

# Recreational Skippers Ticket

Collision Avoidance

# Collision regulations

- Everyone has a responsibility to avoid collisions so, even if the rules require another vessel to keep out of your way, you must be ready to take action yourself.
  - All actions must be clear, in good time, and large enough so other skippers will understand your intentions.
  - Generally alterations of course are more obvious than alterations of speed, but never hesitate to slow down to give yourself thinking time or more room.

# Lookout

- You must keep a good lookout with eyes and ears at all times, especially in poor visibility and at night.
  - At those times, if you have electronic aids such as RADAR you should use it.

# Safe speed

You should travel at a speed that gives you time to manoeuvre to avoid collisions.

- Visibility,
- volume of traffic,
- background lighting and
- the water depth

are some of the factors that might cause you to slow down.

# Assessing the risk

- Constantly assess all the vessels in the vicinity to see if they are likely to come close.
  - A useful technique is to see whether your line of sight (the bearing) to another vessel does not move ahead or drop back. If it is steady, you are on, or nearly on, a collision course.
- Any action you now take under the rules must be obvious to the other vessel, and result in passing well clear.

# Restricted visibility

- Fog is not common in Western Australia, but it certainly occurs. A good lookout becomes even more vital, and you should make yourself more visible by turning on your navigation lights.
- Slow down and be ready to stop if you sight another vessel or hear a fog signal.

# Sound signals

- Sound signals are sometimes used by ships and ferries to indicate an action they are about to take:
  - **One short blast:** I am altering course to starboard.
  - **Two short blasts:** I am altering course to port.
  - **Three short blasts:** My engines are going astern.
  - **Five short blasts:** (officially) I am unsure of your intentions; (practically) you are not following the rules – get out of the way.



# The Rules of the Road



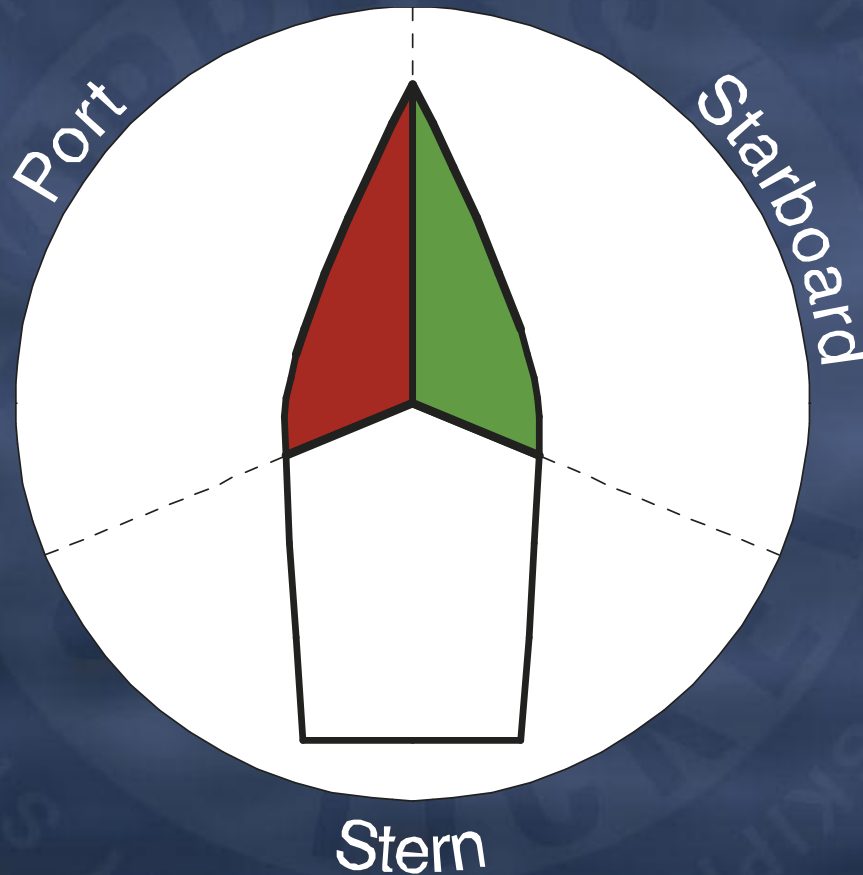
# The RIGHT rule

## The RIGHT rule is:

- look to the right;
- give way to the right;
- turn to the right; and
- stay to the right.

