BUOYS, BEACONS and other MARKS with Poole Sailing

BUOYS, BEACONS and other MARKS

The International Association of Lighthouse Authorities (IALA) was formed in 1953 to regulate the patterns of navigation marks worldwide. They introduced the Lateral system divided into two geographic zones.

Region A: Europe, Australia, New Zealand, Africa, the Gulf plus most Asian countries. And

Region B: North, Central & South America, Japan, North & South Korea and the Philippines.

Region A has green cones to starboard and red cans to port when entering a harbour while Region B has red cones to starboard and green cans to port.

In the mid 1970's the IALA introduced the truly international 'Cardinal' system of buoys to supplement the existing systems.

Lateral Marks Region A

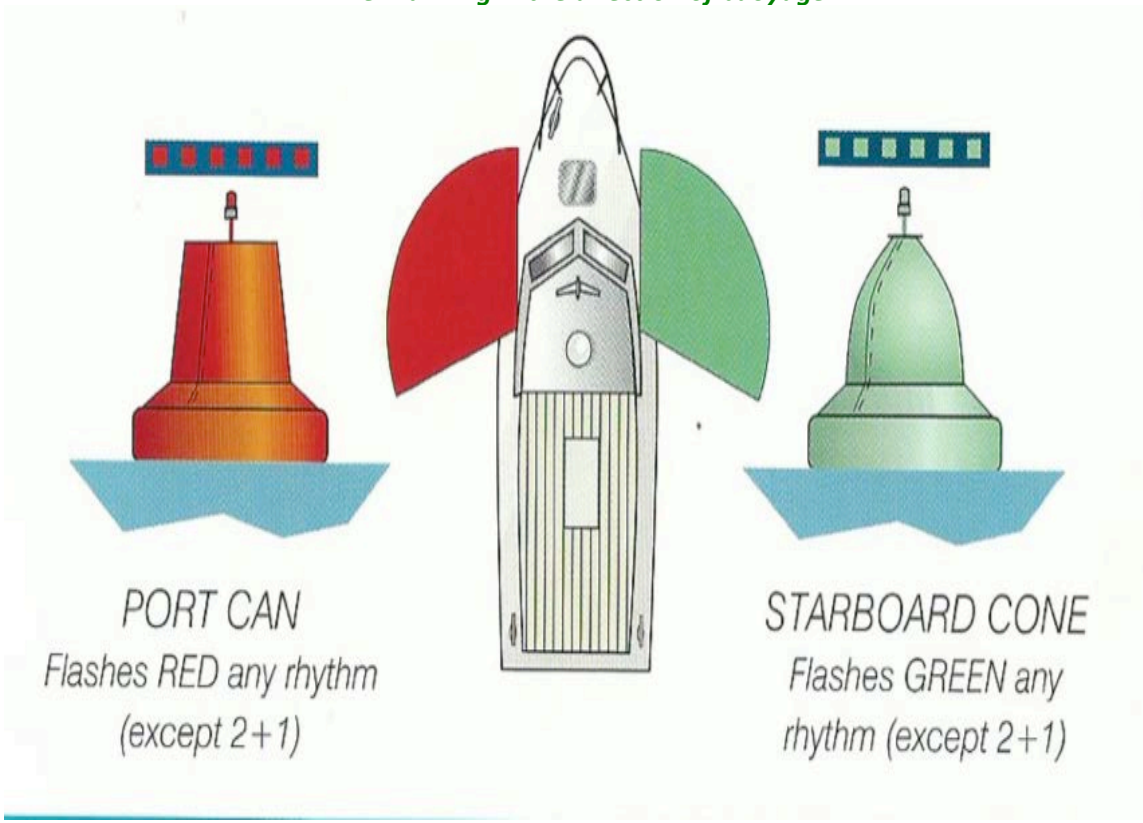
‘Laterals mark Channels’

