





Code of Practice for:

THE SAFE OPERATION OF RECREATIONAL CRAFT

Maritime Safety Directorate
& Irish Coast Guard

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FOREWORD
BY THE MINISTER

I am delighted to be able to say that the Code of Practice for the Safe Operation of Recreational Craft has been very well received by those involved in marine leisure activities and has proved very popular since it was launched in May 2006. This is the third reprint of the Code which has been updated to take account of changes since it was first published.

The Code provides information on legislative requirements in a simple and user-friendly way and gives straightforward advice on best practice to operators and owners of recreational craft. I am certain that observance of it can help to save lives. I would encourage those taking to the water in leisure pursuits to be aware of and familiar with its contents.

Marine incident statistics from the Irish Coast Guard show that the number of incidents involving pleasure craft has been rising year on year. The increase in the number of incidents has coincided with exponential growth in the marine leisure sector during the unprecedented growth in our economy since the 1990s. In 1990 there were 73 incidents involving pleasure craft. By 2000 that figure had risen to 319 and in 2007 there were 674 such incidents.

The development and promotion of the Code by the Department of Transport with the assistance of all those with an interest in advancing the safety agenda, is a key element of the safety strategy for the recreational boating sector. However, unless owners and users of recreational craft take seriously their responsibilities to ensure that their craft are properly maintained, equipped and operated, the Code in itself will not bring about a safer boating environment.

As is the case in road safety, people have to take personal responsibility for their safety when they decide to take to the water. By taking simple measures such as wearing a lifejacket and following other sensible precautions set out in the Code, individuals can contribute to saving lives.

Noel Dempsey T.D.
Minister for Transport

December 2008

INTRODUCTION

Who is the Code for?
This Code of Practice for the Safe Operation of Recreational Craft is intended for the use of owners, operators and users of recreational craft.

Recreational craft are vessels used for leisure or sport purposes, regardless of their means of propulsion. They are also sometimes referred to as pleasure craft.

This Code applies to all recreational craft operating in Irish waters, including:

- Sailing craft
- Windsurfers
- Motorboats, ski boats, powerboats, sports boats and dive boats.
- Personal watercraft (Jet skis)
- Canoes, kayaks
- Non powered craft

Where passengers are carried by commercially operated craft manned by a skipper and crew they are regarded as passenger vessels and are subject to the requirements of the Merchant Shipping Act 1992, as amended, and any associated rules and regulations.

The Code incorporates both competitive and non-competitive use of recreational craft.

Background
In 2002 the then Minister announced a review of safety measures on small watercraft.

On foot of the review and a consultation process, the Minister announced in August 2003 that he intended bringing forward a series of safety initiatives aimed at Ireland's growing marine leisure sector. Among the initiatives was the introduction of a code of safe practice for recreational craft.

A draft Code prepared by the Maritime Safety Directorate and Irish Coastguard, was the subject of a public consultation process from May to October 2004. An assessment was carried out on the responses received and the draft Code was revised having regard to comments received. A further consultation process on the revised draft Code took place with relevant State agencies and representative organisations in April 2005. Again comments received from various representative organisations and individuals have been taken on board in finalising the Code.

How to use this Code
It is the responsibility of owners and operators of recreational craft to ensure that a vessel is properly maintained, equipped and operated. This Code aims to assist owners and operators in their responsibility by setting out current legislative requirements governing recreational craft and best practice for vessel standards, equipment and operation for the different types of recreational craft and their areas of operation.

The Code is in two parts. **Part A of the Code** – Chapter 1 outlines existing legislative requirements that apply to recreational craft. Owners and operators **must** comply with the requirements appropriate to their craft.

Part B of the Code – Chapters 2 to 11 set out best practice for the safe operation of recreational craft. Chapters 2 to 9 provide

guidance in relation to particular types of recreational craft/activities. Chapters 10 and 11 provide safety guidance applicable to recreational craft generally.

Owners and operators should familiarise themselves with part A of the Code, the particular chapter in part B appropriate to their type of vessel together with chapters 10 and 11.

The Maritime Safety Directorate's and Irish Coast Guard's primary aim in developing the Code has been to establish standards of safety and protection for all users of recreational craft.

Amendments

The Code will be kept under continuous review to ensure that it remains up to date and revisions will be posted on the designated website as they occur.

If you have any queries, comments or suggestions regarding the Code please forward them to:

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THE MARITIME SAFETY DIRECTORATE AND IRISH COAST GUARD

The Department of Transport, through the Maritime Safety Directorate (MSD) and the Irish Coast Guard (IRCG), is the national authority with responsibility for the promotion, regulation and enforcement of maritime safety, maritime security, marine communications, marine emergency management services and marine pollution preparedness, prevention and response.