# Operating rule

**Port:** If a power-driven vessel approaches within this sector maintain your course and speed with caution.

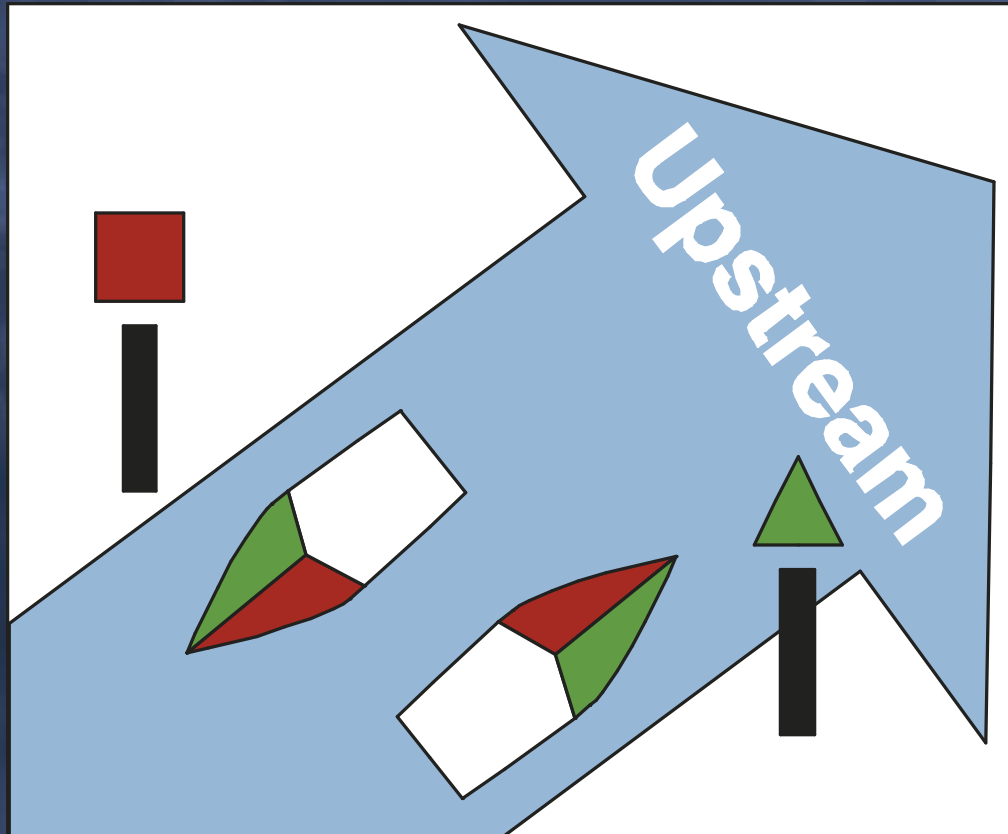


**Starboard:** If any vessel approaches within this sector, keep out of its way. (Note: This rule may not always apply if one or both vessels are sailboats.)

**Stern:** If any vessel approaches this sector, maintain your course and speed with caution.

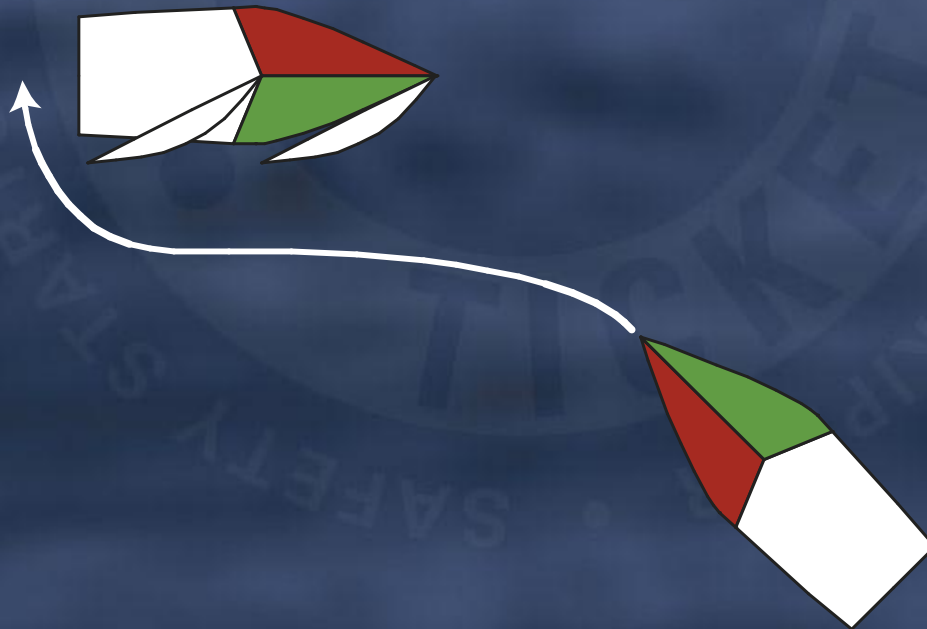
# Channels

- In narrow channels, all vessels should keep to the starboard side of the channel.



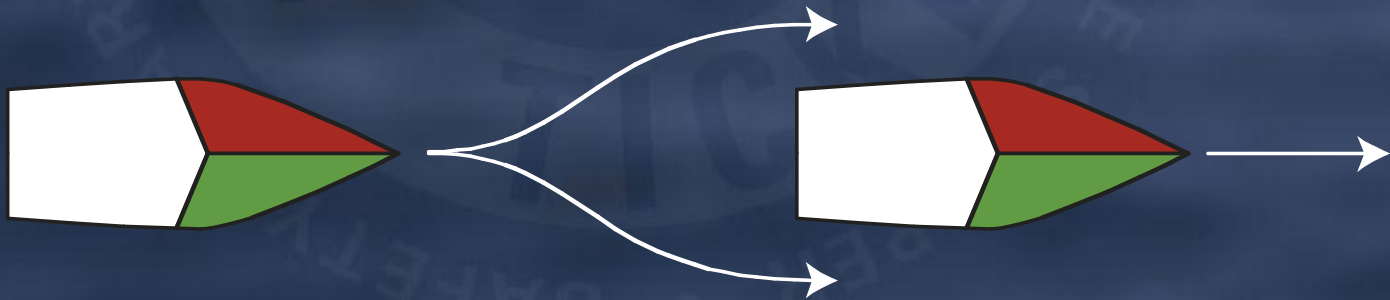
# Power meets sail

- In general, power vessels have to keep out of the way of sailing and fishing vessels, and vessels that are hampered by such tasks as dredging, cable laying and so on.
  - However, a sailing vessel must give way to a powered vessel if it is overtaking it.



