



# RCC PILOTAGE FOUNDATION

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The Pilotage Foundation is grateful to the late John Lawson who was the author of all our Passage Planning routes flowing out from the South Coast of England to Iceland, The Baltic, the Atlantic Islands and the Mediterranean.

This Route was updated by Mike Redfern in 2011  
minor correction Feb 2012

## Route 5

### North Sea crossings English and Scottish ports to Norway, Denmark and Germany

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## General

The North Sea crossing is just 200M from Shetland to Bergen in the north, 410M from the NE of Scotland to Skagen and 300M from the Humber to the Elbe entrance in the south. Any direct crossing is in clear water except for oil and gas rigs, the shallows of the Dogger Bank which should not incommode yachts and the two Traffic Separation Schemes running off the north coasts of Germany and Holland which must be crossed at some time if going to the Elbe and Kiel Canal.

None of these crossings are navigationally demanding nor affected by natural conditions except wind and sea; the details below are therefore brief.

## Weather and sea states

Most of the major Atlantic depressions pass across the N of this region carrying frontal troughs to the S which sweep across the North Sea. Some of these fronts develop secondaries which can become vigorous systems moving quickly E. The progress of the warm fronts can be held up crossing the UK allowing the cold front to catch up and become occluded when the contrast of the weather on each side will be much less pronounced.

The predominant wind direction in the summer months is W to SW in the W becoming NW towards the Danish and S Norwegian coast, then more westerly to the N of Denmark. The percentage of gales or calms in the summer is unlikely to be more than 3%.

Swell is not usually a feature of the shallow North Sea and is predominantly from the N sector and less than 2m high.

The incidence of fog is unlikely to be more than 3% in the N and W becoming less in the E.

Sea temperature increases quickly from an average of 6°C in the winter to 13°C in the N and 16° C in the S in the summer before slowly declining.

## Currents

These are of little significance throughout the area and are masked by the tidal streams.

## Tidal streams

Generally the flood stream in the North Sea sets southwards and the ebb northwards. Tidal streams are only significant near the east coast of the UK where the maximum flow of up to 2 knots is found off Peterhead. The rate declines steadily to the E and will be less than ½ knot from the middle of the crossing to the Norwegian coast. It exceeds 1 knot on the flood along the N German and Dutch coasts and reaches 4kts in the Elbe.

## Tides

The Spring ranges vary as follows:-

Shetland	1.6m	Bergen	1.2 m
Peterhead	3.0m	Stavanger	0.5 m
Forth	5.0m	Kristiansand	0.3 m
Tyne	4.3m	Skagen	0.4 m
Hull	5.2m	Elbe entrance	3.4 m

The North Sea is subject to storm surges but these are rare in the summer months and are included in the weather forecasts; high pressure can reduce the sea level by up to 0.3m. A good latitude should be allowed in all depth calculations S of Peterhead.

## Formalities

Valid passports will be required for every member of the crew. Non-Europeans need to be aware that any visit of over 90 days to Denmark, Sweden or Germany requires a Schengen Visa which must be obtained in their country of permanent residence.

UK registered visiting boats should complete a 2 part entry form at the first Schengen port of call.

The following papers should be on board for production when required:-

- (a) Ships Registry Document or Small Ships Register Document.
- (b) International Certificate of Competence or RYA Certificate at least for the Skipper.
- (c) Evidence of Insurance and third party cover.
- (d) Ship's Radio Licence.
- (e) VHF Operator's Certificate of Competence with GMDSS endorsement if appropriate.
- (f) Evidence of VAT payment on the vessel – the original invoice and any subsequent Bills of Sale.
- (g) Passport for every crew member. Individual European Health Insurance Cards are also prudent.

All Scandinavian countries are particularly flag conscious; the appropriate courtesy flag should always be flown and times for hoisting and lowering national colours observed.

Nearly all oil and gas installations are surrounded by a 500m exclusion zone which must be respected.

No difficulties should be encountered in keeping a VAT paid yacht in Denmark or Germany. There is an 18 month limit for non EU registered vessels. BUT for Norway see below.

### Norway

Although Foreign Nationals from countries such as Russia that have to obtain a Schengen Visa have to apply for a cruising permit two months in advance there is NO requirement to apply for a cruising permit for foreign nationals from EU or Schengen state countries. Those from countries outside Schengen States that do not have to obtain a Schengen Visa (USA, Canada, Australia etc) also do not need to apply for a cruising permit provided that they enter and leave through one of the large number of authorised ports of entry. A list of these is available at the web-site below but includes many relatively minor ports: [Norwegian Immigration Regulations](#)

Norway is not part of the EU and there is a risk of being charged VAT (at 25%) plus an amount depending on the power of the engine if the boat is left unattended. Until recently this not only applies

to boats that are being left in Norway through the winter, but also if the boat is left for more than six weeks. To avoid this risk it is important to contact the customs and to make arrangements for the boat to be stored 'in bond' during your planned absence from the country. The yachting community in Norway raised the matter through various channels and the customs and finance ministry have confirmed that from 5th October 2011 these regulations have been relaxed although requirements may be changed in future.

