

NAVIGATING NORWAY

By

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The Cruising Grounds

A Sea of Surprises

Our boat is old but fine and strong. Since 1974, the Swan 38 *Pirate* has logged thousands of sea miles, and crossed the Atlantic four times. Last winter she stayed in the water near the Norwegian city of Bergen. This past summer we took her North. We left Bergen in mid June and finished our cruise in the city of Bodo two months later. We covered just under 900 NM of coastal waters, in a northeasterly direction, passed the Arctic Circle, and entered a realm of legend and the sublime.

The further North you sail, the more spectacular it gets. The mountains drop abruptly into the water; they are the most numerous of any country in Europe, and they festoon a sea as deeply blue as the Aegean. Norway has Europe's largest glaciers and the world's longest and deepest fjords. If you could stretch Norway's coastline into a single length of rope, it would wrap the Earth twice around the Equator.¹

The northern coasts bear the impression of the enormous glaciers, which covered them during the Ice Ages and created a split, craggy landscape. Fjords arose by the action of glaciers, which dragged their way through them from the highlands, scraping deep trenches in the land. During the subsequent rise in sea level, they filled with water. They are much deeper than the North Sea.

Above the Arctic Circle, there is at least one day in the summer when the sun never sets, which means that there are more hours of sunlight than in any other cruising waters. And cruising Norwegian waters is surprising. The Gulf Stream bathes these shores, prevents ice from forming even in winter, and stuns the visitor with white sandy beaches and transparent water in some islands and skerries at high latitudes!

Along the Norwegian coast flows the Norwegian Current. It moves at a depth of some 165 to 330 ft. The fresh water contributed by the rivers and the fjords result in a relatively low salinity. A part of the warmer water flowing in from the Atlantic turns northwards again along the Current and results in a warmer stream through the colder

¹ For an interactive map of Norway, click:
<http://www.sitesatlas.com/Europe/Norway/mnorphys.htm>

waters. In winter the Norwegian Current has a temperature of 36° to 41 °F and the salinity is below 34.8 ppt. The Atlantic water in the North Sea, divided from the Current by a front, is generally over 43 °F with a salinity of 35 ppt. This summer we registered sea temperatures between 50 and 55 F.



Midnight sun in the Lofoten Islands

The Norwegian Sea is a body of water that you learn to fear and respect. Not too long ago (before they became rich with oil), most Norwegians eked out a meager living from fishing. On average, one from every four of those rugged fishermen never returned.

The contours of the sea bottom near the coast, and the clash of contrary currents in some spots, makes for some truly dangerous areas, so much so that gale warnings are issued by the Norwegian weather service at Beaufort Force 7, instead of Force 8, as is usual in other parts of the world, because of the risk of large and irregular waves in such spots. The wave energy in those areas is such that the probability of encountering large

seas is much greater than in other areas. Over the course of 12 years, 466 such waves were measured by radar in the North Sea. At the end of the 1970's a research project localized 24 dangerous areas along the Norwegian coast. They are marked in the pilotage series titled *Den norske los*, which we found an indispensable guide to navigation, despite the language barrier.² This is the detailed standard work for both commercial and leisure boating, illustrated with charts and excellent photographs. With milder wind patterns in the summer, it is possible to plan the crossing of those dangerous areas in calm weather.

Going North, we had to sail the stretch of coast between the two most feared spots: the headland of Stattlandet and the area known as Hustadvika, where the offshore route is as hazardous as the inner passage between islets and skerries. We waited for good weather, and clear visibility, used the most detailed charts we could find, and went offshore. The sea gods were kind and our passage uneventful. Yet this sort of cruising gives a poignant meaning to the expression “between a rock and a hard place.”

It is far more difficult to predict and avoid extreme waves occurring in the open ocean. On January 1st 1995 an extreme wave was measured under an oil platform. The maximal amplitude was 57 feet and the maximal wave height 78 feet!

Storms pound northwestern Norway in the winter months. It is not unusual for winds to hit more than 50 knots, gusting to 70. Luckily these events are much less frequent in the summer, when light winds from the NE or NW are prevalent. Moreover, the coast affords the seaman the possibility of making progress in the inner passages between the islands and the continent. The light air, the wind direction (frequently on the nose), and the narrow passages make navigation a real challenge, and motoring a frequent necessity.

