

Buoys, Beacons & Lights

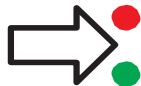
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Editor

Traffic lights and signs guide drivers on the roads. Buoys, beacons and navigation lights do the same on the water. In Queensland, the system of buoys, beacons, marks and lights used is compliant with the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Buoyage System 'A'. Each type of mark has its own colour, shape, top mark and light combination. To navigate safely, you need to know each mark and its meaning.

Lateral Marks

Lateral marks show the port (left) and starboard (right) sides of navigable waters or channels. A port mark is red with a can-like shape and displays a red flashing light at night (when lit). A starboard mark is green with a cone-like shape and displays a green flashing light at night (when lit).

When port and starboard lateral marks are opposite each other, travel between them. When there is a single lateral mark, the safe side to pass depends on the direction of travel (or buoyage). This is shown on charts by the symbol:



When travelling upstream or away from the sea:



- keep port (red) marks on your port-hand side (left)
- keep starboard (green) marks on your starboard hand side (right).

When travelling downstream or towards the sea:



- keep port (red) marks on your starboard-hand side (right)
- keep starboard (green) marks on your port-hand side (left).

PORT Lateral marks

When lit exhibits

Beacons

Buoys

Light sequence



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Photo example

STARBOARD Lateral marks

When lit exhibits

Beacons

Buoys

Light sequence



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Photo example

Cardinal marks

Cardinal marks show where the deepest and safest water is by using a compass. They can mark:

- Where to find the deepest water in an area
- The safest side to pass a danger
- A feature in a channel (for example, a bend, junction or the end of a shoal).

Cardinal marks have black and yellow bands with black double cones on top showing the different compass directions that identifies the safest and deepest water.

North cardinal mark: The top cones point up or north, showing there is safe water to the North of the mark.

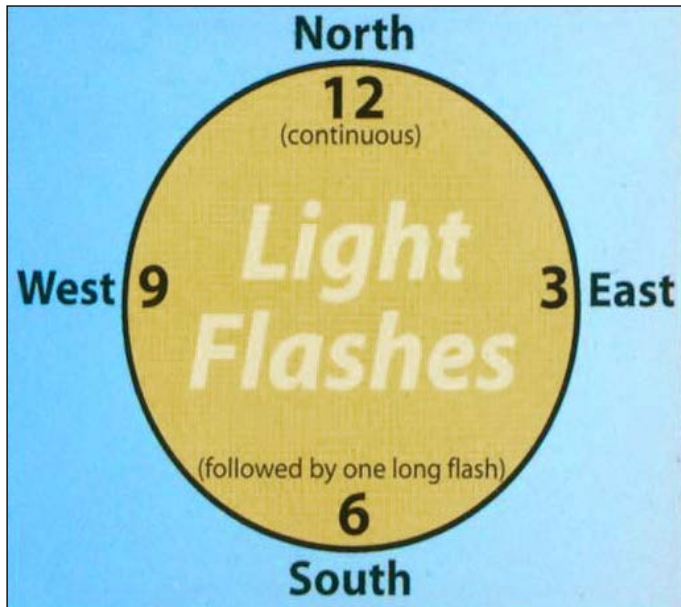
East cardinal mark: The top cones are in the shape of an egg, showing there is safe water to the East of the mark. To remember this, think of 'e' for egg and for East.

South cardinal mark: The top cones point down or South, showing there is safe water to the South of the mark.

West cardinal mark: The top cones make the shape of a wine glass, showing there is safe water to the West of the mark. To remember this, think of 'w' for wine glass and for West.

At night, each type of cardinal mark has a flashing white light with different groupings of flashes (continuous, or groups of 3, 6 or 9). To remember each type, think of a compass face with the numbers of a clock marked on it beside each direction:

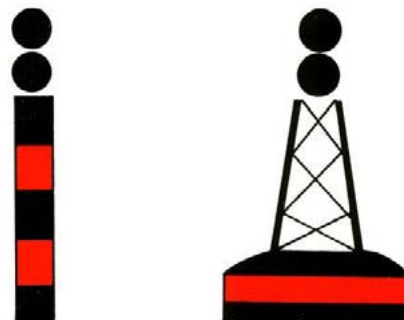
- 3 (quick or very quick) flashes for East
- 6 (quick or very quick) flashes followed by a long flash for South
- 9 (quick or very quick) flashes for West
- Continual (quick or very quick) flashes for North.



