Appendices

Appendix 1

The International Regulations for Preventing Collisions at Sea (COLREGs)

- Collision avoidance rules
- Navigation lights
- Sound signals
- Distress signals
- Life Saving signals

The International Regulations for Preventing Collisions at Sea, COLREGs, govern the interaction of vessels on the water, and apply to all recreational craft at sea and on waters navigable by sea-going vessels. The Regulations also apply to sections of our inland waterways.

The Regulations govern the following:

- Response of vessel in any condition of visibility.
- Response of vessels in sight of one another.
- Conduct of vessels in restricted visibility.
- Light and shapes to be carried by various craft.
- Sound and light signals between craft.
- Positioning of lights and shapes on board.
- Frequencies of sound signals.
- Distress signals.

While the complete rulebook forms a large and detailed publication, there are a number of condensed versions available specifically tailored for the recreational boat user. Recreational craft operators should familiarise themselves with some of the rules and regulations so there will be no hesitation on their part, when a possible risk of collision arises.

- As a general rule, power gives way to sail. But sailors must be reasonable – don't expect large, less manoeuvrable vessels under power to give way.
- All small craft should give large vessels a wide berth.
- In narrow channels, keep to the right (starboard). If plenty of distance separates two passing boats, there is no need to deliberately alter course to pass to the right of the other boat.
- In a head-on approach to another boat, always alter course to the right (starboard) and never to the left (port).
- When two boats are crossing, the boat on your right (starboard) has the right of way – you should keep clear, by either altering course or slowing down, to pass astern of the other vessel.
- If you have the right of way, be predictable – keep your course and speed consistent.

- Don't push your luck by forcing your 'right of way'. You should do whatever is necessary to avoid a collision.
- In crowded areas such as approaches to jetties, marinas and moorings, be aware of other vessels manoeuvring as very often their movements can be unpredictable.
- Maintain a proper lookout at all times and in all directions. Craft under sail should regularly check the area "below" or to lee of them where visibility is obstructed by the vessels sails.
- Craft should at all times proceed at a safe speed, considering weather conditions, traffic density, visibility, depth of available water and the craft's manoeuvring qualities.

Collision Prevention

A number of the collision prevention rules are included below.

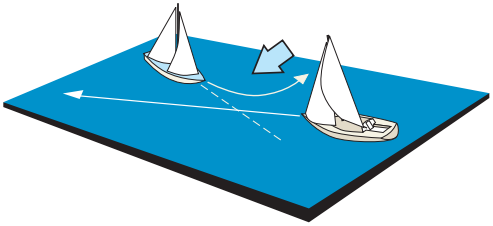
Narrow channels – Rule 9

Rule 9 sets out requirements in relation to the navigation of narrow channels. This is particularly important in river estuaries and narrow buoyed channels that are frequented by both large commercial vessels and recreational craft. Among the requirements are the following:

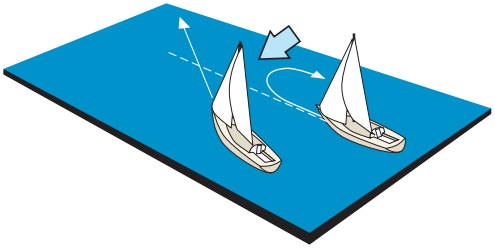
- a vessel proceeding along the course of a narrow channel or fairway shall keep as near to the outer limit of the channel or fairway which lies on her starboard side as is safe and practicable;
- a vessel of less than 20 metres in length or a sailing vessel shall not impede the passage of a vessel which can safely navigate only within a narrow channel or fairway;
- a vessel engaged in fishing shall not impede the passage of any other vessel navigating within a narrow channel or fairway;
- a vessel shall not cross a narrow channel or fairway if such crossing impedes the passage of a vessel that can safely navigate only within such channel or fairway;
- in a narrow channel or fairway when overtaking can take place only if the vessel to be overtaken has to take action to permit safe passing, the vessel intending to overtake shall indicate her intention by sounding the appropriate signal prescribed in the Rules;
- a vessel nearing a bend or an area of a narrow channel or fairway where other vessels may be obscured by an intervening obstruction shall navigate with particular alertness and caution and shall sound the appropriate prescribed signal;
- a vessel shall avoid anchoring in a narrow channel.

Sailing Vessels – Rule 12

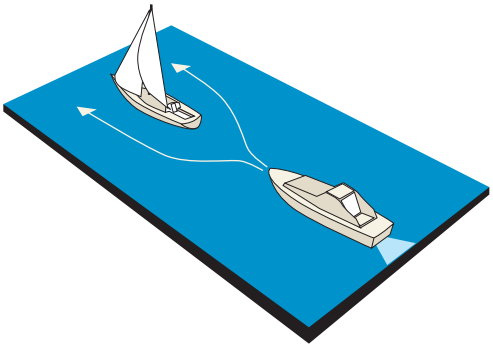
When two sailing vessels are approaching one another, and at risk of collision, one of them shall keep out of the way of the other as follows:



i. When each has the wind on a different side, the vessel that has the wind on the port side shall keep out of the way of the other. This is commonly known as the starboard rule.



ii. When both vessels have the wind on the same side, the vessel that is to windward shall keep out of the way of the vessel that is to leeward. That is the boat closest to the wind keeps out of the way of the other.



iii. If a vessel with the wind on the port side sees a vessel to windward and cannot determine with certainty whether the other vessel has the wind on the port or the starboard side, it shall keep out of the way of the other.

For the purpose of this Rule, the windward side shall be deemed to be the side opposite to that on which the mainsail is carried.

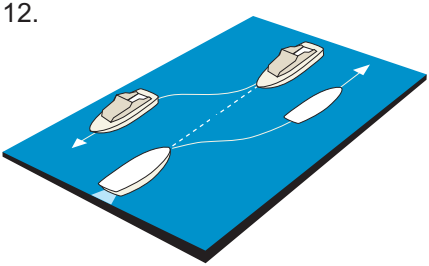
Head-on Situations – Rule 14

(a) When two power-driven vessels are meeting on reciprocal or nearly reciprocal courses and at risk of collision, each shall alter its course to starboard and pass on the port side of the other.

(b) Such a situation shall be deemed to exist when a vessel sees the other ahead or nearly ahead, and by night can see the masthead lights of the other in line or nearly in line and/or both sidelights, and by day can observe the corresponding aspect of the other vessel.

(c) When a vessel is in any doubt as to whether such a situation exists, it shall assume that it does exist and act accordingly.

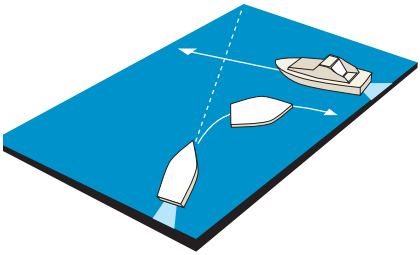
Note: For sailing vessels, see Rule 12.



Crossing Situations – Rule 15

When two power-driven vessels are crossing and at risk of collision, the vessel that has the other on its starboard side shall keep out of the way and shall, if circumstances permit, avoid crossing ahead of the other vessel.

Rules 16 and 17 concern actions by **give-way and stand-on vessels** respectively. In summary, the give-way vessel shall take early and substantial action to keep well clear; the stand-on vessel shall keep its course and speed but may take action to avoid collision if the give way vessel is not acting correctly.



Navigation Lights

Navigation lights must be displayed on boats operating between sunset and sunrise and must also be used in daylight hours during periods of restricted visibility. The types of light required are determined by the boat type and their activity. They indicate the length of boat, the direction of travel or if they are anchored.

Rule 20 of the Collision Regulations requires that lights prescribed shall, if carried, be exhibited from sunset to sunrise and from sunrise to sunset in restricted visibility, and may be exhibited in all other circumstances when it is deemed necessary.

Rule 21 provides definitions of different lights.

Rule 22 provides for lights to be visible at minimum ranges on a dark night with a clear atmosphere. These are summarised in the following Table.

Table – Visibility of Vessel Lights

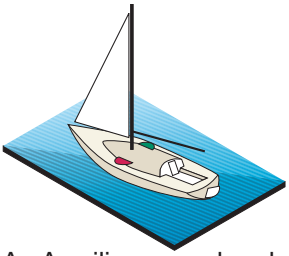
Minimum light visibility (nm) for vessel length (m) (White, red, yellow, green).

	50 m and greater	**Between 12 m and 50 m**	**Less than 12 m**
Masthead	6 nm	5 nm*	2 nm
Sidelight	3 nm	2 nm	1 nm
Stern light	3 nm	2 nm	2 nm
Towing light	3 nm	2 nm	2 nm
All round light	3 nm	2 nm	2 nm

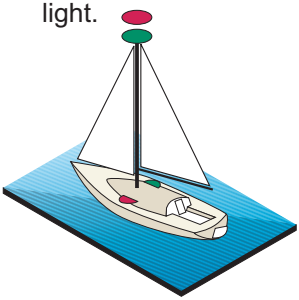
*Where the length of the ship is 12 m or greater, but less than 20 m, the masthead light visibility is 3 nm.

Light Combinations

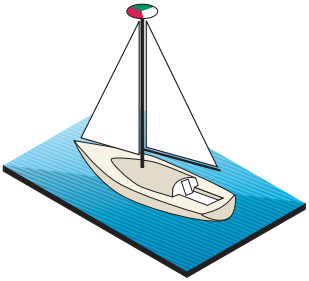
The term “under way” in relation to a vessel is used to describe a vessel that is not at anchor or made fast to the shore or aground.



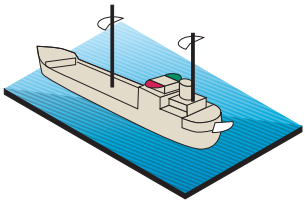
A. A sailing vessel under way shall exhibit sidelights and a stern light.



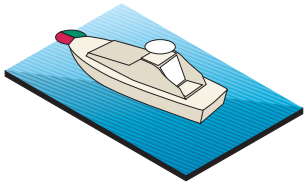
B. Sailing vessels may, in addition, carry an all-round red light above a green light.



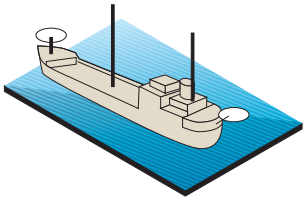
C. A sailing vessel of less than 20 metres in length may combine sidelights and stern lights in a tricolour masthead light (but not with vertical lights as in B above).



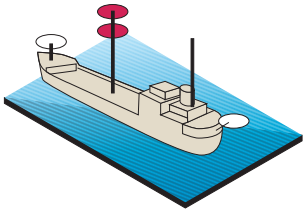
D. Power-driven vessels under way shall carry a masthead light forward and a second masthead light abaft of and higher than the forward one; except that a vessel of less than 50 metres in length may carry the second light, but is not obliged to do so. Vessels underway shall carry sidelights and a stern light. (From a big ship mariner’s point of view on the high seas, the vertical configuration for smaller craft needs to be considered as it lessens the possibility of obstruction by sails or the sea when the vessel is heeled. In harbours or off the coast with background lights, this configuration can sometimes lead to confusion).



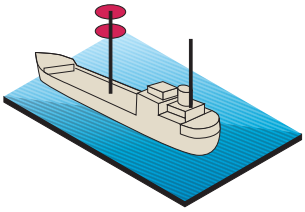
E. Power-driven vessels of less than 12 metres in length may, in lieu of lights as in A above, carry an all-round white light and sidelights; the latter may be combined in one lantern.



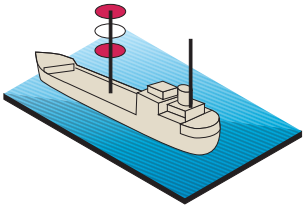
F. A vessel at anchor shall carry one all-round white light in the fore part of the vessel and a second light at or near the stern and at a lower level than the forward light, except that a vessel of less than 50 metres in length is not required to carry the second light. A vessel of less than 7 metres in length is not required to show anchor lights unless in or near a narrow channel, fairway or anchorage.



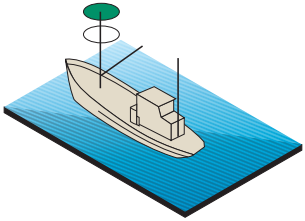
G. A vessel aground shall show two all-round red lights in a vertical line and three balls in a vertical line in addition to anchor lights.



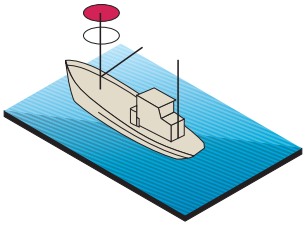
H. A vessel not under command shall exhibit two all-round red lights and two balls or similar shapes in a vertical line and, if making way through the water, sidelights and/or stern light.



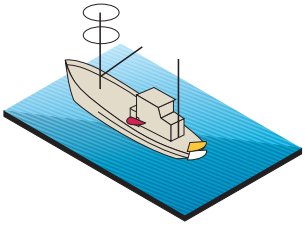
I. A vessel restricted in its ability to manoeuvre shall exhibit three all-round lights in a vertical line. The highest and lowest lights shall be red and the middle light shall be white. If making way through the water, sidelights, masthead lights and a stern light shall also be shown.



J. A vessel trawling for fish shall exhibit two all-round lights in a vertical line, the upper being green, the lower white and in addition, when making way through the water, side lights and a stern light.