The two main Lateral Marks,

Red Cans to Port and Green Cones to starboard

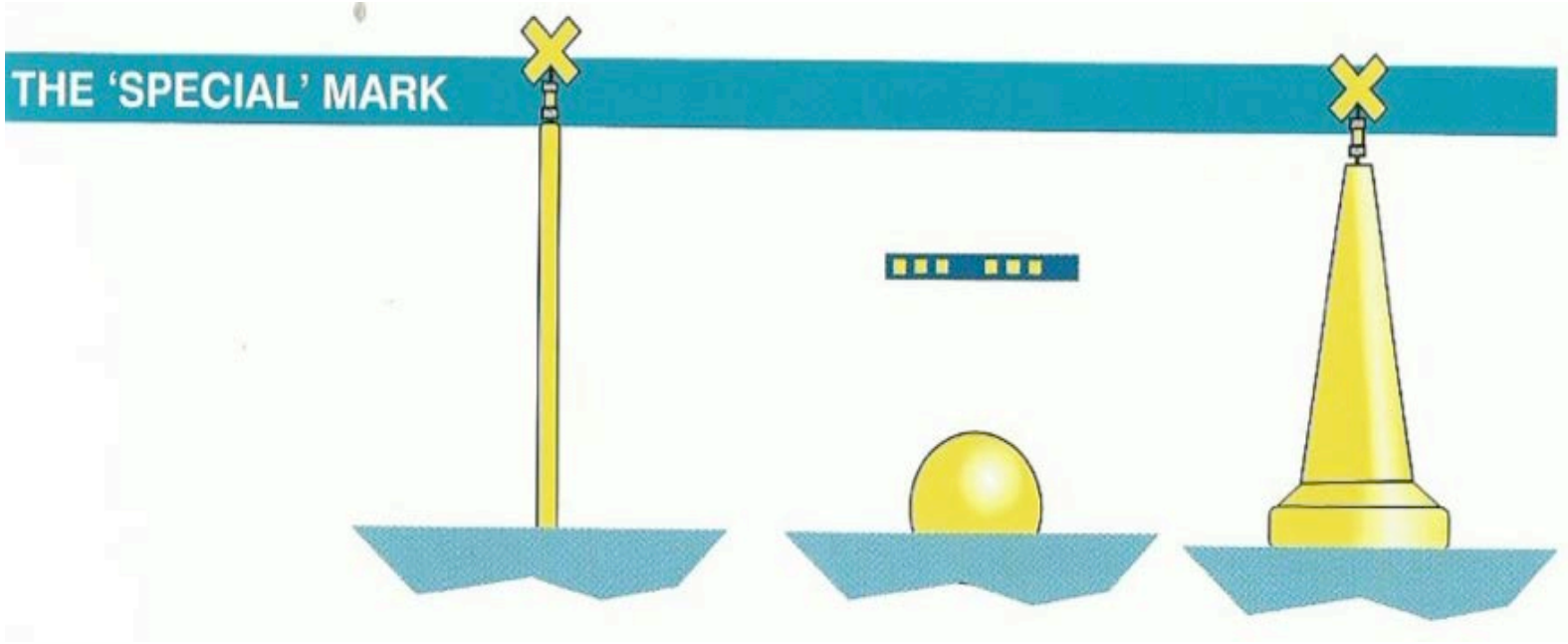
When running in the direction of buoyage

Where there is doubt about the direction of the flood tide, look at your chart. This symbol shows the notional ‘Direction of Buoyage’.