# Overtaking

- This rule overrides all the other give-way rules.
  - The overtaking vessel must keep out of the way of the vessel being overtaken.
  - You can pass on either side of the vessel, but keep well clear – the other skipper may not have seen you.
  - If you are being overtaken, hold your course and speed until the other vessel is past and well clear.



# Crossing

- If the other vessel is on your **right** (starboard) side it has right of way and you must keep clear: you must either turn **right**, slow down to let the other vessel pass ahead of you – or do both.
- If the other vessel is on your port side, you have right of way and should hold your course and speed. However, if you think the other vessel is leaving it too late, you have to take action yourself. The “right rule” still applies: if you alter course, alter to the **right** (starboard). Or you can slow down, or do both.
- **A** gives way to **B**.



# Head on

- Both vessels must alter course to the **right** (starboard).
- If the other vessel turns the wrong way, you should turn even more **right**, slow down, or stop your vessel.
- Both vessels alter course to the **right** starboard.

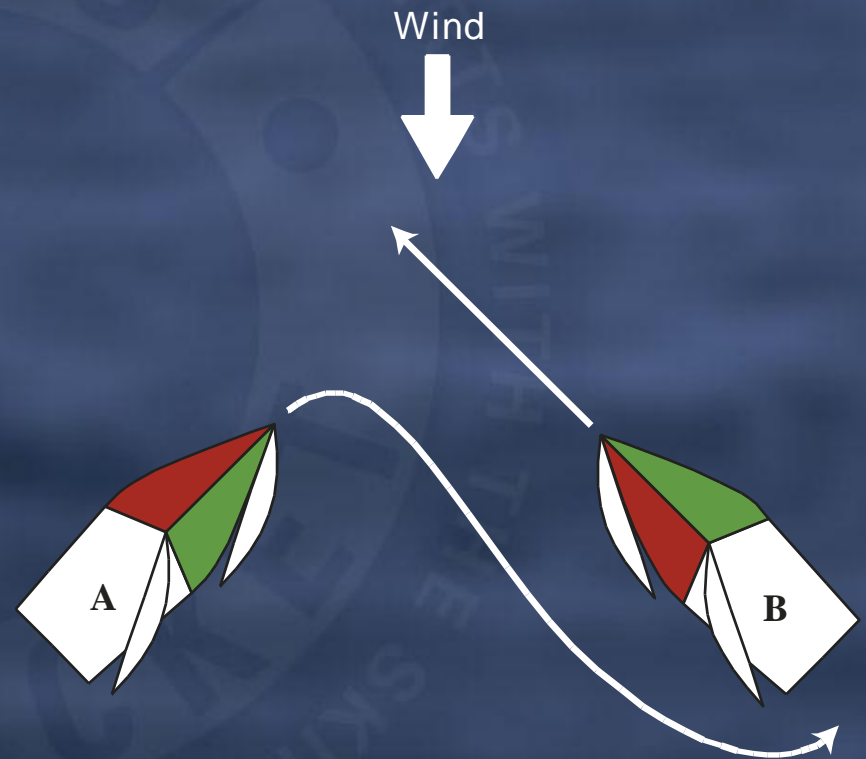




# Sailing Vessels

## Wind on different sides

- When sailing vessels have the wind on different sides, the vessel that has the wind on the port side shall keep out of the way of the other.
  - A keeps clear of B.
- If a sailing vessel with the wind on the port side sees a sailing vessel to windward and cannot determine with certainty whether the other sailing vessel has the wind on the port or starboard side, it shall keep out of the way.