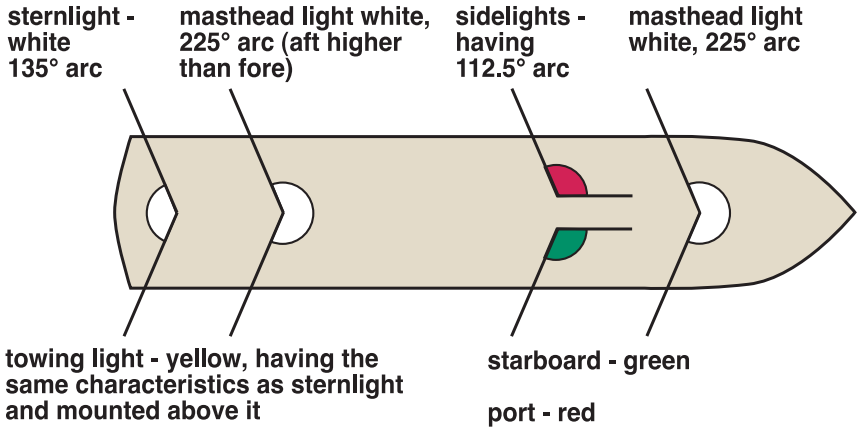


K. A vessel, when fishing other than trawling, shall exhibit two all-round lights in a vertical line, the upper being red, the lower white and, when making way through the water, sidelights and a stern light.



L. A vessel, when towing, shall exhibit two masthead lights in a vertical line (three if the tow exceeds 200 m), sidelights, a stern light and a towing light in a vertical line above the stern light.

Rule 28 A vessel constrained by draught may exhibit three vertical all-round red lights in a vertical line or a cylinder in addition to the navigation lights prescribed for power-driven vessels in Rule 23.



Sound Signals

Sound signals may be used to indicate a vessel's position or movement at night or in restricted visibility by day. You may never need to use sound signals but you should be able to recognise their meanings. There are a number of definitions that operators should be familiar with as follows:

Whistle – Any sound signalling appliance capable of making 'short' or 'prolonged' blasts.

Short blast – a sound blast of about 1 second duration.

Prolonged blast – a sound blast of 4 to 6 seconds duration.

Manoeuvring and warning signals – Rule 34

Craft that are within sight of each other may signal their manoeuvring intentions by the following sound signals (Whistle signals may also be supplemented by light signals using the same code):

'I am altering my course to starboard.'

(Single short blast)

'I am altering my course to port.'

(Two short blasts)

'I am operating astern propulsion.'

(Three short blasts)

'Make your intentions clear.'

(Five short blasts)

Vessels in a narrow Channel should signal their intentions using the following:

'I intend to overtake you on your starboard side.'

(Two prolonged and one short blast).

'I intend to overtake you on your port side.'

(Two prolonged and two short blasts)

Response of vessel about to be overtaken indicating its agreement.

(One prolonged, one short, one prolonged and one short blast).

Table: Sound signals for vessels in restricted visibility, day and night – Rule 35

Category of vessel	Interval	Signal
Power-driven under way, making way	Not more than 2 minutes	
Power-driven under way, stopped and making no way through water	Not more than 2 minutes	
Not under command	Not more than 2 minutes	
Restricted manoeuvring, constrained by draught	Not more than 2 minutes	
Sailing vessel (**not** using power)	Not more than 2 minutes	
Vessel engaged in fishing	Not more than 2 minutes	
Vessel towing or pushing another vessel	Not more than 2 minutes	
Vessel towing – if manned	Not more than 2 minutes	
Pilot vessel on duty – gives appropriate signals as above and may sound an identity signal H, i.e. 4 short blasts		
Vessel at anchor (under 100 m length) bell	5 seconds at intervals of not more than one minute	
Vessel at anchor (length of 100 m or more) bell, 5 secs/min followed by gong from aft, 5 secs/min		

Table: Sound signals for vessels in restricted visibility, day and night – Rule 35 – continued

Category of vessel	Interval	Signal
Vessel at anchor may give warning to approaching vessel, if possibility of collision		
Vessel aground: as at anchor preceded and followed by 3 distinct **bell** strokes		
Vessel less than 12 metres in length may make the appropriate signals given above but, if it does not, must make some other efficient sound signal at intervals of not more than 2 minutes		

When vessels are in sight of each other and there is some doubt as to the intentions or actions of the other, or there is some doubt as to whether sufficient action is being taken to avoid collision, the vessel in doubt should indicate by giving at least 5 short and rapid blasts on the whistle. This may be supplemented by a light signal of at least five short and rapid flashes.

A vessel nearing a blind bend in a channel or fairway shall sound one prolonged blast. A vessel on the other side of the bend answers with a similar prolonged blast.

Signals to Attract Attention – Rule 36

If necessary to attract the attention of another vessel, any vessel may make light or sound signals that cannot be mistaken for any signal authorised elsewhere in the Collision Regulations, or may direct the beam of its searchlight in the direction of the danger, in such a way as not to embarrass any vessel. Any light to attract the attention of another vessel shall be such that it cannot be mistaken for any aid to navigation. For the purpose of this Rule, the use of high intensity intermittent or revolving lights, such as strobe lights, shall be avoided.

Note: In the context of Rule 36,

acceptance of the use of a white hand-held flare is implied.

Distress Signals – Rule 37
Rule 37 refers to distress signals. The following are internationally recognised signals to indicate distress and the need for assistance:

- Red Rocket Parachute or hand-held flare.
- Signals sent by radio telephony consisting of the spoken word MAYDAY said 3 times.
- The continuous sounding of any fog signalling apparatus.
- Signals transmitted by a distress beacon (an Emergency Position Indicating Radio Beacon – EPIRB).
- Orange coloured smoke signal.
- Slowly and repeatedly raising and lowering outstretched arms to each side.
- A ship-to-shore distress alert transmitted by the ship's INMARSAT or other mobile satellite service provider ship earth station.
- Signals transmitted by SART.
- A distress alert by means of selective calling (DSC) transmitted on:
  (i) VHF Channel 70, or
  (ii) MF/HF on the frequencies 2187.5 kHz, 8414.5 kHz, 4207.5 kHz, 6312 kHz, 12577 kHz or 16804.5 kHz.
- The International Code Signal of Distress indicated by N.C. (November, Charlie).
- Radiotelephone alarm signal.
- Signalling by radio telegraphy or by any other method consisting of the group SOS (●●● . . . ●●●) in the Morse Code.
- A signal consisting of a square flag having above or below it a ball or anything resembling a ball.
- A gun or other explosive signal fired at intervals of about a minute.
- Rockets or shells, throwing red stars fired one at a time at short intervals.
- Flames on a vessel – e.g. from a burning tar or oil barrel.
- Approved signals transmitted by radio communication systems, including survival craft radar transponders.

Attention is drawn to the relevant sections of the International Code of Signals, the International Aeronautical and Maritime Search and Rescue Manual, Volume III and the following signals:

(a) a piece of orange-coloured canvas with either a black square and circle or other appropriate symbol (for identification from the air);

(b) a dye marker.

LIFE SAVING SIGNALS

To be used by Ships, Aircraft or Persons in Distress, when communicating with life-saving stations, maritime rescue units and aircraft engaged in search and rescue operations.

mca
Maritime and Coastguard Agency

Search and Rescue Unit Replies

You have been seen, assistance will be given as soon as possible.

Orange smoke flare.

OR

Three white star signals or three light and sound rockets fired at approximately 1 minute intervals.

Shore to Ship Signals

Safe to land here.

Vertical waving of both arms, white flag, light or flare.

OR

Morse code signal by light or sound.

Landing here is dangerous. Additional signals mean safer landing in direction indicated.

Horizontal waving of white flag, light or flare. Putting one flag, light or flare on ground and moving off with a second indicates direction of safer landing.

OR

S: •••
Morse code signals by light or sound.
R: •—•
Land to the right of your current heading.
L: •—••
Land to the left of your current heading.

Surface to Air Signals

Message	ICAO/IMO Visual Signals
Require assistance	V
Require medical assistance	X
No or negative	N
Yes or affirmative	Y
Proceeding in this direction	↑

Note: Use International Code of Signals by means of lights on flags or by laying out the symbol on the deck or ground with items which have a high contrast to the background.

Air to Surface Replies

Message Understood.

Drop a message.

OR

Rocking wings.

OR

Flashing landing or navigation lights on and off twice.

OR

Morse code signal by light.

Message Not Understood – Repeat.

Straight and level flight.

OR

Circling.

OR

Morse code signal by light.

Air to Surface Direction Signals

Sequence of 3 manoeuvres meaning proceed to this direction.

1

Circle vessel at least once.

2

Cross low, ahead a vessel rocking wings.

3

Overfly vessel and head in required direction.

Your assistance is no longer required.

Cross low, astern of vessel rocking wings.

Note: As a non preferred alternative to rocking wings, varying engine tone or volume may be used.

Surface to Air Replies

Message Understood – I will comply.

Change course to required direction.

OR

Morse code signal by light.

OR

Code & answering pendant "Close Up".

I am unable to comply.

Note: Use the signal most appropriate to prevailing conditions.

OR

Morse code signal by light.

OR

International flag "N".

Appendix 2

Guidance notes on Radiocommunications

Category A Craft – Ocean voyages

The following radiocommunications equipment should be installed on Category A craft when it is operating in GMDSS Sea Area A1 (approx. 30 nm from a coast radio station):

(a) A fixed type approved VHF installation capable of:
  (i) Transmitting Digital Selective Calling (DSC) on Channel 70 and,
  (ii) Transmitting radiotelephony on at least Channels 16, 13 and 6;

(b) A VHF Digital Selective Calling (DSC) watch-keeping receiver on Channel 70 which may be integrated with the VHF DSC unit in (a) above;

(c) A type-approved Satellite EPIRB, which must be:
  (i) readily accessible
  (ii) installed in a float-free location, and
  (iii) capable of manual and automatic operation;

(d) One hand-held type-approved waterproof VHF unit should be carried with either:
  (i) a suitable charging facility on board the vessel which is capable of maintaining the battery fully charged at all times

  or

  (ii) a spare fully charged battery, which can be easily affixed to the unit in the event of an emergency and stored in the watertight container on board;

(e) One type-approved Search and Rescue Transponder (SART), which should be installed in a readily accessible location;

(f) A NAVTEX receiver;

(g) In addition to the equipment required for Sea Area A1 above, the following equipment should be fitted on the craft when it is operating in Sea Area A2 (approx. 150 nm from a coast radio station):
  (i) A MF radiotelephone installation capable of transmitting DSC on 2187.5 kHz,
  (ii) A MF watchkeeping receiver capable of receiving DSC on 2187.5 kHz, which may be integrated with the unit in (i) above

  or

  (iii) An INMARSAT ship earth station that is capable of transmitting and receiving

telephony or telex, e.g. Satcom C, Satcom M or Mini-M (see specification below);

(h) Craft operating in Sea Area A3 should install an INMARSAT ship earth station capable of transmitting and receiving telephony or telex, in addition to the equipment specified for Sea Areas A1 and A2 above;

(i) A position fixing system capable of providing continuously updated positional data to the DSC and Satcom equipment, e.g. GPS.

Category B Craft – Offshore

The following radiocommunications equipment should be installed on Category B craft when it is operating in GMDSS Sea Area A1 (approx. 30 nm from a coast radio station):

(a) A fixed type approved VHF installation capable of –
  (i) transmitting Digital Selective Calling (DSC) on Channel 70, and
  (ii) transmitting radiotelephony on at least Channels 16, 13 and 6;

(b) A VHF Digital Selective Calling (DSC) watch-keeping receiver on Channel 70 which may be integrated with the VHF DSC unit in (a) above;

(c) A type approved Satellite EPIRB, which must be –
  (i) readily accessible,
  (ii) installed in a float-free location and/or
  (iii) capable of manual and automatic operation;

(d) One hand-held type-approved waterproof VHF unit should be carried with either –
  (i) a suitable charging facility on board the vessel, which is capable of maintaining the battery fully charged at all times

  or

  (ii) a spare fully charged battery, which can be easily affixed to the unit in the event of an emergency and stored in the watertight container on board;

(e) One type approved Search and Rescue Transponder (SART), which should be installed in a readily accessible location;

(f) A NAVTEX receiver;

(g) In addition to the equipment required for Sea Area A1, the following equipment should also be fitted on the craft when it is operating in Sea Area A2 (approx. 150 nm from a coast radio station):
  (i) a MF radiotelephone installation capable of transmitting DSC on 2187.5 kHz

  and

  (ii) a MF watch keeping receiver capable of receiving DSC on 2187.5

kHz, which may be integrated with the unit in (i) above,

or

(iii) an INMARSAT ship earth station that is capable of transmitting and receiving telephony or telex, e.g. Satcom C, Satcom M or Mini-M (see specification below);

(h) Craft operating in Sea Area A3 should install an INMARSAT ship earth station, which is capable of transmitting and receiving telephony or telex, in addition to the equipment specified for Sea Areas A1 and A2 above;

(i) A position fixing system capable of providing continuously updated positional data to the DSC and Satcom equipment, e.g. GPS.

Category C Craft – Inshore

The following radiocommunications equipment should be installed on Category C craft when it is operating in GMDSS Sea Area A1 (approx. 30 nm from a coast radio station):

(a) A fixed type-approved VHF installation capable of –

(i) transmitting Digital Selective Calling (DSC) on Channel 70

and

(ii) transmitting radiotelephony on at least Channels 16, 13, and 6;

(b) A VHF Digital Selective Calling (DSC) watch-keeping receiver on Channel 70 which may be integrated with the VHF DSC unit in (a) above;

(c) A type-approved Satellite EPIRB or PLB, which must be similar to that used for Category B Craft – Offshore;

(d) One hand-held type-approved waterproof VHF unit should be carried with either:

(i) a suitable charging facility on board the vessel which is capable of maintaining the battery fully charged at all times,

or

(ii) a spare fully charged battery, which can be easily affixed to the unit in the event of an emergency, and stored in the watertight container on board.