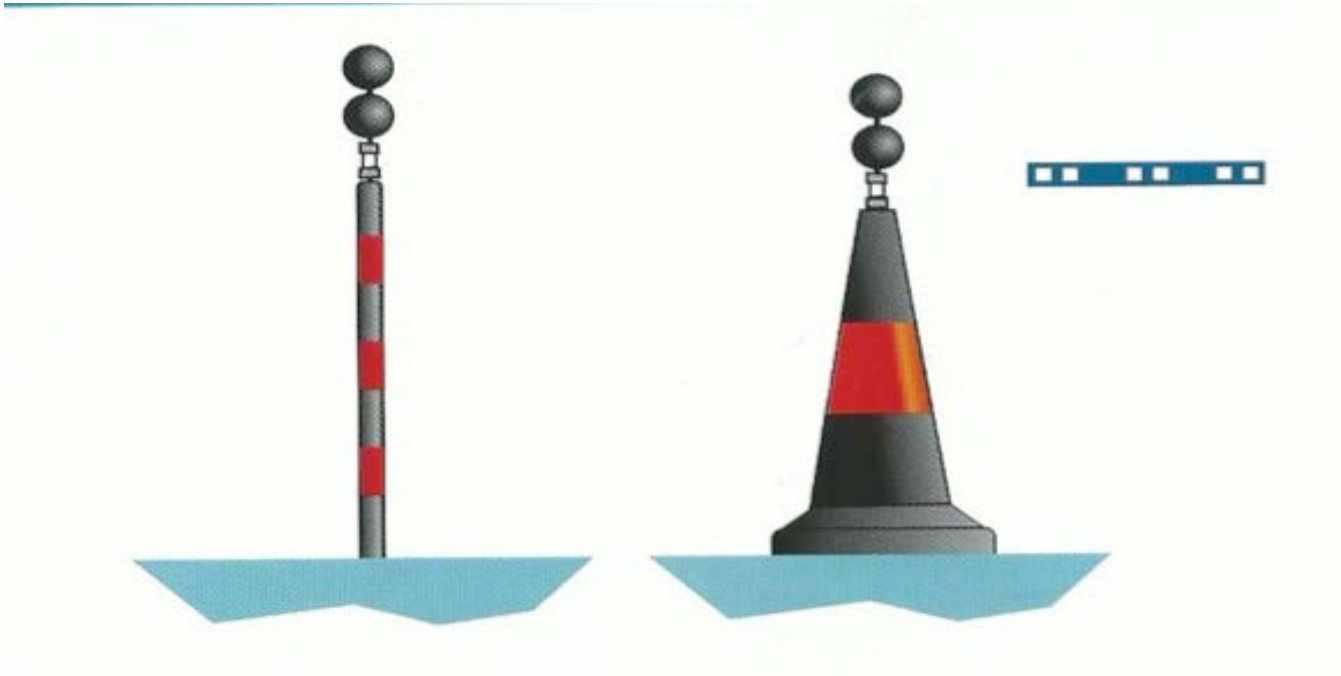
SPECIAL MARKS

Special marks have ‘no navigational significance’. If they are marked on your chart you can use them for pilotage or to fix your position but they shouldn’t be marking anything that you can physically hit. They are commonly used as; Race Marks, transits, limits of zones marking Bathing Areas, Speed Limits, Water Skiing areas, historic wreck sites and the centre line of Traffic Separation Schemes. If lit they will have a yellow light.



ISOLATED DANGER MARK