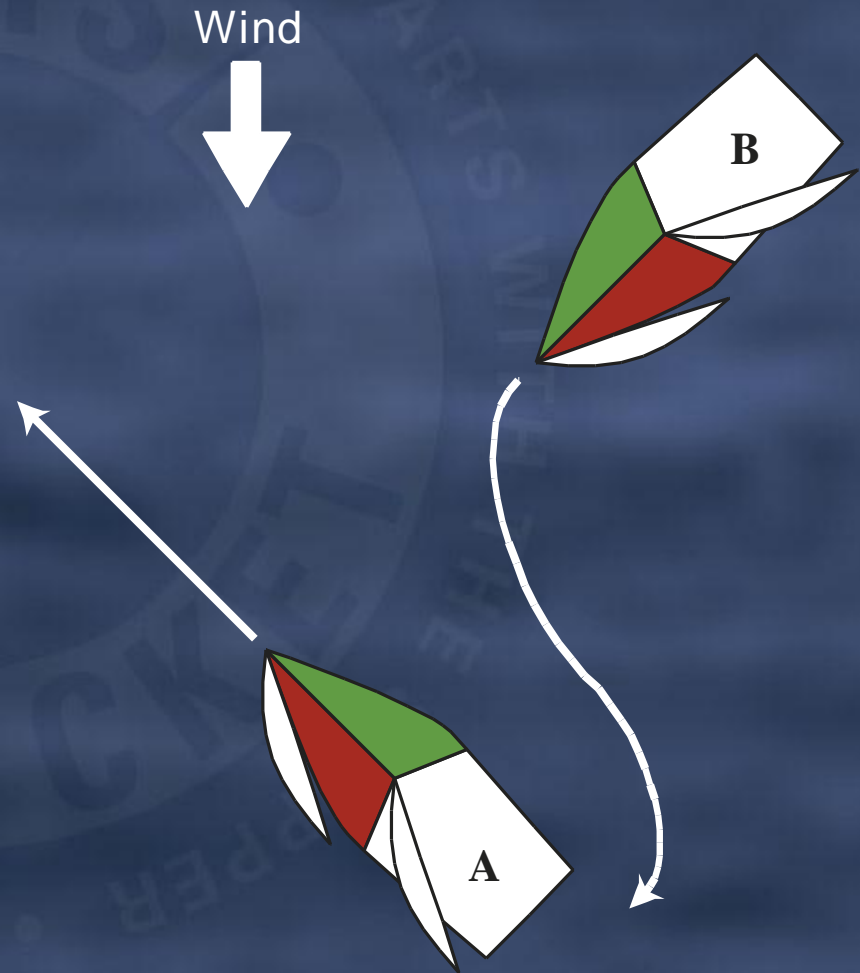




# Sailing Vessels

## Wind on the same sides

- When both sailing vessels have the wind on the same side, the vessel which is the closest to the wind (windward) shall keep out of the way of the vessel which is to leeward.
  - **B** keeps clear of **A**.



# Navigation Lights

# Navigation Lights

- Vessels that operate from sunset to sunrise, whether at anchor or underway, must carry and exhibit the correct lights.
  - A vessel is underway when not anchored, moored to the shore or aground.
- Navigation lights must also be displayed during daylight hours in periods of restricted visibility.
- All vessels must comply with the regulations concerning lighting.

# Extra care at night

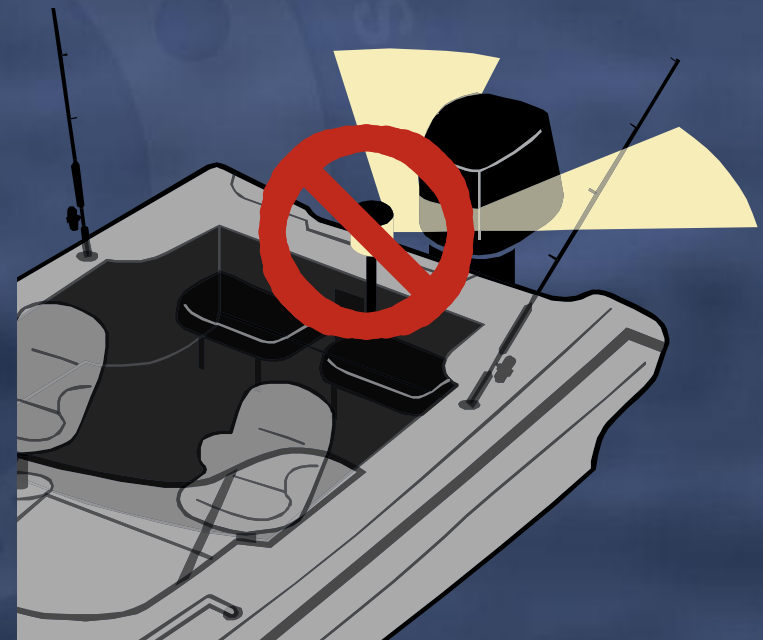
- Many navigation aids are unlit, and there are many other potential hazards, so keep your speed down.
- Some areas may have special speed limits after dark; for example,
  - the open speed limit areas of the Swan and Canning rivers are reduced to 10 knots between sunset and sunrise.

# Night vision

- Keep lighting within your own vessel to a minimum; it preserves your night vision.
- Only use spotlights where it is vital to pick up an unlit object (mooring buoys for instance).
- Respect other people's night vision.

# Placement of lights

- Check that your vessel's structure does not obscure the navigation lights. The masthead light on many trailer boats is on an extending pole at the stern, and it does not lift high enough to be visible over the cabin top or windscreen. This is dangerous and unacceptable.
- **Navigation lights**
  - Navigation lights shall be positioned so they are not obscured by the vessel's superstructure or interfered with by the deck lights.
- **Masthead**
  - The masthead and/or all round white light must be fitted (if practical) on the centre line (bow to stern) of the vessel.



# Range of lights

## **Vessels 12 metres to 20 metres**

- Masthead light – 3 miles.
- Sidelight and stern light – 2 miles.
- All round lights – 2 miles.

## **Vessels under 12 metres**

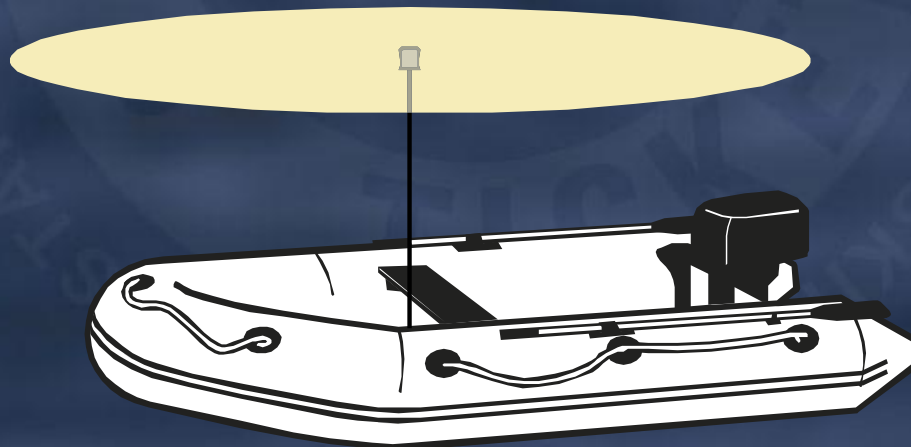
- Masthead light – 2 miles.
- Sidelight – 1 mile.
- Stern light – 2 miles.
- All round lights – 2 miles.