Category D Craft – Sheltered Waters

A fixed or portable type approved VHF unit capable of transmitting radiotelephony on at least Channels 16, 13 and 6 should be installed on Category D craft.

Calculation of VHF Range

VHF range is generally regarded as line of sight. The key factors in determining VHF range are:

(a) Height of antennas,

(b) Power output,

(c) Propagation conditions.

Approximate VHF range (A) can be calculated from the following formula:

$A = 2.25(\sqrt{H} + \sqrt{h})$

H = height of the coast radio station VHF receiving antennae.
h = height of the base of the boat's VHF transmitting antennae above the water.

Example 1: If "H" is 50 metres and "h" is 4 metres, the range will be approximately 20 nautical miles.

Example 2: If "H" is 100 metres and "h" is 4 metres, the range will be approximately 27 nautical miles.

Example 3: Boat to boat with 4 metre antennas will be approximately 9 nautical miles.

When hand-held VHF radiotelephones are being used, the range will be reduced to approximately one quarter of the above figures. When using low power, i.e. 1 watt, the range will be further reduced.

Power Supplies (Batteries)

(a) The radiocommunications equipment should not be connected to the boat's starting batteries.

(b) A separate battery should be installed to provide power for all the radio equipment on board. The capacity (AHC) of the battery should be sufficient to operate all the radiocommunications equipment for a period of at least 6 hours.

(c) The boat's service battery may be used to meet the requirements in (b) above provided that:
  (i) it has sufficient capacity to operate all the radiocommunications equipment for a period of at least 6 hours, and
  (ii) it is installed in the upper part of the boat.

(d) Only approved marine-type deep cycle batteries should be installed.

(e) A suitable method of indicating the radio battery voltage is recommended.

(f) Radio equipment must never be connected directly to the battery. A suitable distribution board, with correct breakers and fuses should be installed.

(g) A suitable method of charging the radio battery must be provided and the battery should be maintained fully charged at all times.

Installation and Location of Radio Batteries

(a) Radio batteries should be located in the upper part of the boat and as close to the radio equipment as possible.

(b) Where an outside battery box is used to store the radio batteries, it should be properly ventilated, corrosion proof and protected against the ingress of seawater.
(c) All battery units should be securely braced so that the movement of the boat will not dislocate them.
(d) All battery boxes should be properly ventilated.
(e) Battery boxes should not be located in the accommodation or navigation areas of the boat.

Ship Radio Licence
In accordance with the Wireless Telegraphy Act 1926, all vessels on which radiocommunications equipment of any type is installed, including hand-held VHFs and EPIRBs, must have a Radio Licence on board.

The application form for a Radio Licence may be obtained from the MMO (see Appendix 10 for contact details).

When the Radio Licence application has been approved, a Radio Call Sign and Maritime Mobile Service Identity (MMSI) number will be issued to the applicant with the licence. The MMSI number must be programmed into the DSC equipment by the installation engineer.

The EPIRB or PLB must be programmed as follows:

250 + Radio Call Sign

It is absolutely essential that the EPIRB registration card be completed and forwarded immediately to the EPIRB Registration Centre at the address shown on the form.

The details on the registration card will then become immediately available to the rescue services in the event of an emergency.

Radio Operator Qualification
Radio operators should be certified to operate the radio equipment fitted on their craft. The minimum radio operator qualifications required are as follows:

Craft Category A, B and C – Radio Operator's Short Range Certificate (SRC) or Long Range Certificate (LRC) as appropriate.

Craft D – Radio Operator's Short Range Certificate (SRC) Module 1.

Radio equipment specifications
All radiocommunications equipment installed on yachts must meet the technical and legislative standards as set out in the Radio Equipment (RED) and Electromagnetic Compatibility (EMC) EU Directives.

Equipment must have the CE mark to show compliance with the Directives and must also meet the specifications set out in the Table below.

Equipment manufactured to the higher Marine Equipment Directive standards is also acceptable.

Note: Radiocommunications equipment manufactured in the US, which does not meet these standards, will not be accepted and will not be licensed in Ireland.

Item	Standard
Hand-held waterproof VHF (non-GMDSS)	EN 301 178
VHF Class "D" DSC equipment	EN 301 025
VHF only	EN 300 162
MF/HF Class "E" DSC equipment	DEN/ERM-RP01-054
406 MHz EPIRB and PLB	EN 300 066
INMARSAT Satcom C	ETS 300 460
Satcom M or Mini-M	DEN/ERM RP01-34

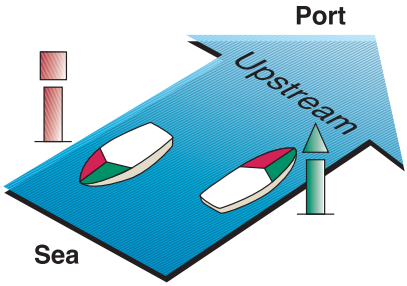
Appendix 3

Buoyage

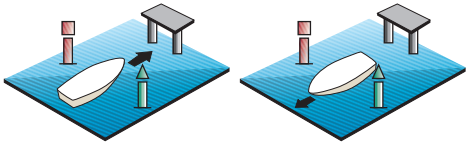
Coastal Water Schemes

Buoyage Types
Buoyage used in Irish Coastal Waters is International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Region A. Under this system, boats proceeding up a marked or buoyed channel from sea must always have their starboard side to the green buoys.

Direction of Buoyage



On entering Port the starboard-hand mark (green) should be passed on the vessels starboard (right) side. When leaving Port the port-hand mark (red) should be passed on the vessels starboard (right) side.



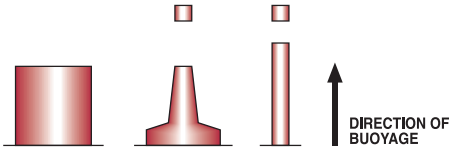
Entering Port Leaving Port

There are six types of marks under the IALA System A:
1. Lateral.
2. Cardinal.
3. Isolated Danger.
4. Special.
5. Safe Water.
6. Emergency Wreck Marking.

1. Lateral Marks

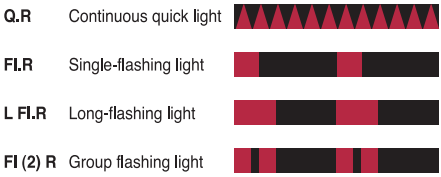
These are used to indicate the port (left) and the starboard (right) sides of the channels when travelling in the Direction of Buoyage, that is into port from seaward.

Port-hand marks are coloured red and the basic shape is cylindrical (can) for buoy (and topmark when fitted). If lit, the light will be red and may have a rhythm. Such a mark would be on the port side of a vessel when travelling in the direction of buoyage.

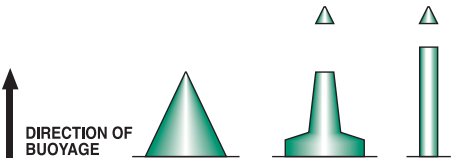


Colour:	Red
Shape (buoys):	Cylindrical (can), pillar or spar
Topmark (if any):	Single red cylinder (can)

Lights: red when fitted may have any rhythm other than composite group-flashing (2+1) used on modified lateral marks indicating a preferred channel. Examples are:

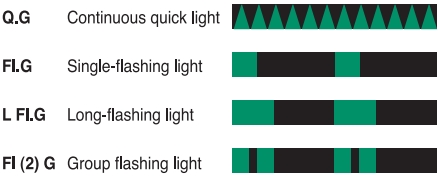


Starboard-hand marks are coloured green and the basic shape is conical (and topmark when fitted). If lit, the light will be green on any rhythm. This mark would be on the starboard side of a vessel when travelling in the Direction of Buoyage. Examples are:



Colour:	Green
Shape (buoys):	Conical (cone), pillar or spar
Topmark (if any):	Single green cone point upwards

Lights: green when fitted, may have any rhythm other than composite group-flashing (2+1) used on modified lateral marks indicating a preferred channel. Examples are:

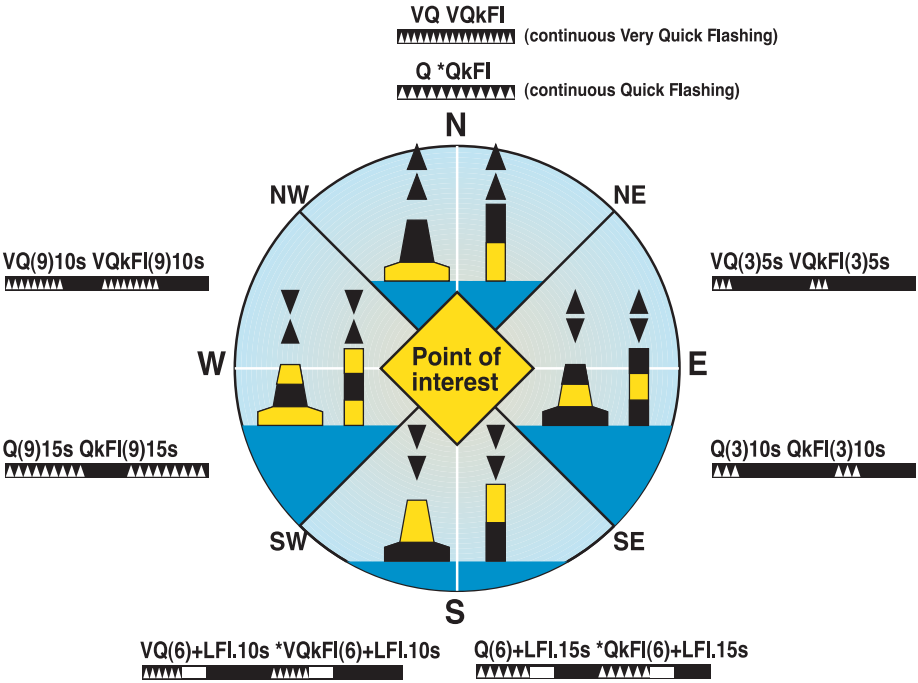


When marks are numbered, the odd numbers will lie on the starboard side and the even numbers will lie on the port, when travelling in the Direction of Buoyage. They are numbered from seaward.

2. Cardinal Marks

These are used to indicate the location of the best navigable water; to show the safe side on which to pass danger (rocks, wrecks, shoals, etc.) and to draw attention to a feature in a channel.

To understand the meaning of a particular cardinal mark, the navigator must be aware of his or her geographical directions and, therefore, needs a compass to indicate where the best navigable water lies. The mark is placed in one of the four quadrants: north, south, east or west. If in doubt, consult the navigation chart for the waterway you are using.



The shape of a cardinal mark is not significant but, in the case of a buoy, it will be a pillar or spar. The most important daylight feature of the cardinal mark is the black double cone topmark and the four different arrangements that indicate the relevant direction from the mark.

Black and yellow horizontal bands are used to colour the cardinal marks. If lit, the mark will exhibit a white light of Quick Flash (= about 1 per second) or Very Quick Flash (= about 2 per second) characteristic. The rhythm of the light will indicate the particular quadrant of the mark.

North Cardinal Mark
This has two cones pointing up. If lit, a north marker exhibits a continuous quick or very quick flashing white light.

Pass on the northern side of this mark.

East Cardinal Mark
This has two cones pointing away from each other. When lit, an east mark exhibits a white light flashing in groups of three (3) quick or very quick flashes.

Pass on the eastern side of this mark.

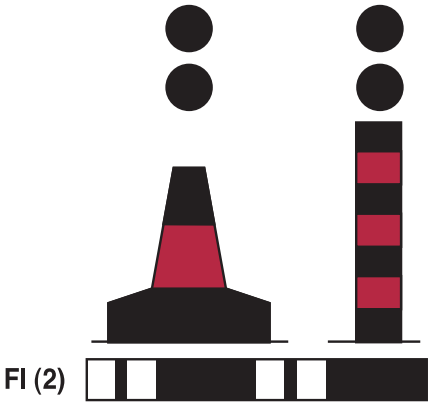
South Cardinal Mark
This has two cones pointing down. When lit, a south mark exhibits a white light flashing in groups of six (6) quick or very quick flashes followed by a long flash.

Pass on the southern side of this mark.

West Cardinal Mark
This has two cones point to point. When lit, a west mark exhibits a white light flashing in groups of nine (9) quick or very quick flashes.

Pass on the western side of this mark.

3. Isolated Danger Marks



These are on, or moored above, an isolated danger of limited extent that has navigable water all around it. The colours are red and black horizontal stripes and the mark is, when practicable, fitted with a double sphere, vertically disposed, black topmark. If lit, the light will be white showing a group of two flashes.