In 2002 the Maritime Safety Directorate (MSD) was established within the then Department of Communications, Marine and Natural Resources to create an efficient, effective and co-ordinated marine safety regulatory service to ensure that safety of life receives high priority. Close links between the MSD and IRCG to enable it to operate as a single unit within the Department to address all safety matters. From the 1st of January 2006 the Maritime Safety Directorate and Irish Coast Guard moved to the Department of Transport.

The main focus of the MSD is on accident prevention through an appropriate combination of regulation and a heightening of safety awareness and enforcement. The IRCG seeks to prevent, as far as possible, the loss of life at sea and in inland waters and others areas, through an effective comprehensive emergency response service. Together the MSD and IRCG work to minimise the risk of pollution from ships, and where pollution occurs to deal with all aspects of response at sea and coastal areas.

PART A

STATUTORY REQUIREMENTS FOR THE SAFE OPERATION OF RECREATIONAL CRAFT

LEGISLATION

1.1 STATUTORY REQUIREMENTS FOR RECREATIONAL CRAFT

This part of the Code identifies and explains the legislation that is applicable to recreational craft operating within Irish waters and with which owners and operators of such craft must comply. Statutory requirements comprise Irish legislation, encompassing national maritime legislation, European Union Directives and the State's obligations under various international maritime conventions adopted by IMO and other international maritime bodies.

National maritime legislation comprises primary legislation (Merchant Shipping Acts 1894-2005), and associated secondary legislation in the form of Statutory Instruments (Merchant Shipping Rules and Regulations). National legislation relating to the maritime sector, is available on the Maritime Safety Directorate (MSD) webpage at http://www.transport.ie Marine Notices are advisory or guidance notes issued by the MSD and are available on the MSD webpage (see appendix 7). The Commissioner of Irish Lights and Waterways Ireland also issue marine notices for waters under their jurisdiction.

While much of the national maritime legislation is primarily directed at commercial shipping, there are certain parts of it that apply to recreational craft and these are set out in the following table.

Legislation	All Recreational Craft	Recreational Craft >12m	Recreational Craft >15 NRT	Recreational Craft >13.7m
Collision Regulations (Ships & Water Craft on the Water) Order 1984				
SOLAS Chapter V				
MARPOL Annex I and V				
Pleasure Craft (Personal Flotation Devices and Operation) (Safety) Regulations 2005				
Recreational Craft Directive 94/25EC and amendment 44/2003				
Merchant Shipping (Investigation Of Marine Casualties) Act 2000 – Marine Casualty Investigation Board				
Harbours Acts of 1946, 1996 and Fisheries Centre Harbours Act 1980				
Maritime Safety Act 2005				
MS (Carriage of Nautical Publications) Regulations 1985				
Mercantile Marine Act 1955				
MS (Life Saving Appliances) Rules 1983 & 1993				
MS (Fire Appliances) Rules 1967, 1983 & 1985				

1.2 LEGISLATION APPLICABLE TO ALL RECREATIONAL CRAFT

1.2.1 Collision Regulations

Applicable Legislation

- Collision Regulations (Ships and Water Craft on the Water) Order 1984, S.I. No. 29 of 1984
- Collision Regulations (Ships And Water Craft On The Water) (Amendment) Order 1990, S.I. No. 36 of 1990
- Collision Regulations (Ships And Water Craft On The Water) (Amendment) Order 1993, S.I. No. 287 of 1993
- Collision Regulations (Ships And Water Craft On The Water) (Amendment) Order 2005, S.I. No. 47 of 2005

All recreational craft must comply with the International regulations for preventing collisions at sea.

All owners, skippers or persons in charge of a recreational craft should be fully familiar with the collision regulations. Some of the main requirements are included in Appendix 1.

1.2.2 SOLAS Chapter V - Safety of Navigation

On 1 July 2002, a number of new SOLAS regulations came into force which directly affect recreational craft.

While most of the SOLAS convention only applies to large commercial ships, parts of Chapter V dealing with safety of navigation apply to all recreational craft. Marine Notice No. 9 of 2003 explains the implications of the legislation, which is summarised as follows:

- It is a requirement that any voyage is properly planned prior to being undertaken.
- Recreational craft must as far as practicable be fitted with a radar reflector (i.e. if it can reasonably be fitted, it should be fitted with one).
- An illustrated table of lifesaving signals must be carried on board where possible, a copy is included in appendix 1.
- There is an obligation on the skipper of a recreational craft to report any dangers to navigation and respond to distress messages. This can be done by contacting the Irish Coast Guard and reporting directly to them.
- It is a requirement that distress signals are not misused.

1.2.3 MARPOL (Pollution Prevention)

1.2.3.1 Prevention of pollution by garbage from ships – Annex V of MARPOL

All recreational craft must comply with the following requirements in relation to the disposal of garbage:

(a) It is prohibited to dispose into the sea **any** items of plastic including plastic garbage bags, wrappings, synthetic rope etc.