Given such conditions, it is not surprising to learn that the locals mostly favor 30' double-ended powerboats, usually made of wood or fiberglass. Many of the fishing boats, even up to 80' have varnished wooden hulls with painted wood or aluminum deckhouses.

² Several volumes of this publication previously had Norwegian and English text; new editions are in Norwegian only.

What did surprise us is how few pleasure boats are seen in these spectacular cruising waters. We saw very few yachts, usually from Scandinavian countries, the Netherlands, Germany, and the UK, and spotted only one American boat in Alesund. The experience takes an American cruiser back fifty years, when harbors were not congested, and the Corinthian spirit was the rule.

Lessons Learned

Navigation in Norway's inside waters requires constant vigilance. There is a lot of commercial traffic at all hours, thousands of navigational markers of all types (some dating back to the Vikings), and many of the channels are narrow with rocks and reefs. Americans must always remind themselves that here it is "Red LEFT Returning." Passing one mark on the wrong side spells running into rock! On one occasion, rounding the dangerous Statt headland, I thought I sighted whales. My crew insisted that they were unmarked rocks. Before long, I realized my mistake. To save face, I declared them "stationary whales" and gave them a wide berth!

Navigation gave us a real work out. We laid out the courses, distances and waypoints the evening before the next day's leg. Sometimes this took up to three hours, with as many as 20 waypoints and 5 charts! After punching the waypoints into the 2 GPS systems on board, I read them out to at least one other crew member to verify the data, and also entered them on a portable chart plotter to verify our position from time to time, especially when coming to a port or anchorage. That plotter uses Navionics charts. It helped avoid errors as we instantly witnessed the route being mapped out on the electronic charts and could quickly determine any inaccuracies. The portable chart plotter can be taken into the cockpit so the helmsman can follow the yacht's progress. In addition to all these procedures, I wrote down by hand all waypoints, courses and distances in a notebook, which I labeled "Book of Courses."

Contrary to the opinion of some friends, I find the Norwegian charts very useful. To take advantage of them, you must learn some rudimentary Norwegian, as well the

unique notation and navigational aids systems.³ However, even the most detailed ones fail to mark every little rock.⁴ So, beware –and use a magnifying glass when necessary! On board, we carried no less than 100 navigational charts, and found them indispensable. Norwegian charts can be bought in bookstores all along the coast. At 30 US dollars a chart, this represents a small fortune. We were lucky to avail ourselves of the kind offer from a friend in Bergen, who lent us most of the charts we needed. One more warning: the Norwegian charts are only gradually being brought up to the world standard norm, WGS84. There are still many charts both at the old Norwegian datum or the European datum. The datum difference can mean a discrepancy of 100 to 500 meters. To make things even more fun, we noticed that while sailing in the fjords or near mountains, the compass deviation changed wildly, due to metal masses nearby. A fluxgate compass and a frequent comparison with GPS data are therefore essential.

I learned navigation in the days of the sextant and RDF. I learned it from a great friend, sailing companion, and old curmudgeon, who mistrusted any novel gizmo that distracted him from paper charts, compass bearings, dead reckoning, and the divine art of celestial LOPs.

This summer I used all the wonderful new tools but realized that they too, like the more primitive (and more reliable) tools of yesteryear, are just that: only tools. The organic root of navigation is the same today as it was in the old days, and it is only surpassed by the more advanced systems used by whales and sea birds, not by electronics. It consists in being able to look at something from a distance and say what it is. The point is: never stop using your eyes, your calculating brain, and your “sea sense.” On the screen everything becomes a game. But making an error of judgment, hitting a rock, and sinking, is not a game. You have to figure out what you are looking at and relate it to the chart on an ongoing basis, just as my old curmudgeon friend taught me. This can be an intense process, particularly when you are sailing in a place where you have never been before, in a language you have never spoken before, with weather

³ The back of every full-size Norwegian chart has a complete catalogue of charts, including a geographical plan of coverage and official hydrographic publications. There is a main chart series, a coastal chart series, and a harbor chart series.

⁴ The Norwegian Hydrographic Society warns that uncharted rocks can be found in areas that have not been surveyed.

patterns, barometric idiosyncrasies, and compass deviations that you have never encountered before. In short, the lesson is: always rely on your eyes first and then use every means available to confirm what you see. Or, to put it differently: the traditional skills should never be the “backup” method; they are *the first* method. Everything else is the “backup.”