It is now possible to leave a boat unattended in Norway over the winter without incurring import duty (rather than just the 6 weeks previously allowed). Application must be made on a form available in English, accompanied by a letter from the yard where the boat is to be kept confirming this. Permission will normally be granted for one year, and will usually be extended for a second year on re-application. There is no charge.

Norwegian Customs website:

<http://www.toll.no/>

Advice on keeping a boat in Norway:

[http://www.toll.no/templates\\_TAD/Newsitem.aspx?id=221814&epslanguage=en](http://www.toll.no/templates_TAD/Newsitem.aspx?id=221814&epslanguage=en)

Application form, in English:

[http://www.toll.no/upload/skjema\\_blanketter/RD-0027E\\_etterlatelse\\_fartoy.pdf](http://www.toll.no/upload/skjema_blanketter/RD-0027E_etterlatelse_fartoy.pdf)

## **Denmark**

The usual EU and Schengen regulations apply; yachts should report to the Customs on arrival; the duty free allowance is 1.5 litres of spirit per head.

## **Germany**

The usual EU and Schengen regulations apply and clearance in and out is only required if it is a non-EU vessel or there are non-EU personnel on board.

The use of a motoring cone in German waters and the Kiel Canal is strictly enforced.

Pleasure craft are not allowed within 1M of Traffic Separation Schemes unless crossing them is unavoidable in which case it must be at right angles. German Marine Police can impose on-the-spot fines or confiscate equipment for transgressions and it is important to log all positions, times, courses and weather conditions in case of any dispute.

Children under 15 are not allowed to steer a vessel in German waters.

## **Search and rescue**

Any of the routes are within the UK, South Norwegian, Danish, German or Netherlands Search and Rescue Regions(SRR)s with MRCCs at Aberdeen, Forth, Humber, Great Yarmouth, Stavanger, Århus, Bremen and Ijmuiden. The VHF DSC coverage extends to some 60M from the coasts and the gap in between is covered by MF DSC. All countries maintain all weather and inshore lifeboats and there is air or helicopter coverage over much of the area.

Further details can be found in Admiralty Maritime Communications (UK and Baltic), NP 291.

## **Navtex and weather forecasts**

All the routes are covered by Navtex broadcasts from Oostende (M & T), Den Helder (P), Cullercoats (G & U), Rogaland (L) and Grimeton (I)

Further details of the many shipping, inshore and weather forecasts available can be found in Admiralty Maritime Communications NP 291 and RYA Weather Forecasts G5/08.

## **Fuel**

### **Norway**

Fuel is readily obtainable even in small places. It is becoming easier to have non-Norwegian propane bottles refilled at some gas stations – see [www.lpgnorge.no](http://www.lpgnorge.no) Camping Gas is difficult to obtain; It may be necessary to

change to Norwegian Propane or Swedish Propane if staying for any length of time. The latter is more easily obtainable in The Baltic if voyaging there.

### **Denmark**

Fuel is readily available; Calor Gas cannot be bought, exchanged or filled; Camping Gas is available.

### **Germany**

Fuel is readily available, as is Camping Gas.

### **Domestic Gas**

Scandinavian countries, and Germany to a lesser extent use Propane for cooking and heating and it is widely available. It may well be worth turning over to Propane if Butane supplies will not last out the cruise. Most cookers will burn either without adjustment. Apart from in Norway (see above) it is not legal to have non-local bottles refilled

## **Routeing recommendations**

There are three navigational concerns to yachts crossing the North Sea – oil and gas rigs, Traffic Separation Schemes along the N German and Dutch coasts and, to a very minor extent, the Dogger Bank. A crossing of the North Sea should not be undertaken without at least one of an up-to-date chart of the 2182a, b or c trio which shows all the oil and gas installations; these also show the Traffic Separation Schemes. There is one 13m patch on the Dogger Bank which should be avoided in heavy weather otherwise there is generally 20m or more over it. If crossing from S of the Humber, the offshore banks near the English coast may have to be allowed for.

There are two, becoming three at the W end, Traffic Separation Schemes running parallel to the N Dutch and German coasts. They only become a problem if going between the Elbe entrance and the Humber or a port S of it and must be crossed at the designated crossing places.