(b) The disposal into the sea of the following garbage must be made as far as practicable from the nearest land but is in any case prohibited if the distance from the nearest land is less than:
  (i) 25 nautical miles for dunnage – lining and packing materials which will float.
  (ii) 12 nautical miles for food wastes and all other garbage including paper products, rags, glass, metal, bottles, crockery and similar refuse.

Additionally **recreational craft of 12 metres or more** in length overall must display placards which notify the crew of the requirements concerning the disposal of garbage.

1.2.3.2 Prevention of pollution by oil from ships - Annex 1 of MARPOL

Recreational craft are required to be equipped as far as practicable and reasonable with installations to ensure the storage of oil or oily mixtures on board. Their discharge into the sea is prohibited unless the craft is proceeding en route and the oil content of the effluent without dilution does not exceed 15 parts per million.

1.2.4 Wearing of lifejackets

Legislative Requirements

- Pleasure Craft (Personal Flotation Devices and Operation) (Safety) Regulations 2005.

These Regulations do not apply to "Olympic style" rowing boats.

1.2.4.1 Lifejacket Regulations on Recreational Craft other than personal watercraft (PWC)

The following provisions apply to all recreational craft:

- All persons on board any craft of less than 7m in length must wear a personal floatation device (PFD) or a lifejacket while on board an open craft or while on the deck of a decked craft, other than when the craft is made fast to the shore.
- The master or owner of any craft is required to ensure that either a PFD or a lifejacket is carried on the craft for each person on board.
- The master or owner of a craft is required to take all reasonable steps to ensure that all persons under the age of sixteen must wear a PFD/ lifejacket while on board an open craft or while on the deck of a decked craft.
- The term "open craft" refers to a craft without a cabin or below deck facilities for persons on board and where any seating is exposed or partially exposed to the elements.
- The master or owner of a craft is required to take all reasonable steps to ensure that a person wears a PFD/lifejacket while:
  (a) Being towed by the craft, or
  (b) On board a vessel or object of any kind being towed by the craft.

The wearing of PFD/lifejacket requirements under these Regulations do not apply to a craft, which is not underway, when the person:

(a) Is wearing, putting on or taking off scuba diving equipment or
(b) Is about to engage in, or has just completed swimming (including snorkelling) from the craft and
(c) when the craft is made fast to the shore or at anchor.

1.2.4.2 Lifejacket Regulations on Personal Watercraft (PWC)

- Every person on a PWC is required to wear a PFD/ lifejacket at all times while on board or being towed in any manner by a PWC.
- The master or owner of a PWC is required to take all reasonable steps to ensure that a person under 16 years of age complies with the requirement to wear a PFD/lifejacket while on board or being towed by a PWC.

1.2.4.3 Lifejacket Regulations for waterskiing, wake boarding, paragliding and other towed rides

Pleasure Craft (Personal Flotation Devices and Operation) (Safety) Regulations 2005. S.I. 921 of 2005 applies as follows to water skiing, wake boarding, paragliding & other towed rides.

- All persons while being towed by a pleasure craft or on board any vessel or object of any kind being towed by a craft must wear a personal flotation device or lifejacket. The responsibility for compliance with this requirement lies with the master or owner of the towing craft.
- Persons partaking in towed rides must not consume alcohol or drugs.

More information on PFD/lifejackets is set out in appendix 5.

1.2.5 Operation of Recreational Craft - Minimum age levels

- The master or owner of a PWC or fast power craft is required to take all reasonable steps to ensure that persons under the age of 16 do not operate or control the craft. The term "fast power craft" means a craft that can attain a speed of 17 knots or more.
- The master or owner of a craft with an engine rating of more than 5 hp (3.7 kW) is required to take all reasonable steps to ensure that a person under 12 years of age does not operate or control the craft.

1.2.6 Controls on Alcohol and Drugs

- The master or owner of a pleasure craft must not operate or control or allow another person to operate or control the craft while under the influence of alcohol or drugs.
- Any person on board a pleasure craft must not consume alcohol or drugs in circumstances that could affect the safety of other persons.
- Any person being towed or on board a vessel or object which is being towed by a pleasure craft shall not consume alcohol or drugs.

Violation of any of the provisions of the Pleasure Craft (Personal Flotation Devices and Operation) (Safety) Regulations 2005 may result in an on the spot fine of €150 issued by an Authorised Officer or prosecution in the District Court.

Authorised Officers include members of the Garda Síochana, Naval Service, Harbour Masters and members of both the Maritime Safety Directorate and the Irish Coast Guard who are nominated by the Minister.

1.2.7 Marine Equipment Directive

EU Directive 96/98 sets the performance and testing standards for marine safety equipment. Equipment complying with the Marine Equipment Directive is marked with a distinctive ships wheel mark.