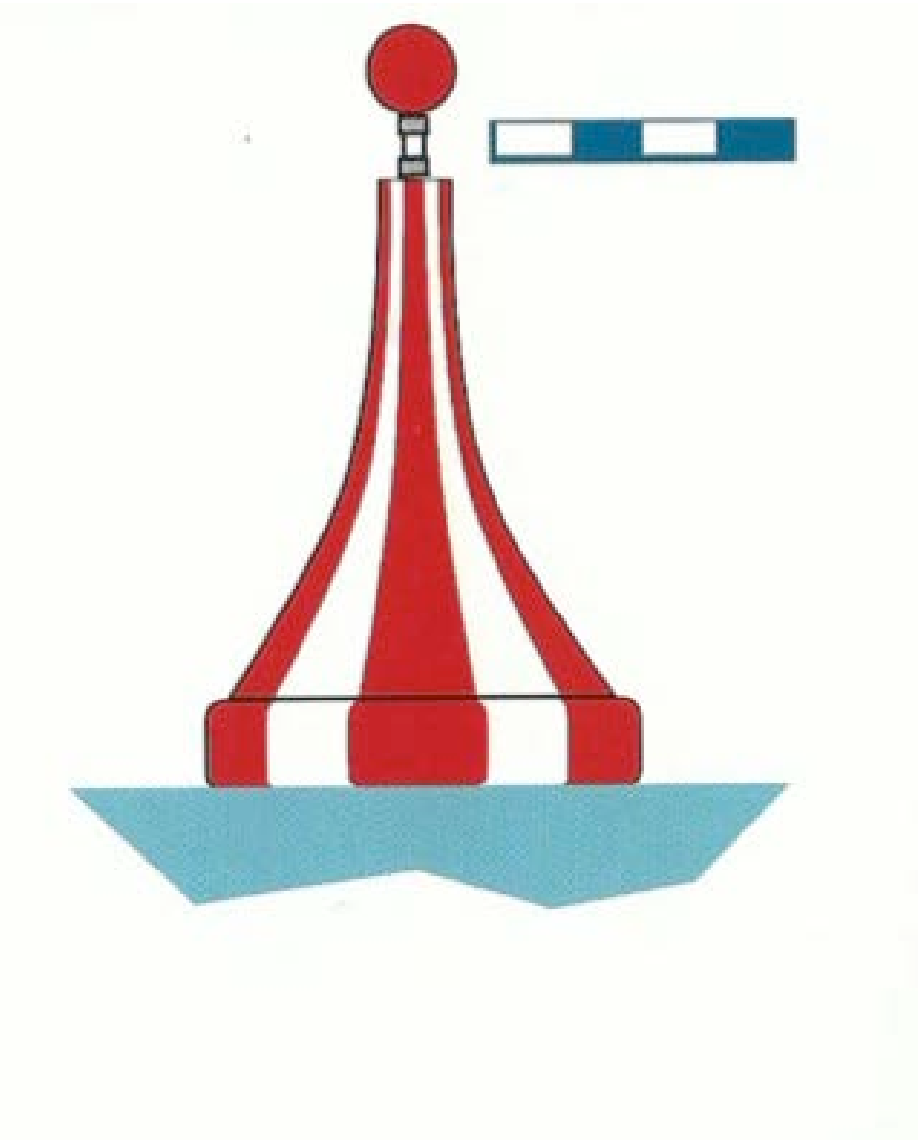
Isolated danger marks are used to mark relatively small hazards in areas of otherwise open water. You will need to refer to your chart to estimate the extent of the hazard, but you should be able to pass either side of the mark. The mark can be a floating buoy, a beacon or a concrete pillar but either way it will be places over the hazard and will be painted with black and red hoops. It will have two balls on the top and if it is lit will either ‘Flash’ or ‘occult’, white, in groups of two.