# Required Lights

## Vessels under seven metres and less than seven knots

- Power vessels of less than seven metres in length, with a maximum speed of seven knots or less shall exhibit a visible all round white light and, if possible, separate or combined sidelights.

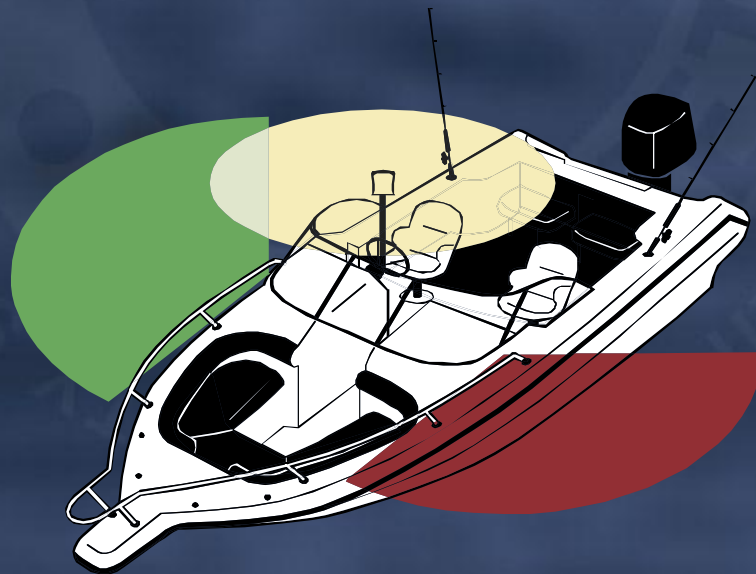




# Required Lights

## Vessels under 12 metres

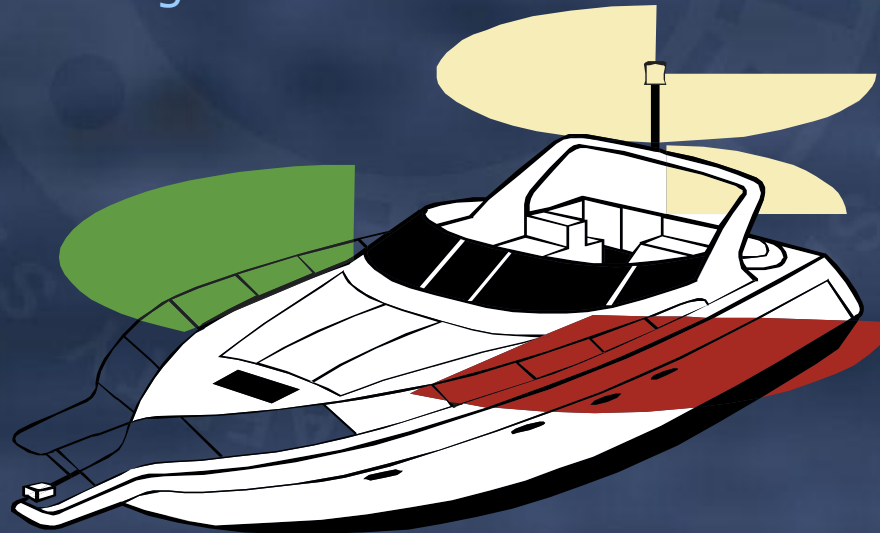
- Power vessels of less than 12 metres in length shall exhibit:
  - Separate or combined sidelights, a masthead light and a stern light; or
  - Separate or combined sidelights and an all round white light.
- Masthead or white all round light shall be carried at least one metre above the sidelights.



# Required Lights

## Vessels 12 metres to 20 metres

- Power vessels of more than 12 metres in length but less than 20 metres in length shall exhibit:
  - A masthead light, separate sidelights and stern light; or
  - A masthead light, combined sidelights and stern light.
- The masthead light shall be carried at least 2.5 metres above the gunwhale. Combined sidelights shall be carried at least one metre below the masthead light.



# Required Lights

## **Sailing vessels underway**

- Sailing vessels while underway (being motor driven) shall exhibit navigation lights applicable to power driven vessels.

# Required Lights

## Sailing vessels under seven metres

- Sailing vessels of less than seven metres in length, or vessels being rowed shall exhibit the lights required for sailing vessels over seven metres in length.
- If not, they shall have ready for use an electric torch or lighted lantern showing a white light which shall be exhibited in sufficient time to prevent a collision.



# Required Lights

## Sailing vessels seven metres to 20 metres

- Sailing vessels of more than seven metres in length and less than 20 metres in length shall exhibit:
  - Combined lantern, that is at or near the top of the mast and incorporates sidelights and stern light; or
  - Separate sidelights and stern light.



# Required Lights

## Sailing vessels over 20 metres

- Sailing vessels more than 20 metres in length shall exhibit sidelights and stern light and may carry the optional red and green all round lights.
  - However, these vessels may not carry a combined lantern.