The Directive has been given effect in Irish law through the European Communities (Marine Equipment) Regulations, 1998 – S.I. No 545 of 1998. These Regulations have been amended four times to give effect to EU Directives amending Directive 96/98. These amending statutory instruments are as follows:

- EC (Marine Equipment) (Amendment) Regulations 1999 – S.I. No. 112 of 1999
- EC (Marine Equipment) (Amendment)

Regulations 2002 – S.I. No 36 of 2002
- EC (Marine Equipment) (Amendment) Regulations 2003 – S.I. No 38 of 2003
- EC (Marine Equipment) (Amendment) (No 2) Regulations 2003 – S.I. No 641 of 2003

When purchasing marine equipment other than PFDs ensure it always carries the approval wheel mark shown below required by legislation.

Marine Equipment Directive approval Wheelmark

In the case of PFDs ensure it always carries the approval CE mark shown opposite.

CE

1.2.8 Recreational Craft Directive

All recreational craft of 2.5m and greater and not more than 24m in length, constructed after the 15th June 1998 and sold within the European Union must comply with the requirements of the Recreational Craft Directive 94/25EC, as amended.

The Directive, as amended has been transposed into Irish law through the following statutory instruments:
- European Communities (Recreational Craft) Regulations 1998 - S.I. No 40 of 1998
- European Communities (Recreational Craft) (Amendment) Regulations 2004 – S.I. No 422 of 2004

All craft covered by the Directive must be CE marked to demonstrate compliance with essential safety requirements, that require the boat has adequate stability, freeboard and buoyancy based on one of four Design Categories.

The Directive does not include detailed technical instructions, but relies on existing accepted standards such as ISO. The Design Categories, which are set out in the Directive, are based primarily on wind and sea conditions likely to be experienced and circumstances under which such a craft may be used.

The categories are as follows:

Category A - Ocean
Extended voyages with wind force in excess of Beaufort force 8, and significant wave height of 4 metres or above, but excluding abnormal conditions and vessels largely self-sufficient.

Category B – Offshore
Offshore voyages in possible wind force of Beaufort force 8 and significant wave heights of up to 4 metres.

Category C – Inshore
Voyages on coastal waters, large lakes, bays, estuaries, or rivers, where wind force of up to force 6 on the Beaufort scale and significant wave heights of up to 2 metres may be experienced.

Category D – Sheltered waters
Designed for voyages on sheltered coastal waters, small bays, small lakes, rivers and canals, where wind force 4 and significant wave height of 0.3 metres, with occasional waves of 0.5 metres maximum height for example from passing vessels, may be experienced.

All such craft will have the Design Class and

builders maximum recommended load marked on its Builder's Plate.

The Directive does however contain a number of exemptions, as follows:

- Craft intended solely for racing, including rowing racing boats and training rowing boats labelled as such by the manufacturer.
- Canoes and kayaks, gondolas and pedalos.
- Sailing surfboards.
- Craft built for own use, provided that they are not subsequently placed on the market during a period of five years.
- Submersibles, air cushion vehicles, and hydrofoils.

The scope of the Directive is broadened by the introduction of EU Directive 2003/44, which amends Directive 94/25EC, to include harmonised provisions for engine noise and exhaust gas emissions, while also including personal watercraft from January 2005.

See Appendix 10 for advice on buying a recreational craft.

CE Plate for Category "C" boat

1.2.9 Marine Casualty Investigation Board (MCIB)

The Marine Casualty Investigation Board (MCIB) was established on the 5th June 2002 under Section 7(1) of the Merchant Shipping (Investigation of Marine Casualties) Act 2000.

Under the provisions of the Act, it is the responsibility of all owners, operators, and Skippers to advise the Chief Surveyor, or a Marine Surveyor of the Marine Survey Office (see appendix 8 for contact details) of any incident which qualifies as a marine casualty as soon as practical after it occurs. Where it is considered that an incident warrants it, an investigation will be instigated, and an Accident Investigator appointed.

1.2.10 Harbours Acts - Powers of Harbour Masters

Harbours Acts of 1946, 1996 and Fisheries Centre Harbours Act 1980.

Under these Acts, Harbour Masters have the power to create bye-laws within the limits of their port areas. While the majority of shipping within such ports is of a commercial nature, recreational craft are required to comply with any relevant bye-laws, in particular those in relation to:

- Safety of navigation
- Speed limits
- Operating within channels
- Buoyage
- Mooring and berthing

Details of bye-laws are available from the Harbour Masters Office.

1.2.11 Radiocommunications

If radiocommunication transmitting equipment is voluntarily fitted or carried on any type of recreational craft it must be licensed in accordance with the Wireless Telegraphy Act 1926. The licence to transmit is issued by the Commission for Communications Regulation.

The basic requirements of the Ship Station Radio License are as follows:

(a) The equipment must be type approved in accordance with either the Marine Equipment Directive (MED) or the Radio & Telecommunications Terminal Equipment Directive (R&TTE), and,

(b) The personnel operating the radio equipment must hold an appropriate Radio Operator's qualification.

