



Danger or Clearance Bearings

Most of the navigational examples you see involve a boat on a constant course at a constant speed at least for a long period of time. In this case a DR plot supplemented with EP and corrected from time to time with a fix in most cases is sufficient to give a good idea of the position of the boat and relate it to hazards.

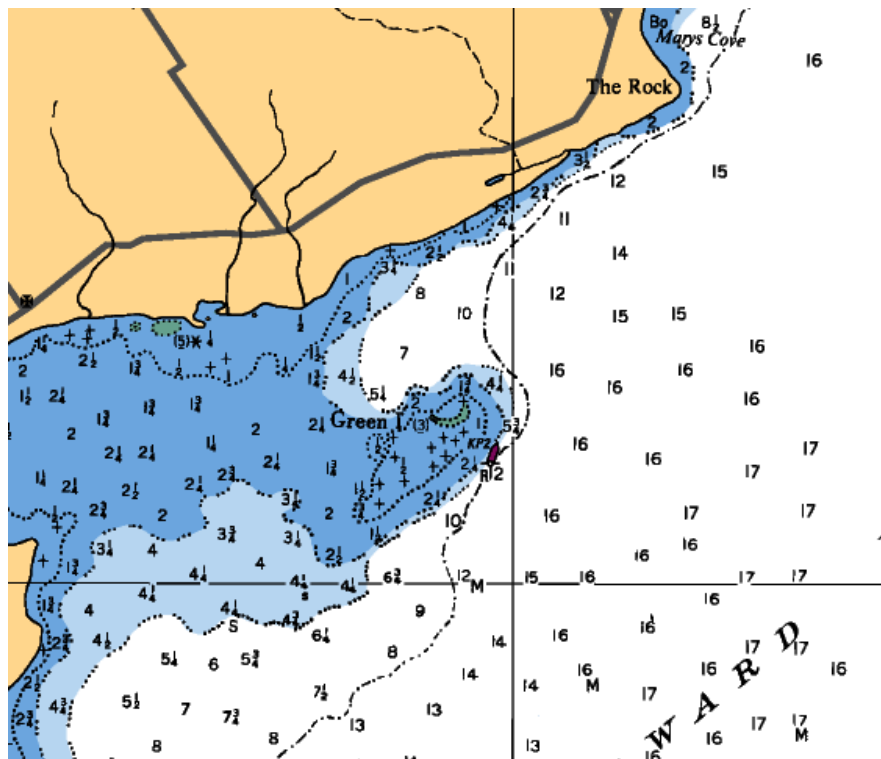
What about a Sailboat that may have to tack or gybe frequently and where speed is changing? What if a current or leeway affect the course. Well of course on alternative is to update the course with fixes. This is often impractical and we need some way of rapidly identifying if we may be in danger.

Obviously many dangers are buoyed but what can we do:-

- If we cant see the buoy,
- If it has drifted out of position
- If the light is out at night
- If the hazard is not buoyed?

This is where a danger bearing is useful. Simply put it is a line of position between the danger area and something that we can see (and is marked on the chart).

For example in the area below Green Island is certainly a hazard to any boat. It is marked with an unlit starboard hand spar KP2 however this is often difficult to see. On the other hand The Rock (a headland with a steep cliff) is easily seen over a wide area.



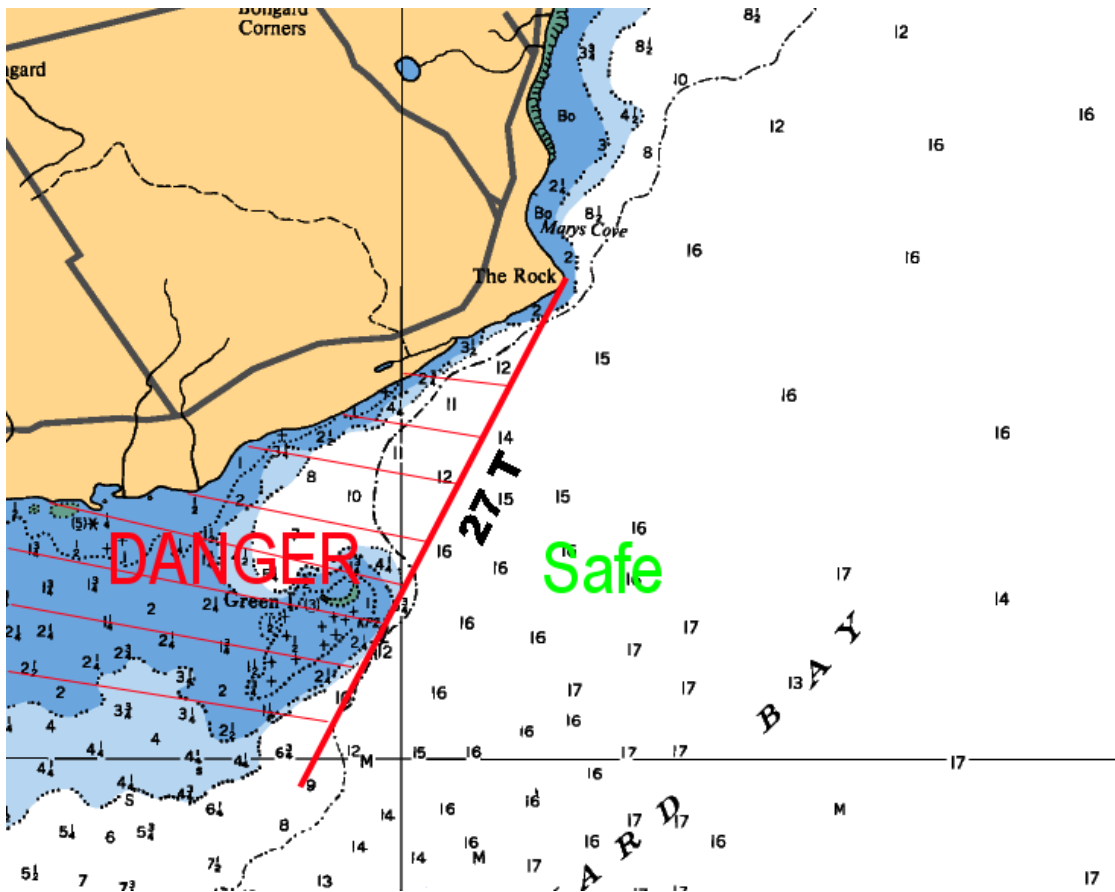
Phil Morris
4934 Bath Rd
RR3 Bath On K0H1G0