# Required Lights

## Power/sailing vessels at anchor

- Vessels less than 50 metres in length at anchor, shall exhibit an all round white light placed where it may best be seen.
- Anchor lights must always be shown from sunset to sunrise.







# IALA Buoyage



# Navigation aids

## Navigation aids

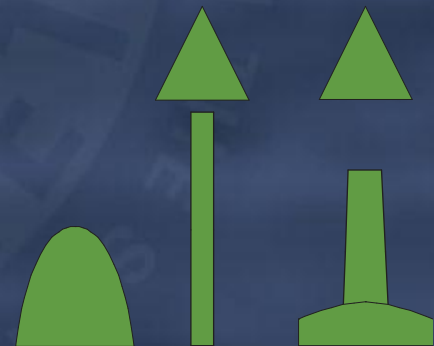
- An international system of buoys, beacons and lights helps guide vessels clear of dangers and indicates safe water.
- Navigation marks are recognised by distinctive shapes and colours, and their lights by distinctive colours and rhythms.
  - All these marks are on the chart – when you have any doubts what you are looking at always refer to the chart.

# Lateral marks

- The marks indicating the port and starboard hand sides of channels are called lateral marks.
- When lit, port hand marks have red lights, starboard hand marks have green lights.
  - These are the only marks to use these colours; the lights can use any rhythm.



Those topped by a red can shape are called port hand marks



Those topped by a green triangle shape are called starboard hand marks.

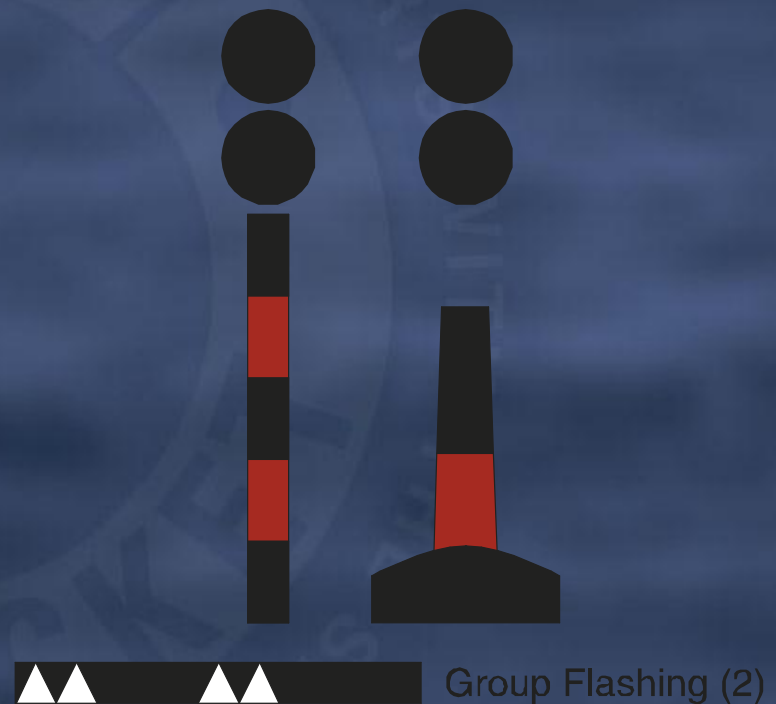


# Isolated Danger

- As the name suggests, it marks danger with navigable water all around, too small to need marking with a series of marks. In general, pass as well clear of it as you can.

## Light

- If lit, it will have a white light, flashing in groups of two. The memory jog is two flashes to match the two-sphere topmark.

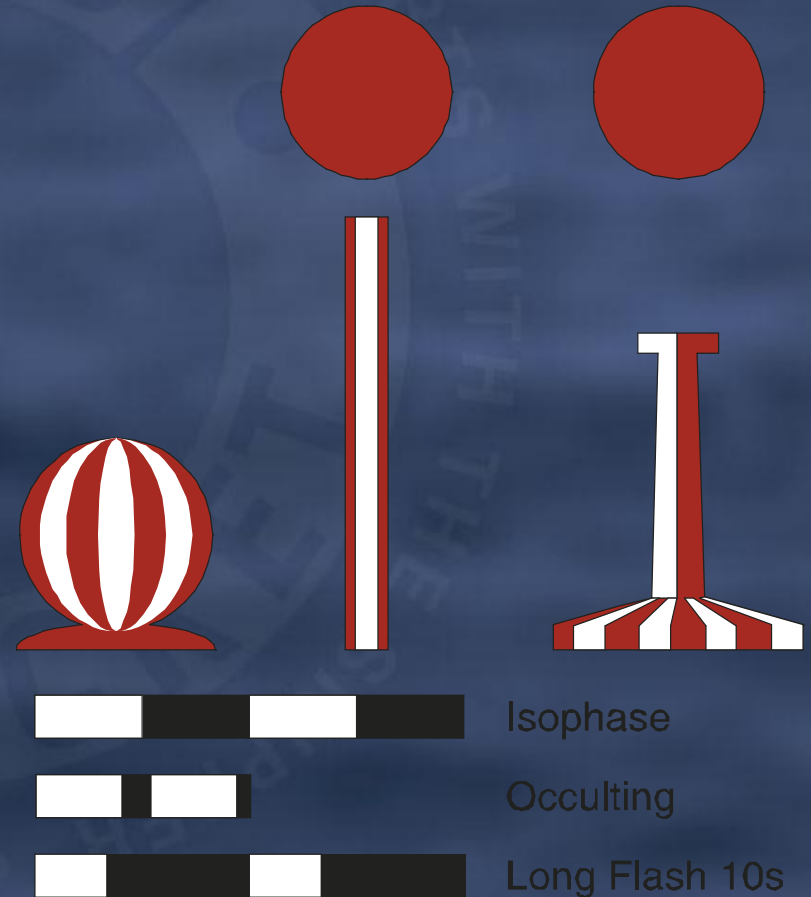


# Safe Water

- There is safe water all around this mark. Most commonly, it used to mark the seaward end of channels into ports. They are sometimes used to mark the centre of a channel; occasionally they are used in a series down the middle of a channel instead of lateral marks on the edges of the channel.