The licence document will contain the Radio Call Sign for the craft and a Maritime Mobile Service Identity (MMSI) number if appropriate. The MMSI will be issued if there is Digital Selective Calling (DSC) equipment on board.

If an EPIRB or PLB is fitted on board a recreational craft it must be a type approved model and it must be programmed with the country code for Ireland and the Radio Call Sign, i.e. "250 + Radio Call Sign"

1.2.11.1 EPIRBs and PLBs

EPIRBs and PLBs must be registered with the Maritime Radio Affairs Unit of the Maritime Safety Directorate. Further information on radiocommunications and EPIRB registration information can be found in Appendix 2.

1.3 LEGISLATION APPLICABLE TO RECREATIONAL CRAFT GREATER THAN 12 METRES IN LENGTH

1.3.1 Nautical Publications

Applicable Legislation:

- Merchant Shipping (Carriage of Nautical Publications) Regulations 1985, S.I. No. 282 of 1985

These regulations require that all recreational craft greater than 12 metres in length must carry:

1. Corrected charts for vessels that proceed to sea.
2. For craft that proceed to sea beyond a distance of 5 nautical miles from any coastline, one copy of each of the following publications must be carried on board:

   (1) International Code of Signals
   (2) Illustrated table of Life Saving Signals
   (3) Marine Notices
   (4) Mariners Handbook
   (5) Notices to Mariners
   (6) Nautical Almanac
   (7) Navigational Tables
   (8) Lists of Radio Signals
   (9) Lists of Lights
   (10) Sailing Directions
   (11) Tide Tables
   (12) Tidal Stream Atlases
   (13) Operating and Maintenance instructions for navigational aids carried by the ship

1.4 LEGISLATION APPLICABLE TO RECREATIONAL CRAFT GREATER THAN 15 NRT

1.4.1 Registration of Recreational Craft

Mercantile Marine Act – 1955, as amended.

"An act to provide for the national character, ownership and registry of Irish ships, for the mortgage, sale, transfer and measurement of tonnage of such ships,"

Registration imparts nationality on a vessel, and brings it within the legal jurisdiction of the flag it flies. Thus Irish law binds an Irish Flagged vessel, even though it may be

travelling worldwide. A vessels registration papers establishes its bone fides in a very similar manner as a national passport does for an individual. Registration may establish criminal jurisdiction in the event of an incident or accident in international waters.

A major advantage of registration is the establishment of Title to the vessel, i.e. who actually owns it. This is essential if planning to take the boat overseas. There are also financial aspects to registration, lending institutions will only offer marine mortgages on registered craft, and mortgages on all such craft are recorded.

The Act does not discriminate between recreational and commercial craft – all are regarded as ships (unless propelled by oars) for the purpose of registration. The Act also defines those persons that may register a boat under the Irish flag as follows:

- Irish or EU member state citizens
- Irish or EU Bodies Corporate, based within the EU
- The Government or Ministers of the Government

Under the Act, recreational craft **greater** than **15 NRT** owned by Irish citizens, **must** be registered in accordance with the terms of the Mercantile Marine Act 1955.

As a general guide, boats greater than 12 metres (40 ft) in length would likely equate to such a tonnage figure. Should an owner require advice on the likelihood his craft may qualify for registration, the Maritime Safety Directorate can advise. There is no requirement for craft less than 15 NRT to be registered. However, should an owner wish to do so, these boats are entitled also to be registered, in order to avail of benefits offered under the Act.
Details on registering of Recreational Craft including survey and measurement are available from the Maritime Safety Directorate.

1.5 LEGISLATION APPLICABLE TO RECREATIONAL CRAFT GREATER THAN 13.7 METRES IN LENGTH

1.5.1 Lifesaving and Safety Equipment

Merchant Shipping Life Saving Appliances Rules.

Life saving appliances consist of items of lifesaving equipment such as lifejackets, liferafts, flares, lifebuoys, EPIRBs, etc.

There are different Rules for craft constructed before and after 1986, as follows:

- Merchant Shipping (Life Saving Appliances) Rules 1983 (S.I. 302 of1983). These apply to craft constructed before 1986
- Merchant Shipping (Life Saving Appliances) Rules 1993 (S.I. 380 of 1993). These apply to craft constructed after 1986
- Merchant Shipping (Life Saving Appliances) Rules 1983 (AMENDMENT) RULES 1993 (S.I. 381 of 1993)
- Merchant Shipping (Life Saving Appliances) Rules 1983 (AMENDMENT) (NO. 2) RULES 1993 (S.I. 382 of 1993)

Under these Rules, recreational craft with a length of 13.7m or greater, are classed as **Class XII** vessels. The life saving appliances requirements applicable to Class XII vessels under these Rules differ depending on the length and area of operation of the vessel.