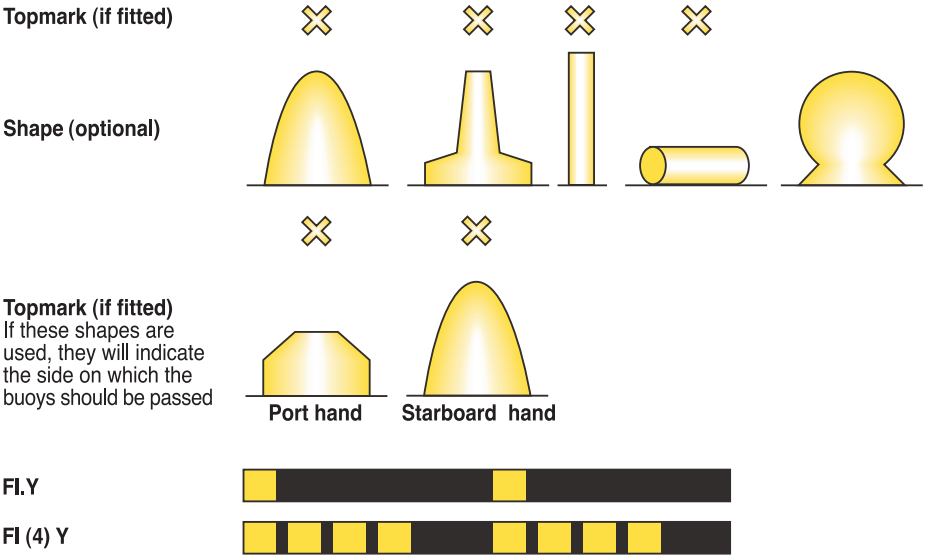
The association of two flashes = two spheres, may assist the memory with this one.

Isolated Danger Marks are not always positioned centrally over a danger and it is therefore advisable not to pass too close.

4. Special Marks

These are used to indicate a special area or feature, the nature of which may be found by consulting a chart or sailing directions.

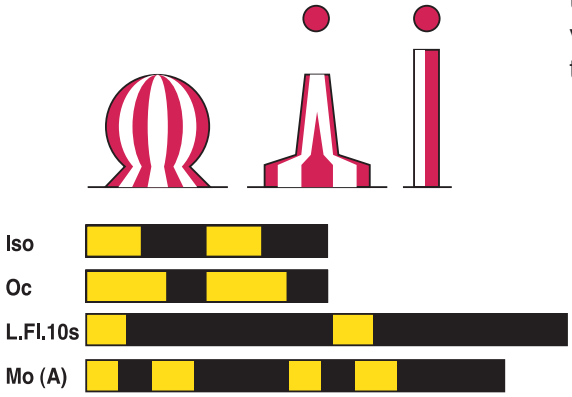
The colour of the special mark is always yellow and the top mark is a single yellow X. If a light is fitted, it will be yellow and may have any rhythm not used for white lights, for example, FlY, Fl (4) Y.



5. Safe Water Marks

These are used to indicate that there is navigable water all around the mark. These marks can be used as a centre line, mid-channel or landfall buoy. The shape of the buoy is spherical, pillar or spar and is coloured with red and white vertical strips. The topmark, which is fitted when practicable to pillar and spar buoys, is spherical and red. If lit, an isophase occulting or single long flashing white light is exhibited.

Operators of vessels are cautioned that large commercial vessels may pass close by these marks.



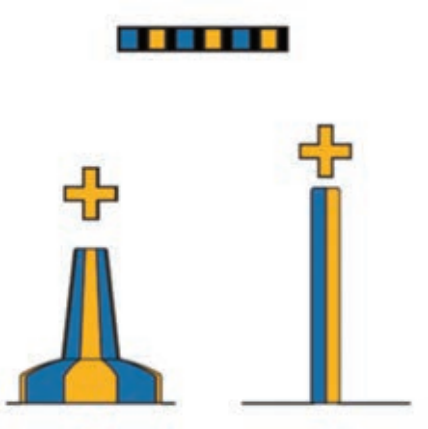
6. Emergency Wreck Marking Buoy

'New Dangers' should be appropriately marked using Lateral, Cardinal, Isolated Danger marks or by using the Emergency Wreck Marking Buoy. If the relevant Aid to Navigation Authority considers the risk to navigation to be especially high, at least one of the marks should be duplicated.

Colour: Blue/Yellow vertical stripes, coloured in equal number and dimensions (minimum of 4 stripes and maximum of 8 stripes).

Topmark: Standing or upright yellow cross.

Shape: Pillar or Spar.



Light: Yellow/Blue alternating – one second of blue light and one second of yellow light with 0.5 sec. of darkness between.

The Emergency Wreck Marking Buoy may be fitted with a RACON Morse Code "D" and/or an AIS.

Inland Waterways Schemes

Masters using inland waterways should exercise caution and refer to charts and navigation guides regularly to avoid confusion. Details of the principal marking schemes used on the Shannon, Erne and Lough Corrib waterways are provided below.

Information in relation to buoyage on other inland waterway systems should be obtained in advance of commencing any voyage from the relevant responsible authority.

Shannon Navigation

Waterways Ireland has responsibility for the management, maintenance, restoration and development of a number of inland navigable waterways including the Shannon. On the Shannon Navigation upstream of Shannon Bridge, Limerick, the buoyage system consists of red and green lateral marks. Downstream of Shannon Bridge, the IALA Region A system applies.

Red marks are kept to your left (port) going upstream and into bays and harbours. Red topmarks are always round. Fixed (as opposed to floating) marks often have a white arrow indicating the safe-side. Green marks are kept to your right (starboard) going upstream and into bays and harbours. Green topmarks are always square or rectangular. Perches and beacons often have a white arrow indicating the safe-side. Marks (see Figure 1) can consist of:

(a) and (b)	Vertical stakes or perches with circular red or square/rectangular green topmarks. The stake itself may or may not be painted the same colour as the topmark. Stakes can be near the bank, in the reed margin, on a visible obstruction or out in the water-body. In some areas a topmark is fitted to the top of a cairn of stones.
(c) and (d)	Large floating cagebuoys with circular red or square/rectangular green topmarks and often a large letter or number which can be related to the navigation charts. Buoy body painted same colour as topmark.
(e) and (f)	Small cone-shaped floating buoys with circular red or square/rectangular green topmarks. Buoy body painted same colour as the topmark.
(g) and (h)	Red or green painted floating cans or drums with a topmark.
(i) and (j)	Red circles or green squares/rectangles painted on the piers of a bridge to indicate the navigation arch or arches. (Showing “safe-side” arrows).

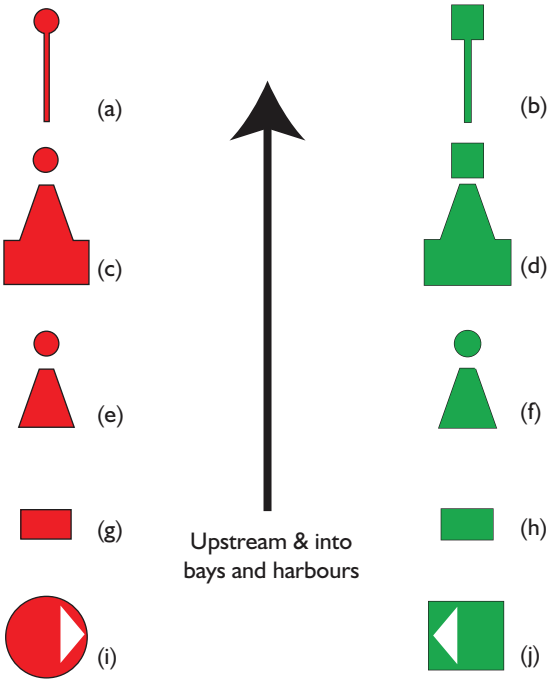


Figure 1 - Shannon Navigation Marks

Note: You must remain aware of the direction of travel relative to the direction of the buoyage system (up/downstream, into/out of harbours and bays) to avoid confusion at "middle ground" situations and refer to your navigation guide. Such situations occur (mainly on the larger lakes) where there are safe channels either side of an obstruction and one or more pairs of red and green buoys or stakes will be used in seemingly the reverse sense to mark the problem area. Do not go between the Red/Green pairs in this situation but follow the basic rules keeping red marks to your left going upstream or green marks to your right. See Figure 2.

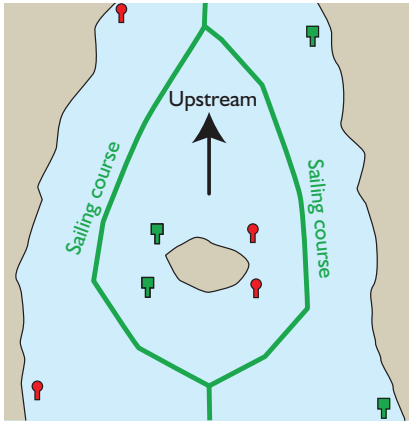


Figure 2 - Middle Ground Marking

Warning: Marks can become discoloured and misshapen over time by a combination of weather, collision damage, bird droppings, weed growth, etc., thereby disguising their appearance. It can be quite hard to see the small markers, and to distinguish colours, when visibility is poor because of cloud, darkness, rain or the sun in the wrong direction.

Erne Navigation

On the Erne navigation the marking system consists mainly of stakes with red and white painted topmarks. The topmarks are semi-circular in shape and mounted so that the flat edge of the semicircle is horizontal, either at the top of the mark or at the bottom. Both faces of the semi-circle are painted – the red half of each face denotes the hazardous side of the mark and white denotes the safe side.

In some areas on the large lakes, white painted stone cairns are used to help with position location.

Marks (see Figure 3) can consist of:

(i)	Marks with the horizontal edge at the bottom are left (port) hand marks going upstream.
(ii)	Marks with the horizontal edge at the top are right (starboard) hand marks going upstream.
(iii)	Middle grounds are denoted by red diamond shaped marks. Do not pass between pairs of middle ground marks.

Many of the Erne system marks are numbered and the numbers can be referenced to the navigation guide.

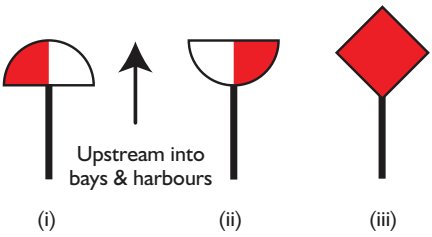


Figure 3 - Erne System Marks

Shannon-Erne Waterway

The Shannon Navigation system of red and green lateral marks is used on the Shannon-Erne Waterway from Leitrim to the middle of the summit level (Lough Scur) at a point just west of Keshkerrigan. From this point east to the Erne, the waterway uses the Erne marking scheme.

Corrib Navigation

The navigation system on Lough Corrib follows the IALA Region A system:

- RED – a cylindrical (can) shaped mark to port,
- GREEN – conical (cone) shaped mark to starboard.

Appendix 4

Anchoring, Stability and Boat Handling

Anchoring

Anchoring is an essential element of seamanship and all operators must be familiar with the procedure and carry the proper equipment on board. Anchoring is done for two principal reasons:

- For recreational purposes such as fishing, swimming or an overnight stay.
- As an emergency action, to prevent running aground in bad weather or as a result of engine failure.

The object is to secure the boat to the bottom in such a manner that it will not pull free in any anticipated weather conditions. Anchoring is a safe, simple and speedy operation provided a number of basic guidelines are followed. The equipment needed for anchoring consists essentially of an anchor and rode, which may be either line or chain, with shackles to join the various segments.

Anchors

There are many types of anchors and new designs appear from time to time. Some examples of the most widely used are as follows:

Danforth

Commonly used, it has two pivoting flukes that dig into the bottom. The Danforth can be made of either steel or high-strength aluminium. It offers good holding in mud or sand, but has a tendency to pull out of a bottom covered with weeds or grass because it often only lies on the top of such vegetation. It will hook into rocks, but may be difficult to get free; it may also bend or break when so hooked. It has the advantage of stowing flat on deck.

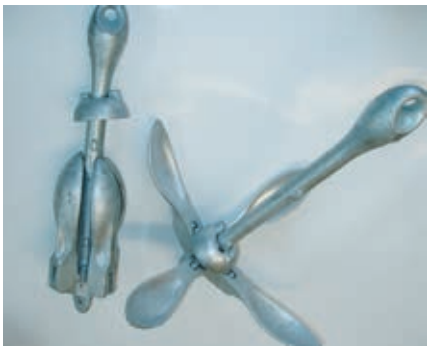
Plough Anchor

The Plough anchor is very effective because it has sufficient weight to enable its fluke to dig into a variety of bottoms, but is awkward to stow on deck. It is popular with sailors and powerboaters whose craft have bow pulpits with rollers. On larger craft, it can be deployed and recovered remotely from the cockpit when combined with an electric windlass. There are a number of different manufacturers of Ploughs, in addition to the original CQR model.

The Bruce

This anchor is much like the Plough, but has a fixed stock rather than one that pivots.

Folding Anchor



Generally suitable only for the smallest of craft and deployment in moderate conditions. It has the advantage of folding closed when stored, rather like an umbrella, and is easily stowed on board.

The Fortress

Similar to the Danforth, the Fortress is a fluke style anchor. Fortress anchors are made of lightweight high strength aluminium magnesium alloy. This anchor is popular due to the fact that it is lightweight and can be dismantled for storage. Fortress anchors have greater holding power in mud because they can be adjusted from their standard 32° to a broad 45°

fluke angle. While this type of anchor performs well in clay, sand and mud bottoms, if the bottom does not allow for digging in, such as hard or rocky, or weedy, then the flukes cannot bury and the anchor will not set.

The Delta

The Delta anchor is a fixed shank plough, essentially a development of the CQR model. It has a superior holding power to the CQR. This type of anchor is heavier and bulkier than the Danforth model. It is considered effective as a general purpose anchor for sand, thick mud, weedy bottoms and sometimes rocky areas. However it holds poorly in soft mud and the Delta is found wanting on very hard compact sand, grass, weed and kelp. The Delta is large, fairly heavy and usually stowed in a ball roller.

The number and type of anchors for a particular craft should be largely determined by the size and intended cruising area of the vessel.