The SAFE WATER MARK

Fairway Buoy or Sea Buoy

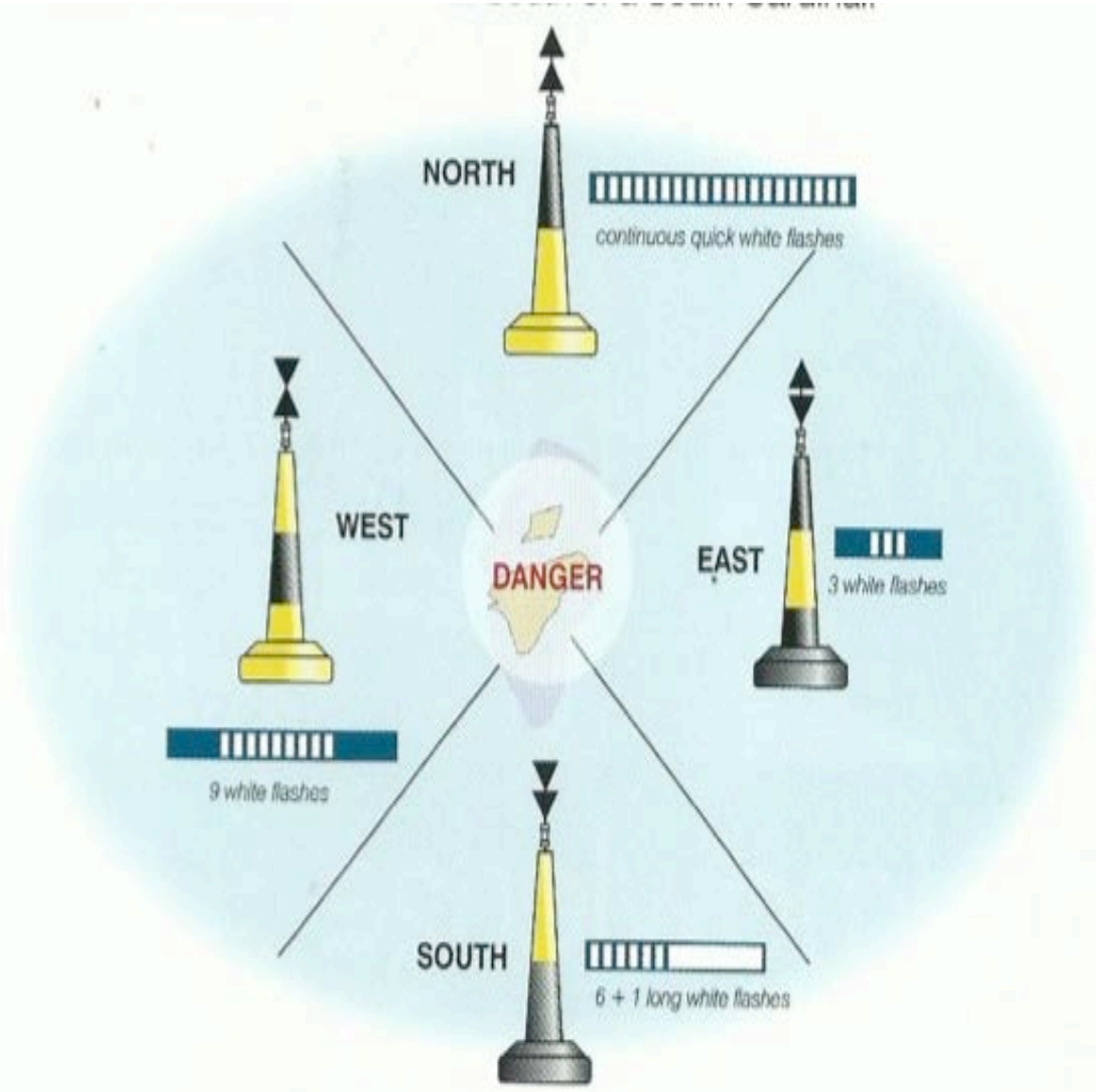
- The Safe Water buoy will be set in deep, safe water at the seaward end of a ‘fairway or harbour approach channel.
- Red and white vertical stripes and a single ball on top, they can also be a round vertically striped buoy.
- Most have a long flash of white light every ten seconds but they can be ‘Isophase’ or morse A.
- They are the ‘point of departure’ and the ‘approach waypoint’, at the interface between sea-going navigation and harbour pilotage.