Class XII boats – Mandatory Lifesaving Equipment		
Lifesaving Equipment	**Recreational Craft (1)* 13.7-21.5 metres length Restricted operations**	**Recreational Craft (2)* 13.7-21.5 metres length Seagoing (post 1986)**
Lifebuoys		
Lifebuoy per each 2 persons carried on board. (Min of 2)		
One Lifebuoy fitted with self activating smoke and light signal		
One Lifebuoy fitted with Buoyant line (18m)X		
2 Lifebuoys, one fitted with Smoke / Light signal		
Lifejacket		
Lifejacket for each person on board		
Lifejacket for each person on board with light fitted		
Pyrotechnics		
Six parachute flares or red star rockets		
Waterproof Container for Flares		
Rescue Signal Table		
Liferaft of sufficient capacity for all persons on board		
Launching Instructions/Posters for Liferaft on display		
Training Manual for onboard Safety Equipment		
Maintenance Instructions for Safety Equipment		

1.5.1.1 Class XII Recreational Craft Constructed after 1986 and greater than 13.7 metres (45ft) but less than 21.50 metres (70ft) in length

These craft are covered by the Merchant Shipping (Life Saving Appliances) Rules 1993 – S.I. 380 of 1993

Coastal areas are defined into areas of "Smooth waters", "Partially smooth waters", and "To Sea". The specific areas are defined in a Marine Notice issued by the MSD, and are subject to periodic review (see appendix 8 for contact details).

Craft in this size range comprise two categories based on area of operation and time of the year.

Different life saving appliances, apply to the two categories, as follows:

(1)* Craft that are either:

- Engaged in voyages which **do not** proceed to sea

Or • Which only **proceed to sea** during the months of **April to October**, inclusive, on voyages during which, it is **never more** than three miles from the coast.

Craft in this category are unlikely to proceed to sea, and will always operate in smooth or partially smooth waters. If they do proceed to sea it is during the period April to October, and they must remain within three miles of the coastline.

The second category are:

(2)* Craft that are engaged on either:

- A voyage to **sea** in the course of which it is **more** than three miles from the coast

Or • A voyage to sea during the months of November to March inclusive.

1.5.1.2 Class XII Recreational Craft constructed after 1986 and greater than 21.5 metres (70 ft) in length

These craft are covered by the Merchant Shipping (Life Saving Appliances) Rules 1983 – S.I. 380 of 1983

Craft greater than or equal to 21.5 metres and regardless of sea area operation must carry the lifesaving equipment set out in the following table:

1.5.1.3 Class XII Recreational Craft constructed before 1986

Safety Equipment requirements are broadly similar to those outlined in Sections 1.5.1.1 & 1.5.1.2. Specific details can be obtained from the Maritime Safety Directorate or by reading the Merchant Shipping (Life Saving Appliances) Rules 1983 – S.I. 302 of 1983.

Class XII boats – Mandatory Lifesaving Equipment		
Lifesaving Equipment	**Recreational Craft 21.5-25.9 metres length Restricted operations**	**Recreational Craft greater than 25.90 metres**
Lifebuoys		
Lifebuoy per each 2 persons carried on board. (Min of 2)		
One Lifebuoy fitted with self activating smoke and light signal		
One Lifebuoy fitted with Buoyant line (18 metres)		
2 Lifebuoys, one fitted with Smoke / Light signal		
Life Jacket		
Lifejacket for each person on board		
Lifejacket for each person on board with light fitted		
Pyrotechnics		
Six parachute flares or red star rockets		
Waterproof Container for Flares		
Rescue Signal Table		
Liferaft of sufficient capacity for all persons on board		
Launching Instructions/Posters for Liferaft on display		
Training Manual for onboard Safety Equipment		
Maintenance Instructions for Safety Equipment		
Line throwing Appliance		
Rescue Boat and launching davit		

1.5.1.4 Recreational Craft less than 13.7 metres in length

There are no statutory lifesaving appliance requirements for recreational craft less than 13.70 metres (45ft), apart from the Pleasure Craft (Personal Flotation Devices and Operation) (Safety) Regulations 2005, S.I. No 921 of 2005. However, it is strongly recommended that such vessels carry at least a minimum standard of life saving equipment and guidance on this is given in part B of this Code.

1.5.2 Fire Fighting Equipment

Merchant Shipping Fire Appliances Rules

Fire Appliances refer to items of fire fighting equipment such as fire extinguishers, fire blankets, fire hoses and pumps etc.

While there are three sets of rules, which may apply to a recreational craft depending on its date of construction, they are identical in their requirements.

Relevant Legislation:

- Merchant Shipping (Fire Appliances) Rules 1967
  - S.I. No. 101 of 1967 apply to craft built before 1980
- Merchant Shipping (Fire Appliances) (Post 1980 Ships) Rules 1983
  - S.I. No. 303 of 1983 apply to craft built between 1980 – 1984
- Merchant Shipping (Fire Appliances)(Post 1980 Ships)(Amendment) Rules1985
  - S.I. No. 278 of 1985 apply to boats built after 1984

1.5.2.1 Recreational craft greater than 13.7 metres(45ft) in length

See table below.

