



PLATE XVII *If you can see what is written on the surface of the water, it is possible to determine hazards as well as safe areas.*

## 12 Reading the Water

Reading the water is a skill, which like all others needs to be practised for it to work for you when you need it. In areas of turbulence the water seems to have a mind of its own and there appears to be no structure or regularity to the movement. There are a few generalisations that can make things a bit easier to understand.



- ⊙ In shallow water or around rocks, water which is dark coloured moves up and down. Conversely, water which is aerated and lighter in colour is flowing somewhere (up, down, left, right or around and around). Dark coloured water is generally the safest place to be.
- ⊙ When picking your way through a rock garden, look for the dark, deep water and keep an eye out for any patches of white that encroach into your chosen channel. These will push and pull you from side to side and any attempt at a draw will be pretty much ineffectual.
- ⊙ When you have exhausted all possibilities of landing in a sheltered area and simply have to come ashore through big waves, look for areas of weakness. Dark coloured water, reefs to hide behind, slightly lower wave peaks due to deeper water – scout what lies ahead from the crest of the wave and be prepared to back paddle retreat from an area that you don't like the look of.
- ⊙ Rips\* are often safe areas for sea kayaks to get in through surf, look for a stream that flows into a bay, chances are that is where the rip will be. If there is no stream then your best bet is around the sides of the bay if the waves are coming in squarely, however, here there will generally be quite a bit of turbulence around the rocks.
- ⊙ Dumping surf can cause a few problems. Easy to see from land these waves keep most of their power until they fall to the beach. When you are paddling towards a coastline with swell running onto it, there are some indications that there is likely to be dumping surf. Generally there is only one line of breaking waves and the wavelength does not shorten much as it nears the shore.

\* **rip**, an area of water flowing back out to sea. As waves wash ashore the water deposited creates its own way back out beyond the waves, in these areas the waves are deadened and often much lower than the surrounding water.

- ⊙ The amount of air escaping from the collapsed wave is indicative of the amount of power released. A more explosive break is dissipating its energy much faster than a less explosive one.
- ⊙ When an isolated rock or reef has an occasional dumping wave break onto it, it is known as a 'boomer'. What happens is that the water pulls away from the reef, exposing the top then the next wave arrives and the crest explodes onto the bare rock. This is probably the worst place you could be with your kayak.
- ⊙ Glance at the horizon, this will give you an idea of what conditions are like farther out. You can normally see large waves from over three miles away (especially overfalls).
- ⊙ Always assume there will be much rougher water off a headland. This is because of the effect of the seabed on waves. In tidal areas the flow will be faster and rougher off the point than to either side.
- ⊙ In a fast inshore tidal flow there are always eddies that you can use in a sea kayak, these are not detailed in nautical publications as most craft have deeper draught than a kayak.
- ⊙ Big mushrooming boils of water indicate an uneven sea floor and are the consequence of water being pushed up from deeper areas to the surface. These present little obstacle to a sea kayak but can be disconcerting when first encountered. The water flows upwards from the centre and outwards.
- ⊙ Water being blown through a constriction creates a current. High winds can also back up a tidal effect, increasing or dampening it.
- ⊙ When the wind blows against the direction of the tide the waves will increase in height, steepen and possibly break depending on the strength of both. The opposite happens when both wind and tide are moving in the same direction, the wave height will decrease and the distance between successive crests will increase.



*fig. 12.1 Subtle effects of wind and tide off the cliffs of Eshaness, Shetland.*

The local effects of wind on water can be difficult to read, but revealing. When you look from land to the sea you can sometimes see silver and grey lines on the surface of the water, what is happening is the wind is opposing the tidal flow. The wind does not need to be strong and neither does the tide, in fact, the effect can be seen more clearly with light winds and weak tides. You can use these lines to ensure you are going with the flow, the assistance may not be great but it is much better to be in your favour than against you. When the wind and tide are both stronger the appearance of these lines is much less distinct. A momentary 'cat's paw' effect of a breeze over the water can accentuate an area of disturbance.

When the wind gusts you will see patches of darker water. As these approach, you will feel the wind increase gradually until it is at its full strength. You should also be able to see when the gust is nearing its end, as the water will revert to its original texture.

A squall is a highly localised, brief but fierce wind. When a squall is about to arrive there will be a similar darkening of the surface as in a gust. This time however, instead of an irregular patch, the dark water forms a line. This line often indicates the arrival of the wedge of cold air in a cold front. Called a line squall for obvious reasons, the wind within it is travelling substantially faster than the general wind. As the line squall hits you will find that the wind has veered (changed direction clockwise, eg. from south-west to west). If this squall is very strong, not only will there be the veering wind but the water will be thrown into the air causing a lot of spray.

“ The fiercest squalls I have been in were on the west coast of Scotland. A friend and I had been paddling around Islay and the wind had been very strong all week. We left our camp after listening to the shipping forecast.

On the water we were in the lee of the land although the wind was strong. Rounding the north west point, Rubha a' Mhàil, we saw the first of the squalls approach. The wind was accelerating down the slopes of the Paps of Jura. We paddled hard towards the line knowing that we were now on the exposed shore and not knowing how long the squall might last.

Just before the full force of the wind hit us the spray lifted from the water was about one metre high, we were less than ten metres apart. I do not know what my companion did but all I could do was to brace into the wind, keeping low over the front deck with the back of my head turned into the wind. When this first blast had dissipated, despite our best efforts we were now more than five hundred metres apart. We still had around four miles of paddling until we could land and there was no let-up in the wind. The squalls came about every fifteen to twenty minutes during our race to shelter. Exhausted, we were finally reunited at our destination.

After pulling the boats well above the high water line and tying them down I found a camping spot, pitched the tent, then made and ate our meal. At this point I realised that my buddy was nowhere to be seen, so I headed to the hotel. When I arrived, he was settled into a comfy chair with a beer in his hand. He had already had a bath and a meal. The night we passed at the pub is another story!

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PLATE XVIII *Duncan Winning crossing a ford in North West Greenland, five miles from the glacier.*



PLATE XIX *Crenellations line the battlements of this castle of ice,  
likely to be a recently separated portion of ice-sheet.*