The Anchor Rode

Connecting the anchor to the vessel is the anchor rode, which may be either a chain or synthetic rope. Ensure the anchor rode is correctly connected to the vessel in the first instance with the appropriate shackle. An advantage of chain is its weight adds to the holding power of any anchor and it is resistant to damage. However, it is heavy and difficult to use and stow. If the rode is comprised entirely of chain, it is generally necessary to have an anchor windlass to raise it. Furthermore, the weight of a sufficient length of chain may be a problem in the bow of a small craft, especially one with a sharp entry and limited buoyancy forward.

Line is favoured by many for anchoring because its elasticity absorbs the shock load when anchoring in moderate to heavy swells. Three-stranded twisted nylon is preferred over double-braid line because it stretches more. If you use line for your rode, a length of chain several metres long should be inserted just above the anchor to counteract against any chafing on rocks or coral. The weight of this chain also keeps the lower end of the rode down against the bottom, thereby making the pull on the anchor more horizontal. A swivel connection should be used between anchor and chain to assist

in the proper setting and stowing of the anchor.

Anchoring Procedures and Techniques

Selecting an Anchorage
Unless it is an emergency, the first step in anchoring is deciding where to lower your anchor. Do not anchor in a channel or the approaches to a channel. Refer to local charts and sailing instructions as a source of suitable anchoring locations.

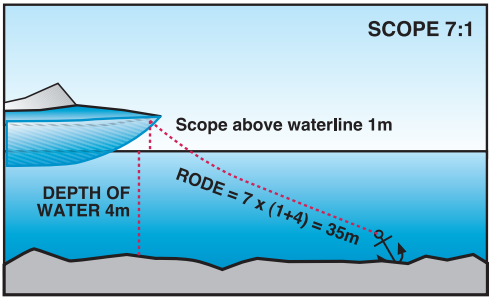
Prevailing winds, bottom depth, bottom composition, tidal rises and the existence of other craft in the anchorage should all be considered in coming to a decision as to where to deploy an anchor.

Shelter from the wind is important because calmer water will put less strain on the ground tackle. Consider any anticipated changes in wind direction and velocity. The composition of the bottom will affect the type of anchor you will use, assuming that you have a choice. Ideally, the water should be deep enough so you will not have to worry about sitting on the bottom at low tide. However, deeper water is not always better. The deeper the water, the longer the rode must be, and so the greater your swinging circle will be. Anchoring in water that, at its lowest, will be two or three times the draft of your boat, is a good practice if possible.

Approaching the Anchorage
Ensure all anchoring equipment is ready for deployment prior to making an approach. If there are other boats in the anchorage you have selected, look for a place where you will have adequate swinging room. Estimate the swinging circles of the other anchored boats – note how the other boats are lying to any wind and current. Reduce speed and enter the anchorage on the same heading as boats already anchored, slowing even more as you approach your chosen spot.

Setting the Anchor
When you have reached just beyond where you want to anchor, check all headway and start a very slow backward movement – then, and only then, deploy your anchor. Continue to move astern slowly, as you pay out the necessary length of rode. The proper length is determined by the desired scope – the ratio of the length of the rode in use to the distance to the bottom of the water. Note that this is not just the depth of the water – it is the value plus the height of the bow above the surface. The depth of the water used in calculating scope is the greatest depth that will occur while anchored, that is, the depth at high tide. For calm conditions, a scope of five is generally

satisfactory when using a line rode; when using chain, a scope of three works well. For expected bad weather, increase these values to as much as ten and seven respectively.



It is helpful if the anchor line or chain is marked at regular intervals. When the proper length of rode has been let out, it should be removed from the anchor windlass (if one has been used) and the line made fast to a Samson post, anchor bitts or a cleat. When the rode is fully extended, apply a burst of reverse power to make sure that the anchor is holding.

Take a series of bearings on shoreside marks for use as a reference as to your boat's position and check them on a frequent basis to ensure your craft has not dragged her anchor.

Getting Underway

When you are ready to leave your anchorage, go forward slowly, taking in the anchor rode by windlass or by hand as it becomes slack. Once the boat is positioned directly above, the anchor will break out of the bottom and can be recovered on board.

Dangers involved in Anchoring

- Where it is necessary to range out anchor chain/line on deck prior to dropping an anchor, ensure it is flaked out in a safe manner and does not pose a hazard to crew. Be aware of the dangers to hands/fingers of chain running at speed out over rollers. Also when recovering line, ensure it is quickly and promptly stowed so as to avoid the risk of injury.
- Always ensure an anchor line is deployed over the forward end of a boat using a suitable stemhead roller or fairlead. This is essential to keep a craft's head to the prevailing conditions.
- Do not anchor by the stern. Anchoring a small boat by the stern may result in swamping and capsize. The transom area offers less freeboard than the bow and greater resistance to tide/weather. In a current, the force of the water can pull the stern under. The boat is also vulnerable to swamping by wave action. In addition, the weight of a motor, fuel tank or other gear in the stern increases the risk.
- Anchor rodes should be secured to a suitably strengthened cleat,

Samson post or windlass, positioned as far forward in the boat as possible. Anchor lines should not be led aft within a boat, e.g. to Thwarts or seats, as to do so may result in the craft broaching into prevailing weather /tide conditions and being swamped.

- When recovering an anchor on small boats, take care to ensure the line is neatly and correctly stowed as it is brought on board. Do not allow it to foul items such as oarlocks, which may cause the boat to broach in the event of load coming on the anchor rode.

Stability

A boat may be subject to heeling forces from a number of sources, from which it must have the ability to right itself or suffer a capsize.

Typical forces include:

- Forces generated by wind
- Forces created by waves
- Excessive offset load, e.g. crowding of persons to one side
- Reduction of original stability due to modifications (extra weight added high up in the structure)
- Excessive water in bilges creating a free surface effect
- Flooding damage.

The ability of any boat to right itself is called stability. It should be evident that stowing gear and installing equipment on a boat requires consideration. Both should be as low in the boat as practical. It is an absolute necessity to make sure that neither can suddenly shift from one side of the boat to the other.

Recreational craft designs built under the Recreational Craft Directive will have been assessed against an ISO stability and buoyancy standard. The essential requirements dictate that a boat must have appropriate buoyancy, stability and freeboard for the design category it is intended for. The Builder's Plate mounted on the transom will include the boats maximum recommended load, indicated by the maximum number of persons and/or equipment. It is essential that craft are not overloaded.

While a boat floats at its mooring, there are two basic forces at work –

- **gravity**, a naturally downward force that is trying to pull the boat toward the centre of the earth

and

- **buoyancy**, which effectively moves a boat upward to the point equal to the weight of the amount of water the boat is pushing out of the way.

Looking at a cross-section of a boat's hull, sitting level in the water, you can imagine two theoretical points.

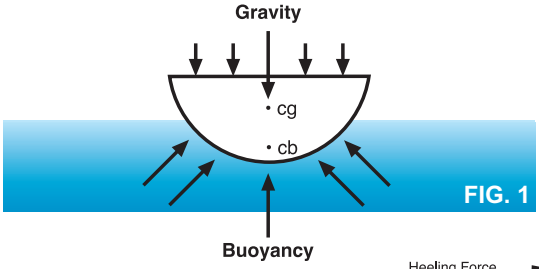
The **Centre of Gravity (CG)** will be in the very centre of the entire hull space. The force of gravity can be considered to act through this point.

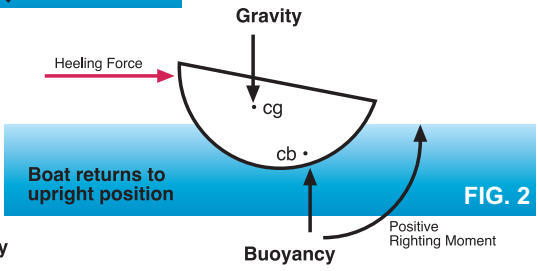
The other point, the **Centre of Buoyancy (CB)**, will be in the centre of the underwater portion of your boat, and it is through this that the upwardly acting buoyancy force acts.

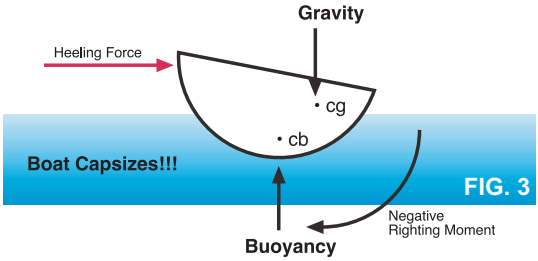
When the CG and the CB are vertically aligned, the boat is level. When a boat is properly designed and constructed, with gear stowed correctly, the CG should always stay in the same place. The CB, however, will change position any time the boat begins to heel (list) because the amount and shape of the boat under water changes.

The distance between the Centre of Gravity and the Centre of Buoyancy is called the Righting arm. The weight of the boat is pushing down at the CG and the weight of the water is pushing up at the CB. This situation creates a rotating force or motion that is called the righting moment.

As long as the upward force of buoyancy is able to return the boat to an upright position, the situation is called a positive righting moment (Fig 2). In this situation CG is always within CB.







If for any reason, however, the Centre of Gravity should shift outside of the Centre of Buoyancy, it creates a negative righting moment and the boat is going to capsize (Fig 3).

Negative righting moments occur due to the Centre of Gravity (CG) of a boat being raised above its design point as a result of –

- Overloading,
- Due to structural modifications for which the craft was never designed, e.g. addition of wheelhouse, seating on top of existing wheelhouses, taller rigs, in mast furling, radar sets, etc.,
- Excess water in bilges or flooding (Alters position of CG).

Besides careful stowing, boat handling may affect a boat's stability, e.g. **never** run parallel to large waves in a boat that is overloaded or too small for the situation. As the waves cause the boat to roll from one side to the other, the positions of the CG and the CB are constantly changing. Even a relatively small change during the rolling, such as gear shifting or a passenger moving to the low side, will create a negative righting moment. Always think twice about any modification to your boat that raises its Centre of Gravity, and seek professional advice before commencing.

Boat Handling Hazards

Overloading
This will reduce a boat's freeboard and affect its handling abilities. Commonly it can result in capsize and sinking on smaller craft.

Offset Loading
Where the load is poorly distributed to one side it will result in reduced stability in one direction of heel, making the boat vulnerable to swamping due to reduced freeboard, and generally suffering from permanent list. Such a craft will have its handling characteristics adversely affected.

Poor Trim
This will result in a boat sitting either too far down in the water at the bow or stern depending on where the weight is positioned. If too far forward, water will be taken over the bow and steering will be affected. If aft, there is the risk of swamping over the stern and handling will be affected.

Weight too high
This will reduce stability and make the boat unstable. Always distribute weight as low as possible.

Swamping
The rapid filling of a boat with water as a result of poor loading and/or wave action.

Appendix 5

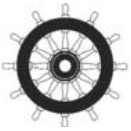
Personal Flotation Devices/Lifejackets, Jacklines and Safety Harnesses

Types of personal flotation devices (PFD/Lifejackets)

The term personal flotation device (PFD) is an all-encompassing term, which covers all forms of lifejackets and buoyancy aids intended to help keep a person afloat in the water. These range from “CE” marked lifejackets through to “CE” marked buoyancy aids.

Lifejackets provide face up in-water support to the user regardless of physical conditions. Buoyancy aids require the user to make swimming and other postural movements to position the user with the face out of the water.

The following Table lists the different types of PFD/lifejackets with suggested guidance on selection and where they should be used. The Table is for guidance only. Persons must assess the risks appropriate to their area of operation and select personal flotation devices accordingly.

Type and Markings	Suggested Uses
International Standard: IMO SOLAS/EU Marine Equipment Directive 	Lifejackets for seagoing ships. Intended primarily for use on seagoing ships under IMO (International Maritime Organisation) rules. Use for abandoning ship. Not intended for everyday use as they are generally bulky and they need to be kept in good condition for use in abandon ship situations.
European Harmonised Standard: I.S. EN ISO 12402-2:2006 **Old Standard:** EN 399 	For offshore use and by people who are using items of significant weight and thus require additional buoyancy. Also of value to those who are using clothing which traps air and which will adversely affect the self-righting capacity of the lifejacket. Designed to ensure that the user is floating with his/her mouth and nose clear of the surface at an angle and with sufficient freeboard to limit mouth immersions in waves.

Type and Markings	Suggested Uses
European Harmonised Standard: I.S. EN ISO 12402-3:2006 **Old Standard:** EN 396 	For swimmers and non-swimmers of any age. For general offshore and rough weather use. Turns most unconscious wearers face up in water. However, performance may be affected if the user is wearing heavy and/or waterproof clothing. May be suitable for use in tidal waters or when foul weather clothing is being worn and where the wearers may not be capable of helping themselves due to injury or exhaustion.
European Harmonised Standard: I.S. EN ISO 12402-4:2006 **Old Standard:** EN 395 	For swimmers of any age. For use in relatively sheltered/calm waters and intended for those who may have to wait for rescue. Will not turn unconscious wearers face up in water (particularly when wearing heavy clothing). May be suitable in instances where the wearers remain capable of helping themselves. Whilst these PFDs may be less bulky than other types of PFDs, they should not be used in rough conditions or when there is wave splash.
European Harmonised Standard: I.S. EN ISO 12402-5:2006 **Old Standard:** EN 393 	Only for good swimmers and for use near to a bank or shore where help is close at hand. Requires active participation of the user. Will not hold the face of an unconscious wearer clear of the water and does not have sufficient buoyancy to protect people who are unable to help themselves. May be suitable in circumstances where more bulky or buoyant devices could impair the user's activity or actually endanger them. They have minimum bulk and cost, but they are of limited use in disturbed water and cannot be expected to keep the user safe for a long period of time. Not a lifejacket.