1.5.2.2 Recreational craft less than 13.7 metres (45ft) in length

There are no statutory fire appliance requirements for recreational craft less than 13.7 metres (45ft) in length. However, it is strongly recommended that such vessels carry at least a minimum standard of fire appliances and guidance on this is given in part B of this Code.

Mandatory Fire Fighting Equipment			
Equipment Item	**Boats** 13.7-15 metres (45-50ft) in length	**Boats** 15-21.34 metres (50-70ft) less than 150t.	**Boats greater** 21.34m(70ft)
Fire Extinguishers			
2 Fire Extinguishers or Fire Buckets (one with lanyard)			
3 Fire Extinguishers or Fire Buckets (one with lanyard)			
2 Fire Extinguishers suitable for use on oil fires, for boats with Internal Combustion Engines fitted			
Fire Pumps / Hoses			
Manual Fire Pump (Hand Operated)			
Dedicated Fire Pump sea suction			
Fire Hose			
Fire Hose Nozzle (min diam 6mm) with jet and water spray			
Power Driven Fire Pump			*
Fire Main and Hydrant			
2 Fire Hoses			
Fire Hose Spray nozzle for machinery spaces			
Fireman's Axe			

* Power Driven Fire Pumps may be driven from the main engine, however, if this option is used, then a second manual fire pump external to the machinery spaces must also be supplied. This additional manual pump must be able to supply a 6 metre jet of water through a 10mm nozzle.

1.6 INLAND WATERWAYS AND CANAL SYSTEMS

1.6.1 Shannon Navigation Act and Associated Bye-laws

In the Republic of Ireland, Waterways Ireland has responsibility for the Shannon Navigation, the Grand Canal, the Royal Canal, the Barrow Navigation and the Shannon Erne Waterway. The Corrib is managed by the Corrib Navigation Trustees. Parts of other waterways come under the jurisdiction of the relevant Harbour Authority and still others (e.g. the Slaney) have no navigation authority per se but may be subject to local authority bye-laws.

Relevant legislation for the Shannon system:

- Shannon Navigation Act 1990
- Shannon Navigation (Construction of Vessels) Bye-laws 1992 – S.I. No 79 of 1992
- Shannon Navigation Bye-laws 1992 – S.I. No 80 of 1992

The above legislation applies to any recreational craft based on the Shannon waterway, including lakes and tributaries.

S.I. No 79 of 1992, specifically refers to vessel construction requirements, safety equipment required to be carried, engine installations, LPG and cooker installations. S.I. No 80 of 1992, defines authorised officers and their powers, speed limits, maximum drafts, rules of navigation, crewing levels, use of facilities and groundings.

All vessels operating on the waterways must be registered.

A "vessel" is defined as any craft that is not:

- An open boat or undecked punt
- Canoe
- Row boat
- Boat propelled primarily by oars or sail
- Not propelled by engine greater than15hp

The bye-laws were amended in 1994 to prevent the discharge of sewage directly into the navigation from any vessel.

1.6.2 Navigation on Shannon

The Shannon Navigation Bye-laws (S.I 80 of 1992) identify the rules to be followed by craft navigating the Shannon waterways.

While similar in content to the COLREGS, there are a number of additional specific rules that apply.

- Vessels shall not run abreast or overtake in any part of the navigation less than 13m in width.
- Vessels navigating **with** the stream, shall be given precedence for passage through a bridge, by those craft navigating against the stream of the river.
- Boats should keep to the starboard side of the fairway passing port to port.
- A craft proceeding upstream must give way to those going downstream.
- Speed limits are to be adhered to as laid down in the Bye-laws.
- On entering the Shannon Navigation, the direction of Buoyage is **Northwards**.

Buoys, Beacons and Perches are painted **Red** on the **Port** hand, and **Black** on **Starboard** hand when proceeding upstream. Navigation marks are not lit on the Shannon.

On the Shannon Erne Waterway east of Lough Scur, the marking system changes to a system of red marks with white flashes where the white flash indicates the safe side. The Corrib system uses a red and black lateral bouyage system which is the reverse of the Shannon one. i.e. Black to Port going upstream.

1.6.3 Canal System Navigation

Navigation is controlled by Bye-laws passed under the Canals Act 1986.

1.7 MARITIME SAFETY ACT 2005

One of the primary purposes of this Act is to strengthen the law against improper use of certain recreational craft, to outlaw reckless behavior in operating or on board vessels generally and to promote good practice in operating vessels generally, to update safety regulation-making provisions for passenger boats, fishing vessels and pleasure craft and to update penalty and other provisions of certain related Acts.