The top part of the image is a diagram titled "CARDINAL MARKS" on a yellow background. It shows a central red diamond labeled "DANGER AREA". Four black lines radiate from the center to the corners, representing the cardinal directions. In each quadrant, there are three small icons of a cardinal mark: North (pointing up), East (pointing right), South (pointing down), and West (pointing left). Below the diagram, it says "When lit exhibits." with a small lightbulb icon. Below this is a section titled "Photo example" with four photographs of actual cardinal marks in the sea. The top-left photo is labeled "NORTH", the top-right "SOUTH", the bottom-left "EAST", and the bottom-right "WEST".

Isolated danger marks

Isolated danger marks show where there is an isolated danger that has navigable water all round it – but don't pass too close. Isolated danger marks are black with 1 or more red horizontal bands and 2 spheres as the top mark. At night, the white light flashes in groups of 2. To remember isolated danger marks, think of 2 flashes of light with 2 spheres as the top marks.



Special marks

Special marks show a special area or feature. For example, to show that a channel divides or to mark cables or pipelines.

They can also mark a channel within a channel. For example, a channel for deep draught ships in a wide river or bay where the limits of the channel for normal navigation are marked by red and green lateral buoys or beacons. The direction to travel around a special mark is usually referred to or shown on charts.

Special marks are yellow and sometimes have a yellow X as the top mark. At night, the flashing light is yellow.

Safe water marks

Safe water marks show that there is navigable water all around the mark. For example, fairway, mid-channel or landfall marks. Safe water marks have red and white vertical stripes with a single red sphere as the top mark. At night, a single white light shows 1 long flash every 10 seconds. To remember safe water marks, think of 1 light with 1 long flash and 1 sphere for the top mark.

OTHER NAVIGATION AIDS

There are some other aids to navigation that you need to be aware of.

Leads

Leading lights/beacons usually display a triangular shape. The front lead has its apex pointing up and the rear or back lead has its apex pointing down. When the leads are in line, you are travelling in the middle of the channel. Where leads are used to mark the middle of larger shipping channels, small vessels should travel on the starboard-side of the channel to keep clear of large ships – especially at night. Fixed white day lights are sometimes used to mark the leads. At night, major leads are usually lit with blue lights.

Directional or sector lights

Directional lights and sector lights have a similar purpose to leading lights at channel entrances and inshore waters. Directional lights can be used as steering marks and sector lights display a light of different colours (usually green, white and red).

SPECIAL MARKS

When lit exhibits

Light sequence

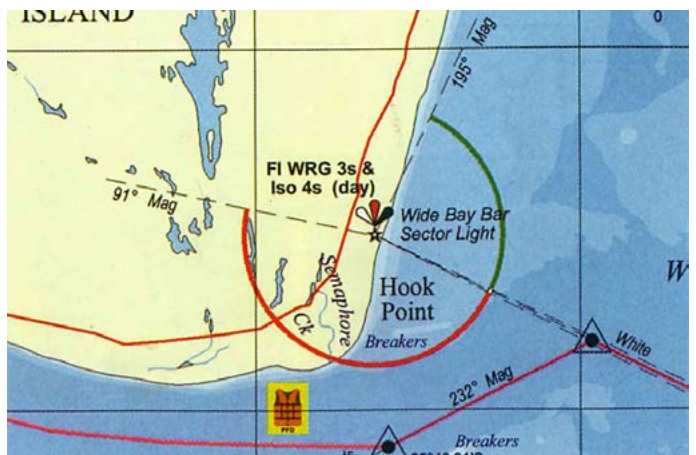
Photo examples

LEADS

Line of leads Front lead Back lead

Channel leads may exhibit a light of any colour

Photo example



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