The Joys of Nordic Sailing

Despite all difficulties, cruising in Norway is well worth the effort. It has an added advantage: necessity turns you into an honorary Norwegian --serious, fiercely independent, alert, active, and a good seaman. In the background, not Big Brother, but Good Brother is watching: the Norwegian Lifeboat Service (NRSS) is a voluntary organization with some state funding that operates fast rescue boats. Full-time 3-person professional crews operate a rotation system, living on board, and are ready to save boats and lives at a moment’s notice. I was so impressed that I joined. Annual membership is reasonable. It gives entitlement to services which include escort round dangerous headlands, a free tow to the nearest harbor, and the first hour of a diver’s time without charge. As a member, I received a useful book, which is a compilation of harbor plans. The NRSS is a model organization in a model society.

This year, the weather improved as we sailed north. Whereas South Norway had a wet and cold season, in the North we encountered days when the temperature rose to near 80 degrees centigrade on sandy beaches --except the water was too cold to swim.

Ours was an arduous cruise, rewarded at the end by a splendid tour of the Lofoten islands. The excellent weather and the close proximity of the islands to each other made sailing a pleasure. At long last, on August 10th, we docked at the marina in Bodo --a northern city that is a service and transportation hub, and an important military base. A few days later we hauled out at the local boatyard. *Pirate* is tucked away for the off season. We left her protected from the fierce SW winds of the winter, waiting for her mast to be unstepped and a tent to shield the deck from the snow. Next year we plan to sail her to Sweden and the Baltic Sea.

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Pirate's Full Itinerary
June 16-August 15, 2007

Ports of call	Date	Engine Hrs	Distance	casual obs.
1. Bergen/Askoy 60 24N 5 19E	16/06			
2. Askoy Sailforening 60 27N 5 03.6E	26/06	97		motor sailed
3. Fedje 60 47N 4 42.4E				
4. Floro 61 36N 5 02E	29/06	114	88NM	motor sailed
5. Kalvag 61 45.9N 4 52.7E	31/06			fuel line repair
6. Maloy 61 56N 5 07E	03/07		59	Statlandet joined NRSS
7. Fosnavag 62 20.5N 5 38.4E	04/07			
8. Alesund 62 28.3N 6 09.2E	05/07		104	
9. Molde 62 44N 7 10E	06/07		34	took coastal boat to Geiranger Fjord met sailing friends from Scotland
Waited for weather	4 days			sailed in fjord crew change
10. Kristiansund 63 07N 7 44E	11/07	oil change	47	
11. Brekstad 63 41N 9 40E	12/07			Hustadvika passage somber port
12. Kuringsvagen 64 02.4N 10 03.2E	13/07	163		cozy marina
Returned to harbor		170		
13. Rorvik 64 51N 11 13.7E	16/07		149	contrary winds crew arrival
14. Leka 65 05.2N 11 44E	17/07			refuge harbor
Wait for weather in Leka				
15. Bronnoysund 65 28N 12 12E	20/07		46	crew change
16. Sandnessjoen 66 01.4N 12 38.0E	21/07		36	
17. Bolga	22/07			Arctic Circle!

66 48N 13 14E				66 33N
18. Bodo	23/07		93	great sail
67 17N 14 22E				new friends
Visit Bodo area	29/07			crew change
19. Reine	30/07			Lofoten Isles
67 56.2N 13 05E				
20. Aa				
67 52.9N 12 59.5E				
21. Nusfjord	01/08			fantastic area
68 01.8N 13 21.5E				
22. Stamsund	02/08			
68 07.7N 13 51.4E				
23. Henningsvaer				
68 09.2N 14.12.2E				
24. Kabelvaag	03/08			new friends
68 12.6N 14 29.1E				
Nyvagar				crew in spa
				dinner/sauna
25. Trollfjord				sail & motor
68 21.8N 14 56E				
26. Skrova	04/08			sailed
68 10N 14 40E				fishing
				beaches
27. Helnessund	06/08			dinghy/fish
67 43.7N 14 45.7E				
28. Kjerringoy	07/08			pure beauty
67 31.3N 14.45.6E				
29. Bodo	08/08	253	190	end of cruise
67 17N 14 22E				
	09/08			crew left
	13/08	oil change		hauled out
Pirate on the hard at Jakhelln Boatyard				

Total engine hours: 156
TOTAL NAUTICAL MILES 846 cruising miles + 30 odd ones= 876

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