Type and Markings	Suggested Uses
Special purpose lifejackets and buoyancy aids – performance levels 50-275 **European Harmonised Standard:** I.S. EN ISO 12402-6:2006	These are special purpose devices for specific needs that go beyond the requirements of the average user and those that rely on the skill, knowledge, special training and participation of the user. This should be stated clearly in the information supplied by the manufacturer of these items. For use when fire-fighting. They are also for use with personal watercraft (jet skis), waterskiing or similar towed uses and are also used for white water rafting.

Note

Irish Standard (I.S.) refers to National Standards which are used to ensure uniformity and minimum standards for products and services in Ireland. Only Irish manufacturers will have this prefix. Other European manufacturers will use their own country prefix instead of I.S.

EuroNorm (EN) refers to European-wide standards that are used for ensuring the uniformity and minimum standards for products and services.

International Organisation for Standardisation (ISO) refers to International Standards that are used to ensure uniformity and minimum standards for products and services at an international level.

It is essential that pleasure and recreational craft owners select PFDs that are suitable for the particular circumstances in which they will be used.

Before purchasing a PFD/Lifejacket ensure:

1. The device is sufficient to give a person using it a positive buoyancy in waters which are likely to be encountered. Users should be aware that certain PFDs may not perform as well in extreme climate conditions, even if they are fully approved PFDs.
2. PFDs may also be affected by other conditions of use, such as chemical exposure and welding, and may require additional protection, e.g. a protective layer, to meet the specific requirements of use. If the user intends taking a PFD into such

conditions, the user must be satisfied that the PFD will not be adversely affected.

3. The device is appropriate to the body weight and chest girth of the person who is to wear it.
4. The device has on it the CE conformity marking consisting of the initials "CE" taking the form of the specimen given in Annex IV of Council Directive 89/686/EEC of 21 December 1989 (as amended by Council Directive 93/68/EEC of 22 July 1993 and Council Directive 96/58/EC of the European Parliament and the Council of 3 September 1996).

Please Note: Some inflatable PFDs come provided with crotch straps and others are sold with the crotch strap as an optional extra. To maximise the lifesaving potential of inflatable PFDs, it is recommended that a crotch strap (or leg straps) should always be worn, over the top of all clothing. For further details see Marine Notice Nos. 45 of 2012, 39 of 2013, 48 of 2015, 10 of 2016 and 27 of 2016.

Marine Notices are available on the Department of Transport, Tourism and Sport website www.dttas.ie or from the Irish Maritime Administration, Department of Transport, Tourism and Sport, Leeson Lane, Dublin 2, D02 TR60.

Notes for selection of PFD/Lifejackets

The selection of a PFD/lifejacket is a complex issue and it is dependent on many factors such as:

- the area of operation for the vessel
- sea state
- weather conditions
- seasonal variations
- night and day time operation
- ease of use
- type and buoyancy of clothing worn
- proximity to rescue services.

This Appendix attempts to deal with these issues and to highlight concerns and issues that should be considered in selecting a PFD/lifejacket.

Inflatable PFD/lifejackets such as those complying with I.S. EN ISO 12402-3:2006 (EN 396) and I.S. EN ISO 12402-2:2006 (EN 399) are lightweight and less restrictive and can be worn comfortably in both warm and cold weather. They can also be fitted with automatic inflation devices and may turn the wearer face upwards in the water, depending on the clothing worn.

It must be recognised that clothing traps air, which may result in a person not floating as would be expected. Clothing absorbs water, making a person heavier to

support. The person may need to use a PFD with a higher performance standard to ensure that they self-right face up and their mouth and nose are kept sufficiently clear of the water.

If the wearer is at risk of entering the water in a disabled or unconscious condition, then the lifejacket should be fitted with both manual and automatic activation to ensure that the lifejacket will inflate automatically.

Consideration should also be given to fitting personal flotation devices with lights. A lifejacket light can aid location and reduce the recovery or rescue time in bad visibility, day or night. These lights should comply with the EuroNorm standard EN ISO 12402-8:2006 (EN 394).

Guidance for correct use of PFD/Lifejackets

1. Inflatable personal flotation devices must be worn over all clothing and not underneath. This is to ensure that there is sufficient space for the device to inflate and that the wearer's breathing is not restricted.
2. PFD/lifejackets should be worn in the correct position on the torso as per the manufacturer's instructions to prevent them from riding up above the wearer's shoulders. Hold-down devices such as crotch straps or thigh straps can greatly assist in keeping the PFD in the correct position. Where supplied, thigh straps should be correctly fitted and adjusted.
3. Every user should read the manufacturer's instructions for wearing, maintaining and servicing a lifejacket, and be fully aware of how to activate and operate it.
4. PFDs must be serviced and maintained on a regular basis. Servicing of PFDs should only be carried out by manufacturers/approved agents in accordance with the manufacturer's instructions. Users should carry out regular safety checks prior to each use.

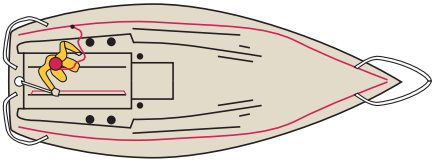
5. As a minimum, checks should include:
   - Harness straps/stitching inspected and checked for damage/wear
   - External lining inspected for wear/damage
   - All buckles checked/adjusted as required
   - All zips, buckles, fasteners, webbing straps and lights (if fitted) are functioning correctly
   - Hold-down devices attached to the PFD, if fitted
   - In the case of an inflatable PFD, the CO2 gas firing cylinder is firmly screwed into the inflation valve and has not been fired
   - Manual firing lanyard positioned for use if required
   - Be aware of any marked expiry dates of the firing mechanism components.
6. PFD users should not use PFDs with expired components and should remove these PFDs from the boat. They should refer to an approved service agent if there are any concerns about a PFD.
7. Automatically inflatable PFD/lifejackets, which operate by means of a soluble bobbin, may activate in error if left in a damp condition. When inflatable PFD/lifejackets are not being worn, they should be hung to dry vertically to ensure that all moisture drains away from the bobbin. Covers are available which reduce the problem of accidental inflation.
8. Where PFDs are required to be carried on board a craft, it is recommended that they are stored in a readily accessible position which may save time in an emergency situation.

PFD/lifejackets are available for babies.

Please Note:

Wearers must be aware of the legal requirements in relation to the wearing of PFDs and the penalties arising from non-compliance. For further details see Chapter 1 and Marine Notice No. 10 of 2016.

Jacklines and Safety Harnesses



Lifelines/Jackstays

Offshore sailors will be familiar with jackstays or webbing straps that run fore and aft over most of the length of the boat to allow crew to complete most operations on deck, while remaining attached by their harness.

There are a number of points to be aware of in relation to jackstays:

- The more conventional type is made from stainless steel wire, which has the tendency to get underfoot and trip crew members. On many yachts they have been replaced with a webbing strap, which has the advantage of not as readily tripping up crew members.
- They are normally made from polypropylene or blended synthetic fibres. The weakness they have is that they degrade with ultra violet light and weathering, and have been known to fail when a load is placed upon them.
- They should be tested each season. If in doubt, cut them in half and have them replaced with new ones, which are relatively inexpensive.

Appendix 6

Weather, Sea States and Tides

Forecasts and Warnings

Met Éireann regularly forecasts for small boats operating in coastal waters, including essential information on the expected wind direction and strength, the state of the sea and swell, visibility, and changes expected during the forecast period. Forecasts are issued in the early morning for the remainder of the day until midnight, at about midday for the rest of the day and the following day, and in the late afternoon for that night and the following day. Check well ahead of your planned trip – you can get an idea of the changes in the weather pattern from the forecasts issued 24 hours or longer before you leave shore. Strong wind warnings are issued whenever winds of 25 knots or more are expected. The direction and strength of the wind, sea and swell information and an indication of expected developments are also given. Gale or storm warnings are issued when the wind is expected to reach Beaufort Scale Force 8 (34 knots).

Small Craft Warnings

The small craft warning is issued for expected winds of **Force 6 or more**, and it is issued at **all times** of the year. The small craft warning covers the large internal lakes as well as coastal areas. A gale warning is issued for Force 8 or more and supersedes the small craft warning.

Weather forecasts should always be checked prior to departure and can be obtained from the following sources:

Primary Weather Sources:

- National Radio – shipping forecasts are broadcast on national radio stations. In addition, a service for inland waters is also broadcast for the major waterways. RTE Radio 1 broadcasts three times daily at approximately 6:02am, 12:53pm and at 11:55pm.
- Local radio stations will broadcast forecasts for local waters and inland lakes. Dublin and Galway local stations broadcast winds for the respective bays.
- National Television Channels – Met Éireann provides weather bulletins on RTE 1 and RTE 2.
- Telephone and fax – Met Éireann offers a charge service for detailed sea area forecasts.
- Internet – Met Éireann web page – www.met.ie.
- M.met.ie is a cross platform site

designed to work on web enabled mobile phones.
- Coast Guard Radio – generally announced on VHF Channel 16 and broadcast on Channel 26. The Sea Area Forecast (SAF) is broadcast on the named channel at three hour intervals beginning 01:03 followed by 04:03, 07:03, 10:03, 13:03, 16:03, 19:03 and 22:03. Gale warnings are also preceded by an announcement on Channel 16 and usually broadcast on receipt, and repeated at the next one of the following times: 00:33, 06:33, 12:33 and 18:33.

Secondary Weather Sources:
- Teletext/Aertel p. 162, 163, including any small craft warnings issued.
- Harbour Offices and Marinas will post a copy of the current local sea area forecast on noticeboards, as will yacht clubs during sailing events.
- Marine Institute Weather Buoys.
- Navtex receivers on board provide a printed forecast in addition to navigation information.
- Meteoalarm provides extreme weather alerts for Ireland and the rest of Europe (www.meteoalarm.eu). The system uses colour coding to indicate the severity of the expected hazard. An explanation of the warnings categories and thresholds can be found at www.met.ie/nationalwarnings.
- A number of websites are available that specialise in giving information on marine weather. Some examples are given below:
  http://passageweather.com/
  https://www.windguru.cz/
  http://magicseaweed.com/

Beaufort Force 0

Wind speed (knots): Under 1
Wind description: Calm
Sea state:
Sea is mirrorlike.

Beaufort Force 1

Wind speed (knots): 1-3
Wind description: Light Airs
Sea state:
Ripples with appearance of scales, no foam crests.

Beaufort Force 2

Wind speed (knots): 4-6
Wind description: Light Breeze
Sea state:
Small wavelets, crests beginning to break, scattered whitecaps.

Beaufort Force 3

Wind speed (knots): 7-10
Wind description: Gentle Breeze
Sea state:
Large wavelets, crests beginning to break, scattered whitecaps.

Beaufort Force 4

Wind speed (knots): 11-16
Wind description: Moderate Breeze
Sea state:
Small waves, becoming longer, numerous whitecaps.

Beaufort Force 5

Wind speed (knots): 17-21
Wind description: Fresh Breeze

Sea state:
Moderate waves, taking longer form, many whitecaps, some spray.

Beaufort Force 6

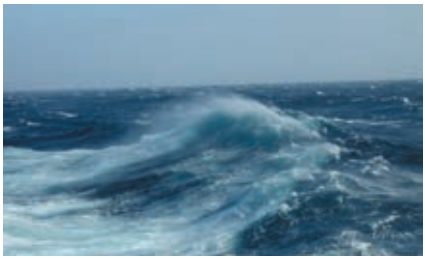
Wind speed (knots): 22-27
Wind description: Strong Breeze

Sea state:
Larger waves forming, whitecaps everywhere, much spray.

Beaufort Force 7

Wind speed (knots): 28-33
Wind description: Near Gale
Sea state:
Sea heaps up, white foam form breaking waves begin to be blown in streaks.

Beaufort Force 8



Wind speed (knots): 34-40
Wind description: Gale
Sea state:
Moderately high waves of greater length, edges of crests begin to break into spindrift, foam is blown into well defined streaks.

Beaufort Force 9

Wind speed (knots): 41-47
Wind description: Strong Gale

Sea state:
High waves, sea begins to roll, dense streaks of foam, spray begins to reduce visibility.

Beaufort Force 10

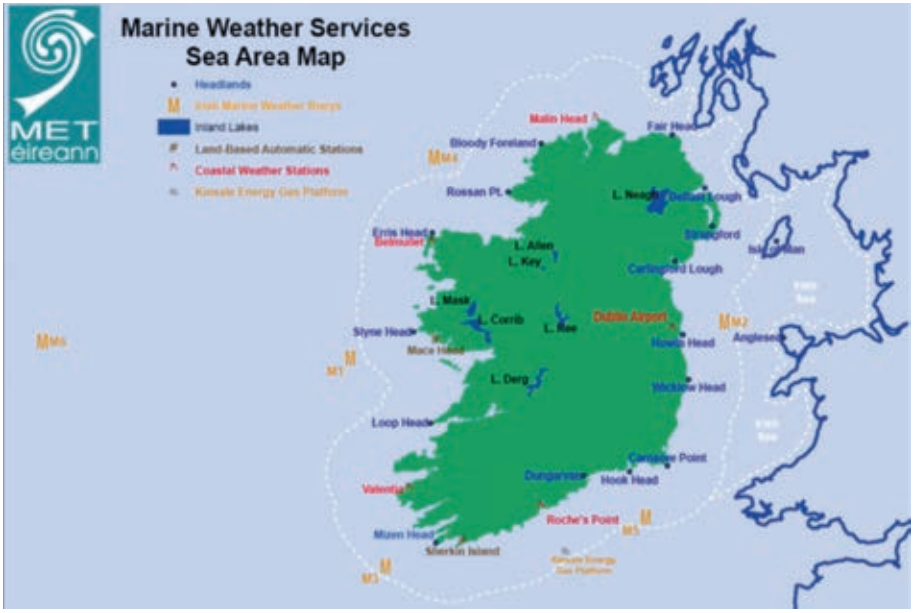
Wind speed (knots): 48-55
Wind description: Storm
Sea state:
Very high waves with overhanging crests, sea takes on white appearance, foam blown in dense streaks, rolling is heavy, visibility reduced.