Any route taken across the North Sea will therefore be more weather-dependent than on any other factor and the direct route can be planned, hopefully, in advance. The only timing consideration is if proceeding through the Kiel Canal when arrival at Elbe Light should be timed for HW Cuxhaven –0500. The Jade, Weser and Limfjord (Thyborøn) entrances are all dangerous in onshore winds and particularly on the ebb. Helgoland and Esjberg are the only ports of refuge in most conditions along the Danish and N German coasts

## **Arrival and departure ports**

Eleven ports have been selected on either side of the North Sea as typical arrival and departure points from N to S. There are many others, particularly on the S and W Norwegian coasts but there are few, apart from those mentioned in the text, on the W Danish coast.

Port names in upper case indicate a port with major marina facilities including slipping and all kinds of repair, electricity and water on the pontoons, fuel available and with the resources of a town or city nearby. Other ports will have many of these facilities but with any omission noted. Calor or Camping Gas are available unless otherwise stated.

### **Port Categories**

Ports are categorised for their accessibility in all weathers and the security of their shelter.

- A Port of refuge in storms; complete shelter.
- A\* Qualified storm port of refuge and haven.
- B Port accessible in gales with good shelter
- B\* Qualified gale port of refuge and haven.
- C Entry subject to wind, sea and tidal conditions with some shelter inside.

Port names in capitals indicate a port with major marina facilities including slipping and all kinds of repair, electricity and water on the pontoons, fuel available and with the resources of a town or city nearby. Calor Gas and Camping Gaz are available unless otherwise stated.

### **Lerwick A**

A busy fishing and oil rig support port which makes considerable effort to welcome visiting yachtsmen. 6.8m in the entrance with 1.5m to 6m alongside a pontoon for up to 15m in yacht harbour which is in centre of the town; yachts of almost any size can be accommodated somewhere; water on pontoon and subsidised fuel in The Albert Dock; craneage up to 140 tons; handy and very good provisioning; ferry and air connections to the mainland with summer ferries to Faeroe and Iceland. Gas can be delivered but Butane unavailable.

### **BERGEN A**

A large commercial port 22M from the open sea and landfall at Marstein with some yacht facilities; unless there is good reason to continue to Bergen, there are small marinas short of the city at Hjeljestad and Grimstad with all the usual facilities, fuel, water and provisions; Bergen has its own airport and good rail and road connections for crew changes. Butane unavailable

### **Peterhead A**

A busy commercial, oil rig support and fishing port with a small marina with some facilities. Its position and accessibility in all weathers make it a popular stop-over; 2.3m in entrance to the marina; 1–2.8m inside; electricity and water at the pontoons but ½ mile for provisions; no travel lift but heavy craneage; fuel in any quantities by road tanker on demand; lengthy road and no rail connections; Aberdeen airport 25m.

### **STAVANGER A**

A large commercial port with all the facilities and supplies needed and good communications. However it is 25M from the open sea at Feistein and arrivals may prefer to turn off to Tananger which is only 12M and also Category A with guest berths in the yacht harbour; all the usual facilities, fuel, water, facilities and provisions here with buses to nearby Stavanger airport. Butane unavailable.

### **FIRTH OF FORTH A**

Port Edgar Marina (2.2m depth in entrance) at South Queensferry has all facilities and is well sheltered with access in all weathers on the S shore of the Firth just above the bridges (clearance 44m).

Granton, further East on the south shore (3.8m in entrance, 3.4m alongside) is an alternative but very exposed in Northerlies.

### **MANDAL A**

A well protected river harbour accessible in all conditions; the least depth on the approach is 3m; pontoon berths in the marina, fuel, water and good provisions; Customs on site and a port of entry. Other ports of entry to the E are **Kristiansand** (22M) and **Lillesand** (35M). Butane unavailable.

### **RIVER TYNE A\***

The entrance will be dangerous to small craft in E gales especially on the ebb, otherwise excellent shelter inside with a modern marina 2M up-river at Royal Quays Marina. Lock at all stages of the tide, sill –3.3m, maximum length 40m, beam 8m; 30 ton travel lift, chandler and provisions nearby; fuel available 24 hours outside lock.

### **Skagen B\***

A large fishing and a harbour of refuge just E of Skagen (The Skaw) but a difficult entrance in SE gales although good shelter and 3.5m inside; fuel, water and provisioning close by; road and rail communications with rest of Denmark.