## Light

- If lit, it will have a white light, whose rhythm always has a long period of light in the sequence.



# Special Marks

- This is used for such things as traffic separation schemes, spoil ground, aquaculture areas, cables and pipelines, or to temporarily replace a missing mark.
- Special marks can have a can, cone or sphere as the body if they are being used in the same sense as lateral or safe water marks.

## Light

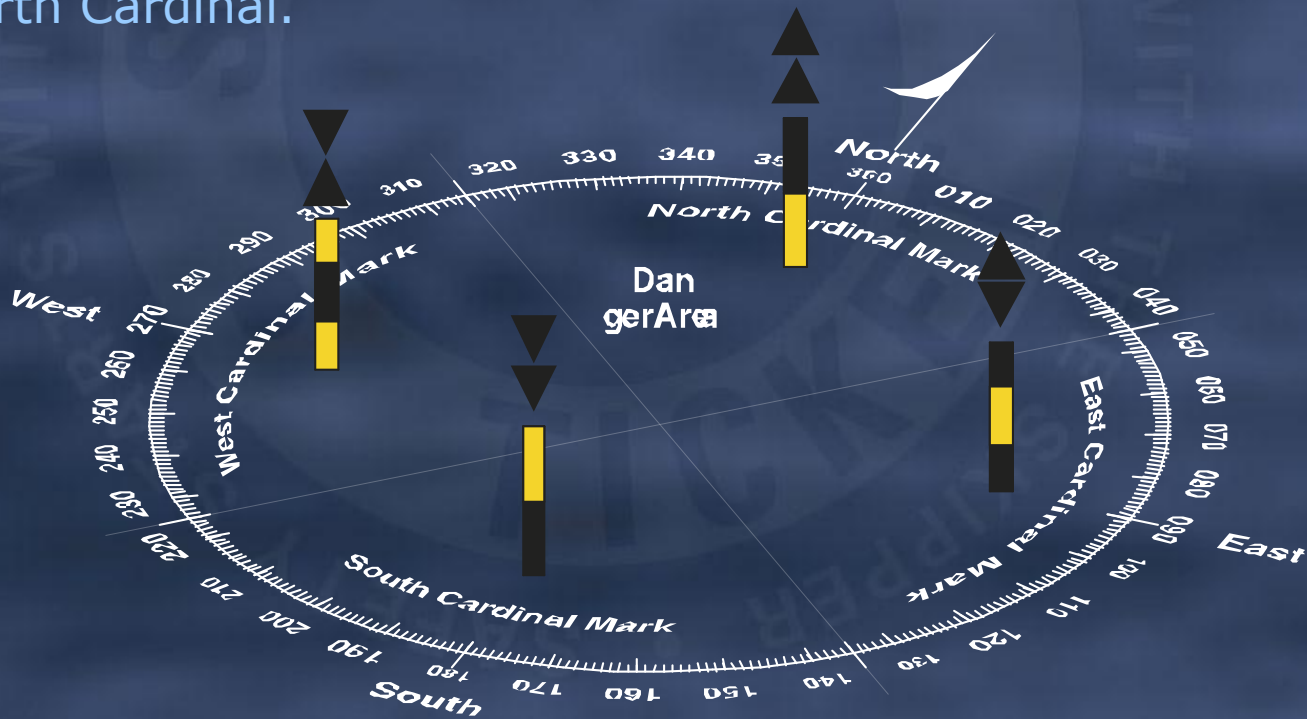
- If lit, a special mark will have a yellow light using any pattern that will not confuse them with other navigation marks.





# Cardinal Marks

- These are used where lateral marks would be inappropriate or confusing. They indicate the compass direction of the safest water.
- You should pass to the east of an East Cardinal mark, to the south of a South Cardinal, to the west of a West Cardinal and to the north of a North Cardinal.



