noord Hinder
Oost Hinder
Bligh Bank
Passage16 To Scheur Chl
Garden City
Q(9)15s
West Hinder
Foxtrot 3
Fl.10s12m15M
Horn(1)10s
W Hinder
Fl(4)30s13M
KB
Q
Oost Dyck
Q
West Hinder TSS
Westkapelle
Fl.3s28M
Walcheren
Vlissingen
Westerschelde
Breskens
NETHERLANDS
Oc.WR.15s20/18M
Zeebrugge
Oostende
Fl(3)10s65m27M
Brugge
Nieuwpoort
Fl(2)R.14s28m16M
BELGIUM
30´
Sheerness
N Foreland
Fl(5)WR.20s19/15M
Swale
Ramsgate
Goodwin Sands
Dover
Dover Strait
Inshore Traffic Zone
Dunkerque
Fl(2)R.10s59m
26M
FRANCE
51°
1°
2°
3°

II. THE SOUTH

3. THE DELTA APPROACHES AND HARBOURS

Charts

Admiralty *110, 120, 122, 132, 133, 139, 325, 1406, 1872, 2322, 3371*
Imray *C30*
Dutch Small Craft *1801, 1803, 1805, 1807, 1809*
Dutch Charts *1014, 1035, 1442, 1443, 1448, 1449, 1533, 2322, 3371*

Tidal atlases

Admiralty *North Sea – southern portion NP251*
Waterstanden en Stromen HP33

Tidal streams

Westerschelde approaches
(based on HW Vlissingen and HW Dover)

Position	*Start times*			
	VLISSINGEN		DOVER	
	East	*West*	*East*	*West*
4M NE *Kwintebank (KB)* By	–0230	+0330	–0030	+0530
Neths/Belg. frontier[1]	–0400	+0215	–0200	+0415
Westerschelde ent. (Nieuwe Sluis)	–0500	+0115	–0300	+0315
Oostgat (N end)	+0540	–0130	–0445	+0030

Note
[1] NE and SW-going

Westerschelde river
(based on HW Vlissingen and HW Antwerp)

Position	*Start times*			
	VLISSINGEN		ANTWERP	
	In	*Out*	*In*	*Out*
Vlissingen Road	–0515	+0100		
Ellewoutsdijk	–0500	+0130		
Terneuzen	–0430	+0130		
Hansweert	–0400	+0200	–0610	–0010
Bath	–0310	+0230	–0540	+0200
Lillo	–0315	+0230	–0525	+0020
Antwerp	–0230	+0300	–0440	+0050

Oosterschelde estuary
(based on HW Vlissingen and HW Dover)

Position	*Start times*			
	VLISSINGEN		DOVER	
	In	*Out*	*In*	*Out*
Westgat	–0400	+0200	–0200	+0400
Roompotsluis, both sides	–0500	+0115		
Zierikzee, off ent.	–0430	+0125		
Wemeldinge, off ent.	–0450	+0135		
Zijpe	–0410	+0205		

North of Oosterschelde
(based on HW Hoek van Holland and HW Dover)

Position	*Start times*			
	H. VAN HOLLAND		DOVER	
	NE	*SW*	*NE*	*SW*
Offshore N of Oosterschelde to close S of Europoort	–0305	+0310	HW	–0530
	In	*Out*	*In*	*Out*
Mid Brouwershavensche Gat	–0305	+0255	HW	+0600
SW point of Goeree[1]	–0550	+0115	–0245	+0320
In Slijkgat	–0330	+0330	–0025	–0550
Off Maasmond ent.	–0200	+0430	+0105	–0450

Note
[1] Flood SSE, ebb NNW

Nieuwe Waterweg, Nieuwe Maas, Oude Maas: Hoek van Holland to Dordrecht
(based on HW Hoek van Holland and HW Dover)

Position	*Start times*			
	H. VAN HOLLAND		DOVER	
	In	*Out*	*In*	*Out*
In Maasmond entrance	–0230	+0215	+0035	+0520
Maassluis	–0215	+0230	+0050	+0535
Rotterdam	–0145	+0300		
Dordrecht, Oude Maas W	HW	+0430		
Dordrecht, Noord	+0030	+0500		

Tidal differences and ranges
(based on HW Dover)

Place	*HW (time)*	*Springs/Neaps (range in metres)*
Vlissingen	+0200	4·4/3·0
Terneuzen	+0225	4·7/3·3
Hansweert	+0300	5·0/3·5
Antwerp	+0342	5·4/4·0
Zierikzee	+0305	3·3/2·4
Wemeldinge	+0340	3·9/2·7
Hoek van Holland	+0310	1·8/1·5
Rotterdam	+0435	1·8/1·6
Dordrecht	+0505	1·0/0·8

Major lights

Nieuwe Sluis Oc.WRG.10s26m14-10M 51°24'·5N 3°31'·4E B 8-sided metal tower, Wh bands 055°-R-089°-W-093°-G-105°-R-134°-W-136·5°-G-156·5°-W-236·5°-G-243°-W-254°-R-292°-W-055° Horn(3)30s 51°24'·4N 3°30'·4E Wh metal framework tower, B bands
Westkapelle Fl.3s49m28M 51°31'·8N 3°26'·8E Sq stone tower, R metal superstructure
West Schouwen Fl(2+1)15s57m30M 51°42'·5N 3°41'·5E Grey round stone tower, R diagonal stripes on upper part
Westhoofd Fl(3)15s55m30M 51°48'·8N 3°51'·8E R sq stone tower
Goeree Fl(4)20s32m28M 51°55'·5N 3°40'·1E RW chequered tower on platform on piles, Horn(4)30s Racon, helicopter platform