### **HUMBER B\***

The entrance at Spurn Head can be dangerous to small craft in strong winds from NW through E to S especially on the ebb which can run at up to 5 knots. From Spurn Head to Grimsby marina is 6M which can be locked into HW±2 hrs; few facilities except provisions. Hull marina at Kingston-upon-Hull 17M from Spurn can be entered via a lock HW±3 hrs, has fuel and full facilities and is close to good road and rail connections.

### **Esjberg B\***

The only possible port of refuge on the W Danish coast between the Skaggerak and Helgoland but should not be entered on the ebb in strong westerly winds; a busy ferry port with a 5M approach channel dredged to 9.5m; some depth restrictions in yacht harbour but there is another with approaches dredged to 2.7m; all the usual supplies and facilities and a port of entry.

### **Entrance to the Elbe C**

The entrance to the Elbe is dangerous for small craft in onshore winds particularly on the ebb and should not be attempted in these conditions. Tidal streams run up to 4kts so timing ones arrival at The Elbe Light for HW Cuxhaven – 0500 is very beneficial. **Helgoland** 20M to the NW is an all-weather refuge.

## CUXHAVEN A

Cuxhaven is 23M from the Elbe Light and has a well sheltered marina with all facilities but shopping is some distance away and requires the use of bicycles which are loaned free of charge by the marina office.

## Brunsbüttel A

This is the entrance to the S end of the Kiel Canal and is 25M from Cuxhaven. The waiting area outside is in deep water and strong streams but the locks are worked 24 hours for commercial vessels for which yachts may have to wait; there is a small marina inside the locks.

**Kiel Canal** is 54M from Brunsbüttel to Holtenau with locks at each end; yachts must be under power but may motor sail; radar must be fitted for use in fog; night passages are not permitted but there are several places to stop in transit with usual yacht facilities and supplies.

## Route 5 Distance table

	Lerwick	BERGEN	Peterhead	STAVANGER	FIRTH OF FORTH	MANDAL	TYNE	Skagen	HUMBER	Esjberg	Elbe entrance
Lerwick	***	211	160	222	268	305	275	383	376	408	510
BERGEN	211	***	290	115	395	200	545	305	460	***	***
Peterhead	160	290	***	265	117	310	130	410	231	360	400
STAVANGER	222	115	265	***	310	120	330	225	400	***	***
FIRTH OF FORTH	268	395	117	310	***	380	112	520	213	420	430
MANDAL	305	200	310	120	380	***	355	105	375	***	***
TYNE	275	545	130	330	112	355	***	420	101	350	340
Skagen	383	305	410	225	520	105	420	***	450	***	***
HUMBER	376	460	231	400	213	375	101	450	***	310	300
Esjberg	408	***	360	***	420	***	350	***	310	***	***
Elbe entrance	510	***	400	***	430	***	340	***	300	***	***

The distances are direct between any two ports in different columns. Interpolated distances between ports in the same column will not necessarily be correct.

## Route 5 - Waypoint Table

THESE WAYPOINTS SHOULD BE USED FOR PLANNING ONLY AND NEVER FOR NAVIGATION

Waypoints are given to the nearest minute of latitude and longitude and are positioned in clear water off the ports and headlands.

Turning Points (TP) to avoid land or navigational hazards are also noted in the table.

The symbol \* between two points denotes that the direct route between them passes over or close to land or other navigational dangers.

<b>Port or point</b>	<b>Lat</b>	<b>Long</b>
LERWICK	60 07N	01 09W
*		*
BERGEN (Marstein)	60 09N	04 58E
*		*
PETERHEAD	57 30N	01 45W
*		*
STAVANGER (Kvitsøy)	59 04N	05 22E
*		*
FIRTH OF FORTH (Bridges)	56 00N	03 24W
*		*
MANDAL	58 00N	07 28E
*		*
TYNE	55 02N	01 22W
*		*
Skagen (TP)	57 46N	10 43E
*		*
HUMBER (Spurn Head)	53 33N	00 10E
*		*
Esjberg	55 24N	08 12E
*		*
Elbe entrance	54 00N	08 13E

## References

Admiralty North Sea (West) Pilot, NP 54

Admiralty North Sea (East) Pilot, NP 55

Admiralty Tide Tables Vol 1

Admiralty Tidal Stream Atlases:

North Sea, Southern part, NP251

North Sea, Western part, NP 252

Orkney and Shetland Islands, NP 209

Admiralty Maritime Communications (UK and Baltic) NP 291

RYA Weather Forecasts G5

The Cruising Association Handbook

Foreign Cruising. Vol 1. RYA publication C1

Admiralty charts 2182a, 2182b, 2182c, 2107, 3767 amongst others.

RCCPF – Norway

- The Baltic Sea

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