Keelboat Sailing Instruction to CYA standards



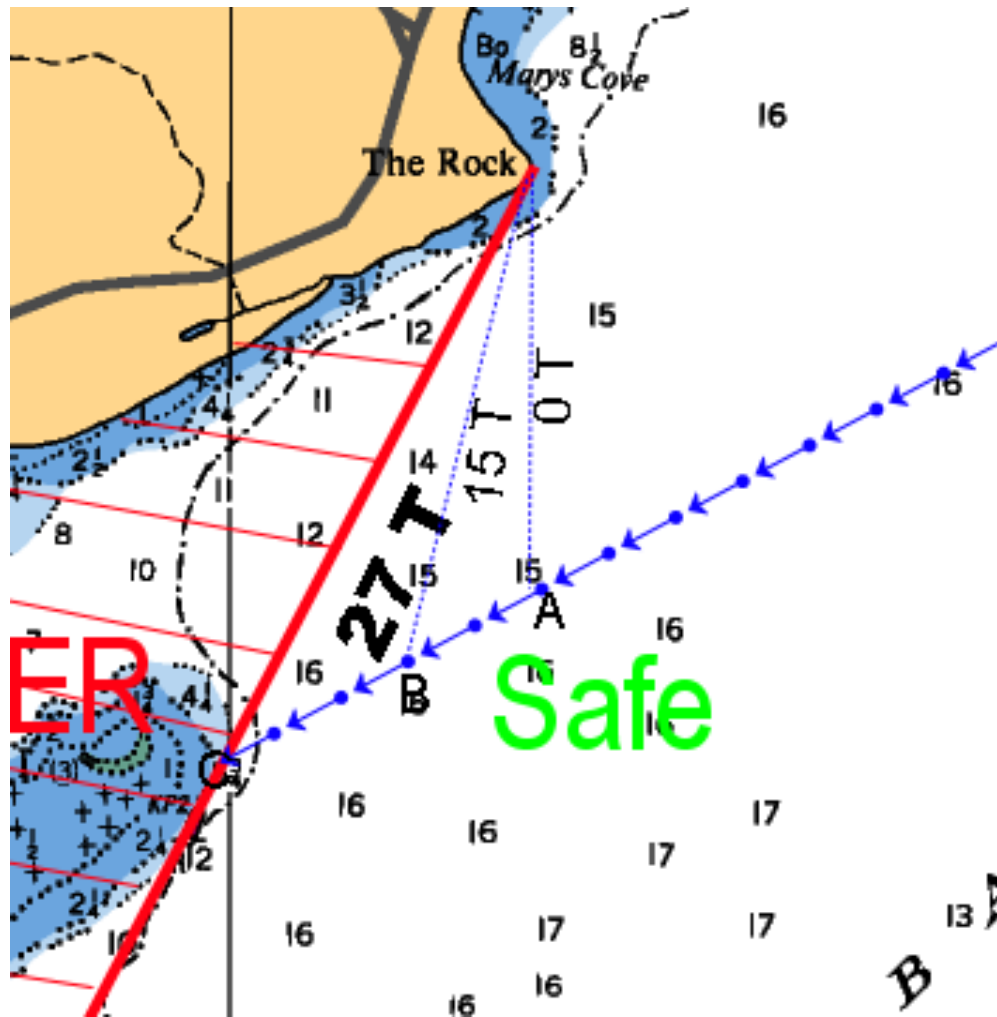
We can draw a line between the buoy off Green Island and The Rock, which becomes our danger bearing. In this example the line is in red and I have indicated which side is the danger.

The bearing from the Green Island Buoy to the rock is 027° true.





Now imagine we are sailing along the blue dotted line in the direction indicated by the arrows. At position A we take a bearing on the Rock that is 000T, at B the bearing is 015T and at C it is 027 T. If we were to sail further into the danger area the bearing would be greater than 027T so 027T is the maximum safe bearing. We represent the danger bearing as NMT (no more than) 027T.



Since we are taking bearings from a hand bearing compass it may be easier to express the danger bearing as magnetic (since the variation is 13°W the Danger bearing is 040 M).



Another example of the use of danger bearings is to avoid is an un-buoyed shoal area entering an anchorage in Parrott's Bay.

We can use two danger bearings the first being to the easily seen Nicholson Point light this is no more than 115T. Once approaching this bearing, the next bearing is to the West end of the bridge at the end of the bay if this is no less than 035T then it is safe to enter the bay.