Cardinal Buoys

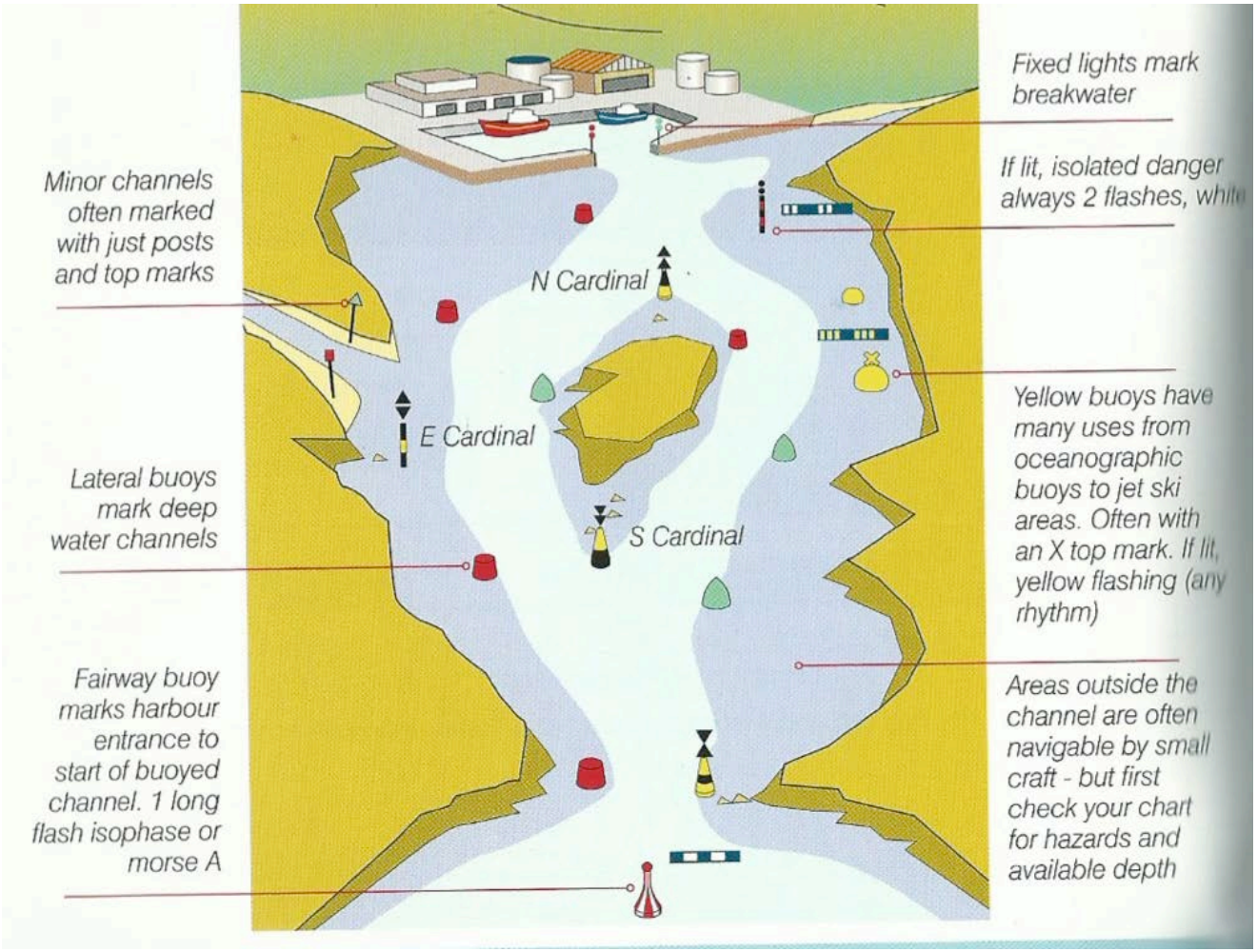
Cardinals mark Hazards

- Cardinals will be placed on the four cardinal points of the compass around the ‘hazard.
- They may be used singly or in a group, but the philosophy remains the same.
- Safe water lies to the north of a North Cardinal, south of a South Cardinal, east of an East Cardinal and west of a West Cardinal.
- They come in all shapes and sizes but the colouring, top marks and light sequences remain constant.
- Cardinals are commonly used at the junctions of channels otherwise marked by Lateral buoys.



A natural mix of Cardinal and Lateral Zone A Buoys and Beacons

Although their philosophies are very different, the Lateral and Cardinal systems blend into a perfectly integrated system for marking harbour channels as well as off-lying hazards.