# Cardinal Marks

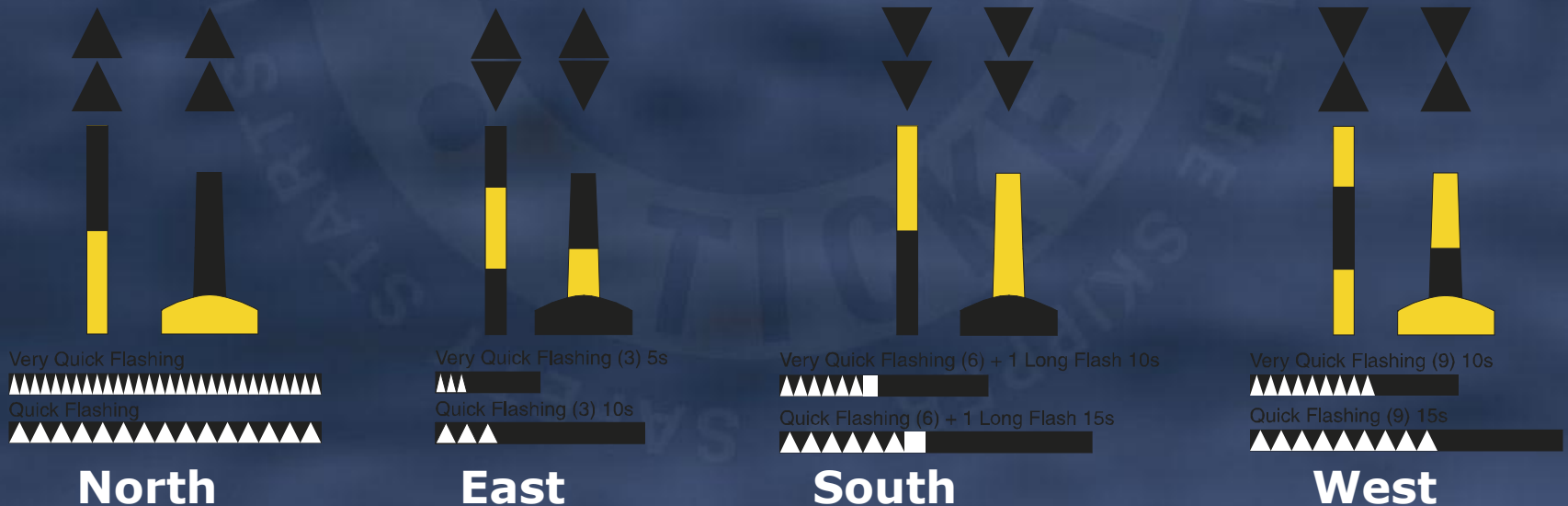
- The lights, topmarks and colour schemes have a logic to help you memorise them:
- The cones on top point in the direction of the black segment of the pillar:

**North** – both cones top point up, black at the top of the pillar.

**East** – the cones point up and down, black at top and bottom.

**South** – both cones point down, black at the bottom.

**West** – the cones point inwards, black in the middle.





# Cardinal Marks

## Lights

- The lights patterns almost follow the clock face:

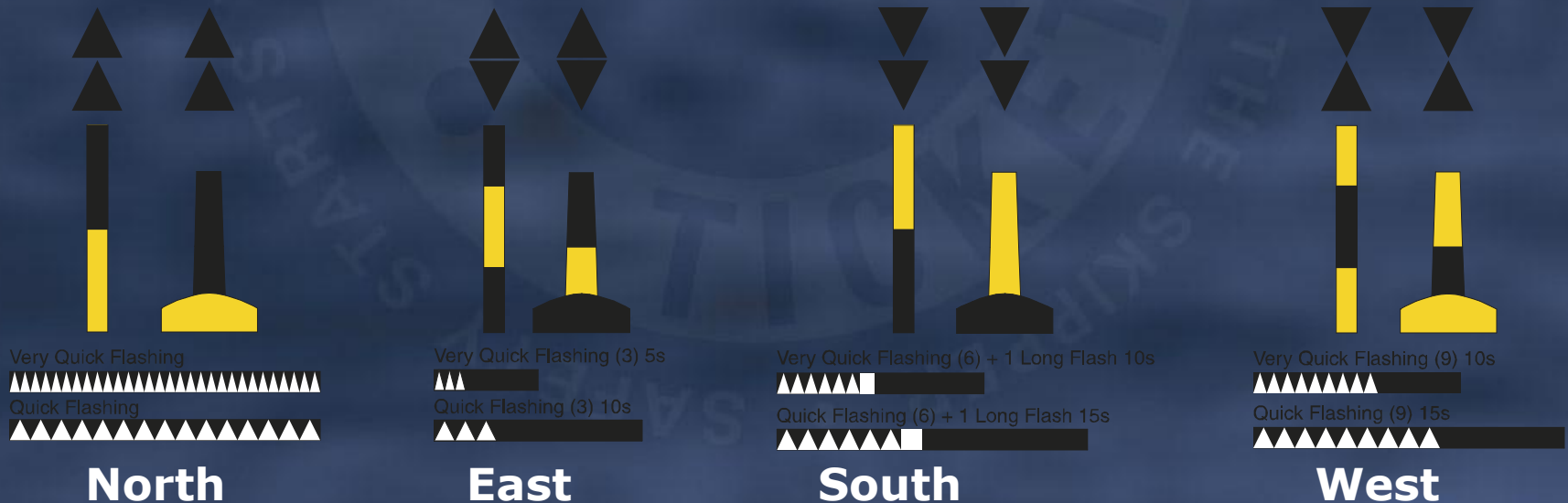
**North** Cardinal = 12 o'clock = continuous flashing.

**East** Cardinal = 3 o'clock = 3 flashes

**South** Cardinal = 6 o'clock = 6 flashes + 1 long

**West** Cardinal = 9 o'clock = 9 flashes

- The long extra flash for south, and the continuous flash for north are to avoid confusion if you lose track with your counting.



# Leads

- Leads are a pair of marks often used for the approaches to anchorages instead of lateral marks.
- You steer to keep the rear lead directly above the front lead.
- **Lights**
  - If lit, they may use any colour. The chart will have the details.