Tides

Along with the weather, an understanding of tides and how they affect sea states is important. Some knowledge of tides is desirable before going afloat on the sea.

The tide is basically the rise and fall of the sea level; is caused by the combined effects of the forces exerted by the Moon and the Sun and can have a marked effect on maritime-related activities. On Irish coastal waters, tides are semi-diurnal (two high and low waters each day). Tides can also influence marine activities in that they result in water movements (tidal streams). This movement can be significant inshore such as on estuaries and near headlands. Tide levels/streams are important for many recreational activities including swimming, sailing, fishing, boat berthing, anchoring and passage planning. Notable hazards from tides include tide rips and races, inadvertent grounding and stray navigation. Tidal level predictions and information can be obtained from various nautical Almanacs, newspapers, websites and phone apps.

Marine Weather Services Sea Area Map



This map shows areas covered by Met Éireann marine forecasts. Note the white dashed line represents the furthest coverage limit for the Sea Area Forecast.

Marine Institute Weather Buoys

The Marine Institute has 5 weather buoys around the Irish coast which aim to provide improved weather forecasts and safety at sea around Ireland.

Buoy Positions

M2 : 53.4800°N 05.4250°W

- Irish Sea: Approximately 20 nautical miles (37 km) east of Howth Head.

M3 : 51.2166°N 10.5500°W

- Off the Cork coast: Approximately 30 nautical miles (56 km) southwest of Mizen Head.

M4 : 54.9982°N 09.992154°W

- Off the Donegal coast: Approximately 45 nautical miles (83 km) west northwest of Rossan Point.

M5 : 51.6900°N 06.7040°W

- Off the south Wexford coast: Approximately 30 nautical miles (56 km) south of Hook Head.

M6 : 53.07482°N 15.88135°W

- Deep Atlantic: Approximately 210 nautical miles (389 km) west southwest of Slyne Head.

The buoy network provides vital data for weather forecasts, shipping bulletins, gale and swell warnings as well as data for general public information and research.

Appendix 7

Directive on Recreational Craft and Personal Watercraft – Advice on buying a Recreational Craft

Since June 1998 all recreational craft new to the European Economic Area[1] (EEA) were required to comply with the Recreational Craft Directive, Directive 94/25/EC, as amended. The Directive was implemented in Ireland by the European Communities (Recreational Craft) Regulations 1998 (S.I. No. 40 of 1998), as amended in 2004 by the European Communities (Recreational Craft) (Amendment) Regulations 2004 (S.I. No. 422 of 2004).

Directive 2013/53/EU on recreational craft and personal watercraft repealed Directive 94/25/EC on recreational craft from 18 January 2016. However, Directive 94/25/EC, as amended by Directive 2003/44/EC, continues to apply to recreational craft, personal watercraft, components or propulsion engines placed on the EU market for the first time before 18 January 2017. Directive 2013/53/EU was transposed into Irish law through the European Union (Recreational Craft and Personal Watercraft) Regulations 2017 (S.I. No. 65 of 2017), as amended by the European Union (Recreational Craft and Personal Watercraft) (Procedures for Watercraft Identification) Regulations 2017 (S.I. No. 217 of 2017).

The Directive is beneficial to consumers as it requires craft to meet essential safety, health, environmental protection and consumer protection requirements. Directive 2013/53/EU lays down requirements for the design and construction, exhaust emissions and noise emissions of recreational craft, personal watercraft, components and propulsion engines installed in or on watercraft.

Watercraft products within the scope of Directive 2013/53/EU (and Regulation 3(1) of S.I. No. 65 of 2017), as amended:

- Recreational craft of hull length from 2.5 metres to 24 metres;
- Personal watercraft of less than 4 metres in hull length;

[1] The EEA consists of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

- Partly completed watercraft, being a partly completed recreational craft or personal watercraft;
- Components, when placed separately on the Union market (e.g. ignition-protected equipment for inboard and stern drive petrol engines and petrol tank spaces; starting-gear protection devices for outboard engines; steering wheels, steering mechanisms and cable assemblies; fuel tanks intended for fixed installations and fuel hoses; prefabricated hatches, and port lights);
- Propulsion engines installed or specifically intended for installation in or on watercraft, or subject to major engine modification;
- Watercraft subject to major craft conversion.

A boat owner who has bought a new boat or a used boat in a third country and returns the boat by whatever means to the EEA territory, and places that boat into service for the first time in the EEA, will be subject to the requirements of the Directive. Importers of watercraft from third countries that place products on the EU market are obliged to mark the product with their name and address.

Anyone considering purchasing a watercraft product should check for the following:

1. in the case of a watercraft, that it is affixed with a **Watercraft Builder's Plate** and that it has sufficient structure, stability and buoyancy in accordance with its design category;
2. that it is affixed with the **CE marking**;
3. in the case of a propulsion engine, that it is marked with a **Propulsion Engine Identification** and complies with other essential requirements of the Directive, e.g. **installation requirements**;
4. in the case of an imported product, that it is labelled with the **importers contact details**;
5. that it is identified by a **type, batch or serial number** or a **Watercraft Identification Number (WIN)**;
6. that it is accompanied by an **Owner's Manual(s)**; and
7. that it is accompanied by a **Declaration**.

1 and 2: Watercraft Builder's Plate, CE Mark and Design Category

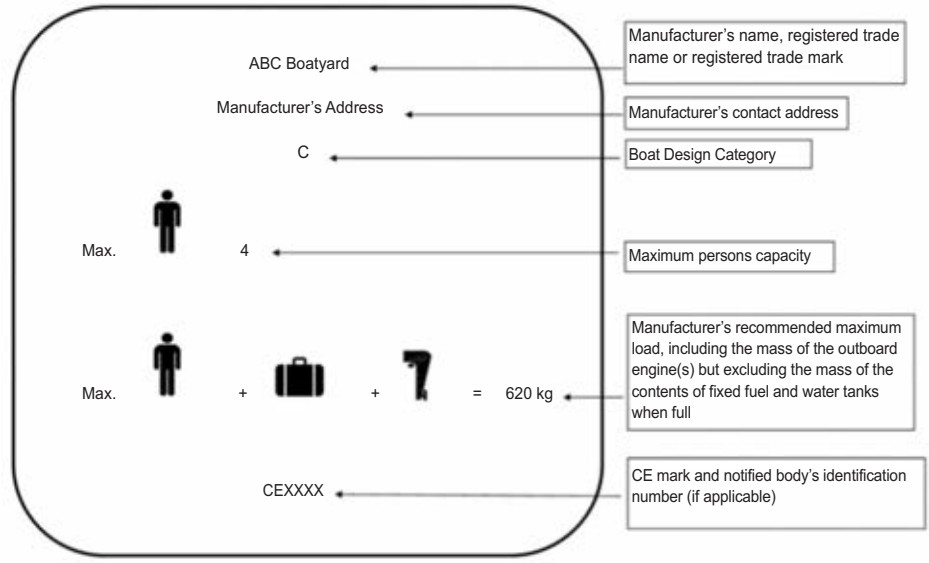
Each watercraft must carry a permanently affixed plate, preferably in the cockpit or near the main steering position, containing the following information:

- Manufacturer's name, registered trade name or registered trade mark, as well as contact address;
- CE marking;
- Watercraft design category (summarised in section 1.2.8 of this Code):
  - A, B, C and/or D for recreational craft;
  - C and/or D for personal watercraft;
- Manufacturer's maximum recommended load;
- The number of persons recommended by the manufacturer for which the watercraft was designed;
- Additional information depending on the type of watercraft:
  - If a recreational craft is designed to be fitted with outboard propulsion engine(s), the maximum engine(s) power (kW);
  - If an inflatable recreational craft, the recommended working pressure (Bar or psi);
  - If a sail kit is provided with a recreational craft, the maximum sail area (m^2 or ft^2).

A Watercraft Builder's Plate should not be affixed to a partly completed watercraft. In the case of post-construction assessment, the contact details of the notified body that has carried out the conformity assessment are included on the Builder's Plate, in place of those of the manufacturer, and the words 'post-construction assessment' are also included.

All watercraft, designated components and propulsion engines are subject to CE marking, indicating that a product complies with the relevant EU legislation. In the case of a watercraft, CE marking must be affixed on the Watercraft Builder's Plate (mounted separately from the Watercraft Identification Number). In the case of any other product, such as a propulsion engine, the CE mark shall be affixed to the product, but in the case of a component where that is not possible or warranted on account of the size of the component, it shall be affixed to the packaging and to the accompanying documentation.

Each watercraft must have sufficient structure, stability and buoyancy in accordance with its design category. The four watercraft design categories are summarized in section 1.2.8 of this Code.



Example: Builder's Plate with minimum information for craft powered by outboard engines.

3. Propulsion Engine Requirements

Every engine must be clearly and durably marked with the following information:

- Engine manufacturer's name, registered trade name or registered trade mark, as well as contact address and, if applicable, the name and contact address of the person adapting the engine. This is not necessarily the address where the manufacturer is actually established. This address can for example be that of the authorised representative or of the customer services;
- Engine type, engine family, if applicable;
- A unique engine serial number;
- CE marking.

Every propulsion engine installed in or on watercraft must meet the applicable essential safety and environmental requirements as laid down in Directive 2013/53/EU. Any person who carries out a major modification to a propulsion engine must ensure that the modified engine is in conformity with the Directive.

To ensure safe handling characteristics, a watercraft should

not be fitted with a propulsion engine that is more powerful than the maximum power for which the watercraft is designed and constructed. All tiller-controlled outboard propulsion engines must have an emergency stopping device fitted.

4. Importer's Plate

The plate must indicate the importer's name, registered trade name or registered trade mark, as well as contact address, preferably in the cockpit or near the main steering position, but not on the Watercraft Builder's Plate.

5. Product Identification

In the case of a propulsion engine, a unique engine serial number must be permanently marked on the engine. In the case of a watercraft, a Watercraft Identification Number (WIN) must be marked in two positions:

- watercraft exterior: top of transom, starboard side, and
- watercraft interior: in a position that is not visible.

The Watercraft Identification Number is unique to each craft. It is a code that identifies the manufacturer, country of manufacture and date of construction, as follows:

IE ABC 12345 D 16 14

IE	Country code of the manufacturer, i.e. where the craft was built;
ABC	Unique Code of the Manufacturer – assigned by the national authority of a Member State. In Ireland, unique codes of the manufacturer are assigned by the Marine Survey Office of the Department of Transport, Tourism and Sport;
12345	Unique Serial Number assigned by the manufacturer;
D	Month of Manufacture (A = January, B = February, etc.);
16	Year of Manufacture (2016);
14	Model year (2014).

6. Owner's Manual

Every product must have an Owner's Manual. This must be in a language easily understood by the end-user, which in Ireland is Irish or English. It contains the instructions and information essential to the safe use of the product, drawing particular attention to the set-up, maintenance, regular operation of the product, prevention of risks and risk management. It should also contain all the instructions and manuals for any equipment fitted. For propulsion engines, the maximum rated engine power must be declared in the Owner's Manual.

7. Declaration

Each individual product must be accompanied by an EU Declaration of Conformity or, in the case of a partly completed watercraft, by a Declaration by the manufacturer or the importer of the partly completed watercraft. This is a legal document signed by the manufacturer, or his or her authorised representative, stating that the craft meets all the requirements. This is an important document, particularly if the craft is to be used or taken into other Member States, as enforcement officials can ask to see it.

Directive 2013/53/EU does not apply to certain watercraft – see Article 2.2 of the Directive, Regulation 3(2) of S.I. No. 65 of 2017, as amended, and section 1.2.8 of this Code.

Please note that this advice is designed to provide basic guidance. It is not a complete authoritative statement of the law.

For more information contact:

Marine Survey Office
Irish Maritime Administration
Department of Transport, Tourism and Sport
Leeson Lane
Dublin 2
D02 TR60

Telephone: + 353 (0)1 678 3400
Fax: + 353 (0)1 678 3409
Email: mso@dttas.ie

Appendix 8

Passage Planning Template

Vessel				**Date**	
Route				**Distance/Time**	
Weather Forecast					
Tides	**HW**	**LW**	**Spring / Neap**	**Draft**	

Use approved GMDSS communications systems. A mobile phone should not be relied on as the primary method of maritime communication.

VHF Channels	

Safety Equipment Checklist completed by:

Number of Crew on Board				**Crew briefed on passage**	
Fuel Checked		**Fresh Water**		**Food/Equipment**	

Charts and publications to be used for passage Insert the chart numbers and the relevant pages of the sailing directions and/or Almanac here:		
Confirm route is marked on charts and agrees with this passage plan	**Y**	**N**

Any rocks, shallow areas, strong currents or other dangers on the route

Contingency plans and safe places of refuge on the proposed route **Note:** Check tides and access for any alternative ports and bays. Ensure chart is on board.