Wreck Buoy

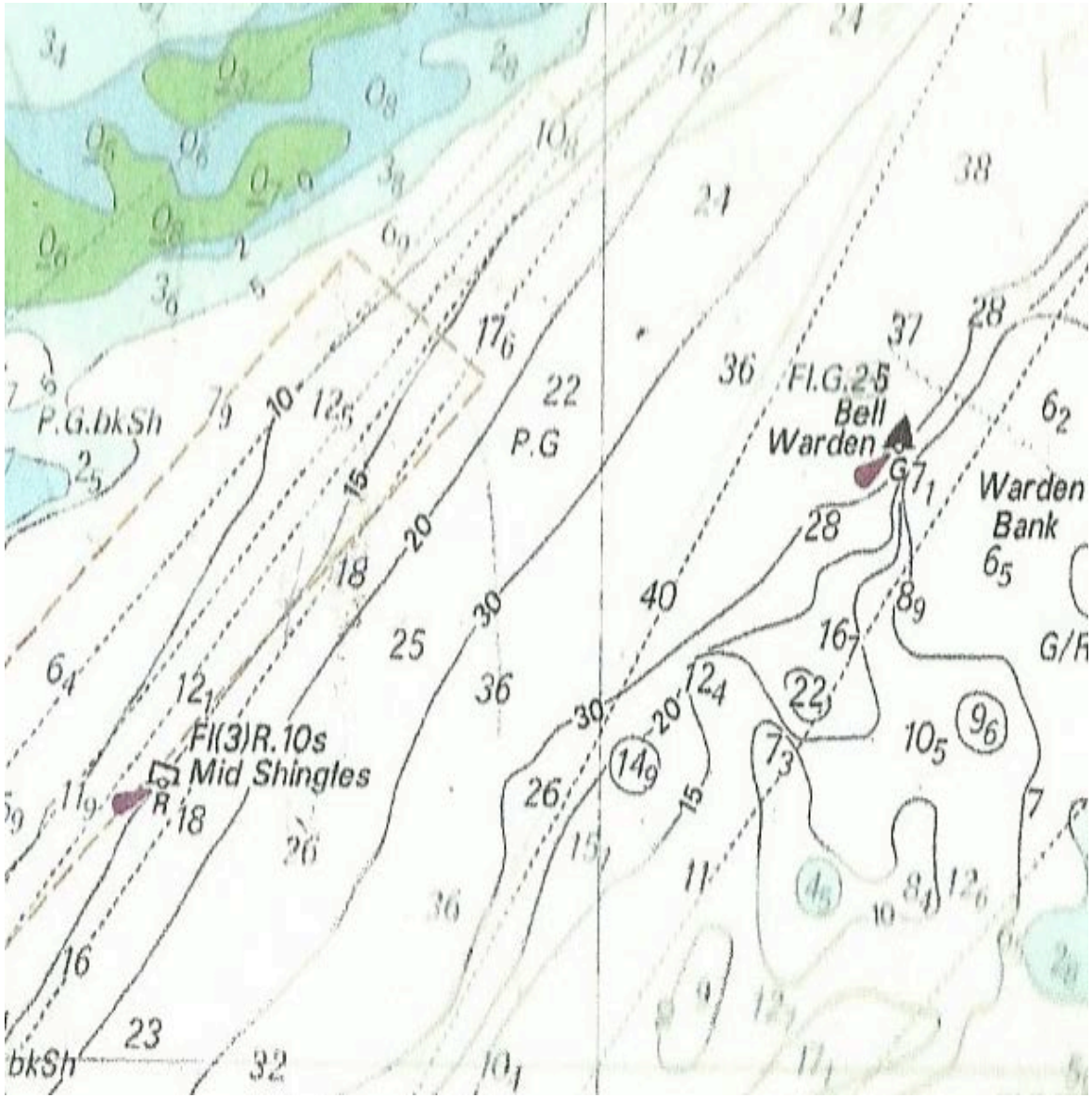
- The wreck buoy is a relatively new design, yellow and blue vertical stripes with a bold yellow cross on the top.
- It is only intended as a temporary buoy to be placed over a new wreck that is a hazard to navigation.
- If it is lit it will ‘Alternate’ with yellow and blue light.

Lights on Marks

Any charted feature that is ‘lit’ will have a magenta coloured ‘teardrop’ next to the feature. Opposite we have two ‘lit’ buoys.

The first (upper right) is a Starboard Hand Mark. It’s name is Warden, it has a bell as a sound signal and it flashes with a green light every 2.5 seconds.

The second (lower left) is a Port Hand Mark. It’s name is Mid Shingles and it flashes in a group of three, in a ten second cycle time.



Light Phases

- If we are going to use navigational lights then we need to be able to recognise the various different light phases.
- Opposite is an extract of chart 5011 describing the various phases and timings.
- I describe a FIXED (F) light as one that is on all of the time.
- Whereas a FLASH (Fl) is an instant of light in a period of dark.
- An OCCULT (Oc) is an instant of dark in a period of light.
- And an ISOPHASE (iso) light has equal periods of light and dark.

CLASS OF LIGHT		International abbreviations	Illustration Period shown
FIXED		F	
OCCULTING *(total duration of light longer than dark)*			
Single occulting		Oc	
Group occulting	e.g.	Oc(2)	
Composite group-occulting	e.g.	Oc(2+3)	
ISOPHASE *(light and dark equal)*		Iso	
FLASHING *(total duration of light shorter than dark)*			
Single-flashing		Fl	
Long-flashing (flash 2s or longer)		L Fl	
Group-flashing		Fl(3)	
Composite group-flashing	e.g.	Fl(2+1)	
QUICK *(50 to 79, usually either 50 or 60, flashes per minute)*			
Continuous quick		Q	
Group Quick	e.g.	Q(3)	
Interrupted quick		Iq	
VERY QUICK *(80 to 159, usually either 100 or 120, flashes per minute)*			
Continuous very quick		VQ	
Group very quick	e.g.	VQ(3)	
Interrupted very quick		IVQ	
ULTRA QUICK *(160 or more, usually 240 to 300, flashes per minute)*			
Continuous ultra quick		UQ	
Interrupted ultra quick		IUQ	
MORSE CODE	e.g.	Mo(K)	
FIXED AND FLASHING		FFl	
ALTERNATING	e.g.	Al WR	R W R W R W