Name and contact information of person/organisation ashore informed of the voyage details including estimated time of arrival or return.	
Name and signature of person responsible for this passage plan:	**I confirm that I have checked this plan and am satisfied that it is safe for the voyage to proceed:**

The following table is used to give an indication of the proposed track the vessel will travel and should include the expected compass heading on each leg and the length of the leg. Positions can be in Latitude and Longitude or bearing and distance from a known mark or place. The remarks/description section should be used to give some information or advice on the waypoint or leg, i.e.: “should be able to see lighthouse”, “look for leading lights”, “stay well clear of cardinal mark”, etc.

W/P No	Waypoint Name	Position	Remarks/ Description	Heading	Distance (NM)
				°	
				°	
				°	
				°	
				°	
				°	
				°	
				Total Distance	

Appendix 9

List of Course Providers

(see Appendix 10 for full contact details)

Chapter 2: Sail and Motor Boats – Coastal Operation	• Irish Sailing Association • Comhairle Fo-Thuinn (Irish Underwater Council)
Chapter 3: Sail and Motor Boats – Inland Waterways	• Irish Sailing Association • Inland Waterways Association of Ireland • Comhairle Fo-Thuinn (Irish Underwater Council)
Chapter 4: Sailing Dinghies	• Irish Sailing Association
Chapter 5: Personal Watercraft – Jet Skis and High Speed Power Boats	• Irish Sailing Association
Chapter 6: Windsurfing and Stand-Up Paddle Boards	• Irish Windsurfing Association • Irish Surfing Association
Chapter 7: Canoeing/Kayaking	• Canoeing Ireland
Chapter 8: Rowing Boats	• Rowing Ireland • Irish Coastal Rowing Federation
Chapter 9: International Certificate for Operators of Pleasure Craft	• Irish Sailing Association
Chapter 11: Emergency Procedures	• Contact the Marine Survey Office

Appendix 10

Contact Details

10.1 Irish Maritime Administration contacts

Website: www.dttas.ie

Maritime Safety Policy Division
Irish Maritime Administration
Department of Transport, Tourism and Sport
Leeson Lane
Dublin 2
D02 TR60

Telephone: +353 (0)1 678 3434
Fax: +353 (0)1 678 3409
Email: marineleisuresafety@dttas.ie

Irish Coast Guard HQ
Irish Maritime Administration
Department of Transport, Tourism and Sport
Leeson Lane
Dublin 2
D02 TR60

Telephone: +353 (0)1 678 3454
Fax: +353 (0)1 678 3459
Email: admin@irishcoastguard.ie

Marine Survey Office (Dublin)
Irish Maritime Administration
Department of Transport, Tourism and Sport
Leeson Lane
Dublin 2
D02 TR60

Telephone: +353 (0)1 678 3400
Fax: +353 (0)1 678 3409
Email: mso@dttas.ie

Mercantile Marine Office (Dublin)
Irish Maritime Administration
Department of Transport, Tourism and Sport
Leeson Lane
Dublin 2
D02 TR60

Telephone: +353 (0)1 678 3480
Fax: +353 (0)1 678 3489
Email: mmo@dttas.ie

Marine Survey Office (Ballyshannon)
Department of Transport, Tourism and Sport
Town Council Building
Abbeyview
Ballyshannon
Co. Donegal
F94 C44W

Telephone: +353 (0)71 982 2400
Fax: +353 (0)71 982 2439
Email: mso@dttas.ie

Marine Survey Office (Cork)
Department of Transport, Tourism and Sport
Centre Park House
Centre Park Road
Cork
T12 RKON

Telephone: +353 (0)21 496 8992
Fax: +353 (0)21 496 8617
Email: mso@dttas.ie

10.2 Contact Details for other organisations

Bord Iascaigh Mhara
P.O. Box No. 12
Crofton Road
Dun Laoghaire
Co. Dublin
A96 E5A0

Telephone: +353 (0)1 214 4100
Fax: +353 (0)1 284 1123
Email: contact@bim.ie
Website: www.bim.ie

Comhairle Fo-Thuinn
Irish Underwater Council
78A Patrick Street
Dun Laoghaire
Co. Dublin
A96 HY45

Telephone: +353 (0)1 284 4601
Fax: +353 (0)1 284 4602
Email: info@diving.ie
Website: www.diving.ie

Commission for Communications Regulation (ComReg)
1 Dockland Central
Guild Street
Dublin 1
D01 E4X0

Telephone:
Consumer: +353 (0)1 804 9668
Industry: +353 (0)1 804 9600
Email: consumerline@comreg.ie
Website: www.comreg.ie

Commissioners of Irish Lights
Harbour Road
Dun Laoghaire
Co. Dublin
A96 H500

Telephone: +353 (0)1 271 5400
Fax: +353 (0)1 271 5566
Email: info@irishlights.ie
Website: www.irishlights.ie

Inland Waterways Association of Ireland (IWAI)
2 Kylemore Park
Taylor's Hill
Galway
H91 T22T

Telephone: +353 (0)91 589 333
Lo-Call: 1890 924 991
Email: info@iwai.ie
Website: www.iwai.ie

Irish Canoe Union/Canoeing Ireland
Irish Sport HQ
National Sports Campus
Blanchardstown
Dublin 15
D15 DY62

Telephone: +353 (0)1 625 1105
Fax: +353 (0)1 625 1106
Email: info@canoe.ie
Website: www.canoe.ie

Irish Coastal Rowing Federation Ltd
Email: info@coastalrowing.net
Website: www.coastalrowing.net

Irish Sailing Association
3 Park Road
Dun Laoghaire
Co. Dublin
A96 K3C3

Telephone: +353 (0)1 280 0239
Email: info@sailing.ie
Website: www.sailing.ie

Irish Sea Kayaking Association
Email: iskacommittee@gmail.com
Website: www.iska.ie

Irish Surfing Association
Easkey Surf and Information Centre
Easkey
Co. Sligo
F26 CX4K

Telephone: +353 (0)96 49 428
Fax: +353 (0)96 49 428
Email: info@irishsurfing.ie
Website: www.irishsurfing.ie

Irish Water Safety
The Long Walk
Galway
H91 F602

Telephone: +353 (0)91 564 400
Lo-Call: 1890 420 202 (24 Hours)
Fax: +353 (0)91 564 700
Email: info@iws.ie
Website: www.iws.ie

Irish Waterski and Wakeboard Federation
Email: info@irishwwf.ie
Website: www.irishwwf.ie

Irish Windsurfing Association
Email: secretary@windsurfing.ie
Website: www.windsurfing.ie

Marine Casualty Investigation Board
Leeson Lane
Dublin 2
D02 TR60

Telephone: +353 (0)1 678 3485
+353 (0)1 678 3486
Fax: +353 (0)1 678 3493
Email: info@mcib.ie
Website: www.mcib.ie

Met Éireann Headquarters
65/67 Glasnevin Hill
Dublin 9
D09 Y921

Telephone: +353 (0)1 806 4200
Fax: +353 (0)1 806 4247
Email: met.eireann@met.ie
Website:
www.met.ie/forecasts/sea-area.asp

General Forecasting Division (Met Éireann)
Telephone: +353 (0)1 806 4255
Fax: +353 (0)1 806 4275
Email: forecasts@met.ie
Note: Provision of forecasts is subject to a fee

Rowing Ireland
National Rowing Centre
Farran Wood
Ovens
Co. Cork
P31 K704

Telephone: +353 (0)21 743 4044
Fax: +353 (0)21 743 4045
Email: info@rowingireland.ie
Website: www.rowingireland.ie

Royal National Lifeboat Institution (RNLI)
Airside
Swords
Co. Dublin
K67 WA24

Telephone: +353 (0)1 895 1800
Fax: +353 (0)1 890 0458
Email: lifeboatsireland@rnli.org.uk
Website: www.rnli.org

Scouting Ireland (Head Office)
Scouting Ireland
Larch Hill
Dublin 16
D16 P023

Telephone: +353 (0)1 495 6300
Fax: +353 (0)1 495 6301
Email: questions@scouts.ie
Website: www.scouts.ie

Waterways Ireland
The Inspector of Navigation
Waterways Ireland
The Docks
Athlone
Co. Westmeath
N37 RW26

Telephone: +353 (0)90 649 4232
Fax: +353 (0)90 649 4147
Email: info@waterwaysireland.org
Website: www.waterwaysireland.org

10.3 Fishery Bodies

Inland Fisheries Ireland (HQ)
3044 Lake Drive
Citywest Business Campus
Dublin 24
D24 Y265

Telephone: +353 (0)1 884 2600
Email: info@fisheriesireland.ie

IFI Ballina
Ardnaree House
Abbey Street
Ballina
Co. Mayo
F26 K029

Telephone: +353 (0)96 22 788
Email: ballina@fisheriesireland.ie

IFI Ballyshannon
Station Road
Ballyshannon
Co. Donegal
F94 WV76

Telephone: +353 (0)71 985 1435
Email:
Ballyshannon@fisheriesireland.ie

IFI Clonmel
Anglesea Street
Clonmel
Co. Tipperary
E91 RD25

Telephone: +353 (0)52 618 0055
Email: clonmel@fisheriesireland.ie

IFI Dublin
3044 Lake Drive
Citywest Business Campus
Dublin 24
D24 Y265

Telephone: +353 (0)1 278 7022
Email: dublin@fisheriesireland.ie

IFI Galway
Teach Breac
Earl's Island
Galway
H91 K6D2

Telephone: +353 (0)91 563 118
Email: galway@fisheriesireland.ie

IFI Limerick
Ashbourne Business Park
Dock Road
Limerick
V94 NPEO

Telephone: +353 (0)61 300 238
Email: limerick@fisheriesireland.ie

IFI Macroom
Sunnyside House
Macroom
Co. Cork
P12 X602

Telephone: +353 (0)26 41 222
Email: macroom@fisheriesireland.ie

Appendix 11

Glossary of Terms

AHC	Ampere Hertz Capacity
AIS	Automatic Identification System
Class XII Boats	Recreational craft greater than 13.7 m in length.
COLREGS	The International Regulations for Preventing Collisions at Sea, as amended.
ComReg	Commission for Communications Regulation
COSPAS/SARSAT	A satellite system to provide distress and alert information to Search and Rescue services.
CQR	Pronounce “secure” – a plough anchor.
DSC	Digital Selective Calling (part of GMDSS).
DTTAS	Department of Transport, Tourism and Sport
EPIRB	Emergency Position Indicating Radio Beacon
GMDSS	Global Maritime Distress and Safety System
GMDSS Sea Area A1	An area within the radiotelephone coverage of at least one VHF coast radio station in which continuous DSC alerting is available (approx. 30 nautical miles from a coast station).
GMDSS Sea Area A2	An area, excluding Sea Area A1, within the radiotelephone coverage of at least one MF coast radio station in which continuous DSC alerting is available (approximately 150 nautical miles from a coast station).

GMDSS Sea Area A3	An area, excluding sea areas A1 and A2, within the coverage of an INMARSAT geo-stationary satellite in which continuous alerting is available (approximately 70°N to 70°S).
GPS	Global Positioning System – U.S. satellite navigation system.
HF	High Frequency
HRU	Hydrostatic Release Unit
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IMA	Irish Maritime Administration
IMO	International Maritime Organization – this is based in London and is the UN specialised maritime agency. It is responsible for maritime safety and prevention of pollution of the marine environment. It provides a forum for international co-operation on such issues as the regulation of international shipping and navigation efficiency.
INMARSAT	Satellite communications.
Irish waters	Includes the territorial seas, the waters on the landward side of the territorial seas, and the estuaries, rivers, lakes and other inland waters (whether or not artificially created or modified) of the State.
ISA	Irish Sailing Association
IWS	Irish Water Safety
LOA	Length overall of vessel.

LSA	Life Saving Appliances
Marine Notice	Information, advisory or guidance notices issued by the IMA.
MARPOL	International Convention for the Prevention of Pollution from Ships. It was adopted on 2 November 1973 at the IMO.
MED	Marine Equipment Directive (Wheel mark)
MF	Medium Frequency
MMSI	Maritime Mobile Service Identity
MOB	Man Overboard
MSO	Marine Survey Office – a division of the IMA and DTTAS.
NAVTEX	Marine Safety Information service, via dedicated telex receiver.
NRT	Net Registered Tonnes
Partially Smooth Waters	Areas of water specified as “partially smooth” in a Marine Notice.
PFD	Personal Flotation Device
PLB	Personal Locator Beacon
Pleasure Craft	See recreational craft.
PWC	Personal Watercraft (jet skis)
RCD	Recreational Craft and Personal Watercraft Directive
Recreational Craft	Vessels used for leisure or sport purposes.

RIB	Rigid Inflatable Boat
RNLI	Royal National Lifeboat Institution
SAR	Search and Rescue services incorporating cliff, sea and air rescue.
SART	Search and Rescue Radar Transponder
S.I.	Statutory Instrument (Secondary Legislation)
Smooth Waters	Areas of water specified as “smooth” in a Marine Notice.
SOLAS	IMO International Convention for the Safety of Life at Sea 1974, as amended. This Convention was one of the first international treaties of its kind. It was first formed and adopted in 1914 as a reaction to the Titanic disaster in 1912.
Statutory Requirements	Irish legislation comprising of Acts and Statutory Instruments and incorporating national law, European Union Regulations and Directives, and obligations under various international maritime conventions.
SUP	Stand-Up Paddle Board
To Sea	All sea areas not defined as “smooth” or “partially smooth” water in a Marine Notice.
UCM	Unique Code of the Manufacturer
VHF	Very High Frequency
VTS	Vessel Traffic Service