The main provisions of the Act which affect recreational craft are as follows:

Part 2 Personal Watercraft and Recreational Craft

The main provisions of this section are:

- clear powers for local authorities, Waterways Ireland, harbour companies, harbour authorities, Iarnród Éireann and, in respect of the six fishery harbour centres, the Minister for Agriculture, Fisheries and Food to make bye-laws to regulate and control the use of jet-skis and other fast powered recreational craft.
- the appointment by local authorities, Waterways Ireland, harbour companies, harbour authorities, Iarnród Éireann and, in respect of the six fishery harbour centres, the Minister for Agriculture, Fisheries and Food, or authorised persons to enforce the provisions of the Act. The Gardaí Síochana also play a key role in enforcement.
- the seizure, detention and forfeiture of craft involved in serious offences and the disqualification of serious offenders from operating the craft in question in the interest of public safety and heritage protection.
- fines of up to €2,000 on summary conviction for offences under the bye-laws.

Part 3 Codes of Practice for the Safe Operation of Vessels

The main provisions of this section is:

- the prohibition of the use of "un-seaworthy" vessels in or on any waters.
- careless or dangerous navigation or operation of vessels
- the preparing and promulgating of Codes of Practice to ensure proper operation of vessels.

Part 4 Safety Regulations – Passenger Boats, Fishing Vessels and Pleasure Craft

The main provision of this section is:

- updating and restating Ministerial Regulation-making provisions dating from 1992 and amended in 2000, in relation to passenger boats, fishing vessels and pleasure craft.

Part 5 Amendment of Certain Enactments

The main provision of this section is:

- the updating of penalty provisions in a number of related Acts and the provision for fixed penalty notices ("on-the-spot-fines").

Part 6 Provisions relating to the foreshore and to foreshore and Aquaculture licenses

PART B

RECOMMENDED GUIDELINES FOR THE SAFE OPERATION OF RECREATIONAL CRAFT

This part of the Code provides guidance for the safe operation of recreational craft. It offers best safe operating practice for a variety of types of recreational craft, with further information contained in a series of Appendices.

The provisions of Part B are recommendatory and are not statutory requirements.

NOTE:
For the purpose of the following chapters, sailing craft are considered to be craft primarily propelled by harnessing the power of the wind, covering all forms of day boats, inshore and offshore cruisers, regardless of size and incorporating competitive and non competitive boats.

Sailing Dinghies are covered under a separate chapter, in consideration of their specific use, design and construction.

Motorboats comprise a significant section of the recreational craft market. For the purpose of this code, they are considered as vessels primarily propelled by any means of an internal combustion engine, regardless of the vessel size, including petrol, diesel, inboard or outboard, but excluding personal watercraft which are covered in Chapter 5.

Sailboats while under power are classed as motorboats, as are lake boats fitted with outboard engines.

SAILING DINGHIES

2.1 TRAINING

It is recommended that dinghy sailors undertake appropriate training. A number of training schemes and approved courses are available and information may be obtained directly from course providers (see appendix 9 for details of course providers).

2.2 SAFETY

It is recommended that persons engaged in dinghy sailing should adhere to the following practices.

1. Always wear a suitable PFD/lifejacket when sailing in a dinghy. Buoyancy provided by a wet suit or dry suit is not sufficient (see Part A of this Code for statutory requirements).
2. Wear suitable clothes, wet suits or dry suits, particularly if there is potential to capsize.
3. Dinghies should be provided with an effective means of bailing.
4. A paddle should be carried on board.
5. A towing painter should be carried on board the craft.
6. The crew in a dinghy should be familiar with capsize recovery techniques, and towing techniques.
7. Ensure that the dinghy has sufficient buoyancy, check all buoyancy tanks and plugs prior to departure.
8. Always ensure that a designated person ashore is aware of departure and return times and have a procedure in place to raise the alarm if necessary. Membership of a club will generally offer this facility in addition to providing safety boats for members engaged in club activities.
9. Check weather and sea conditions prior to departure.
10. Avoid main shipping lanes (see appendix 3).
11. Sail in company for safety.
12. Be aware of your own personal capabilities in handling a boat under various weather conditions.

2.3 NATIONAL ASSOCIATION

The Irish Sailing Association (ISA) is the national governing body for sailing in Ireland (see appendix 8 for contact details).

SAILBOAT AND MOTORBOAT - COASTAL OPERATION

3.1 TRAINING

It is recommended that persons participating in sailboat and motorboat activities undertake appropriate training. A number of training schemes and approved courses are available and information can be obtained directly from course providers (see appendix 9 for details of course providers).

3.2 VOYAGE PLANNING

All voyages regardless of their purpose, duration, or distance, require some element of voyage planning. It is a requirement under SOLAS V (see Marine Notice No. 9 of 2003), that all recreational craft that go to sea must consider the following items:

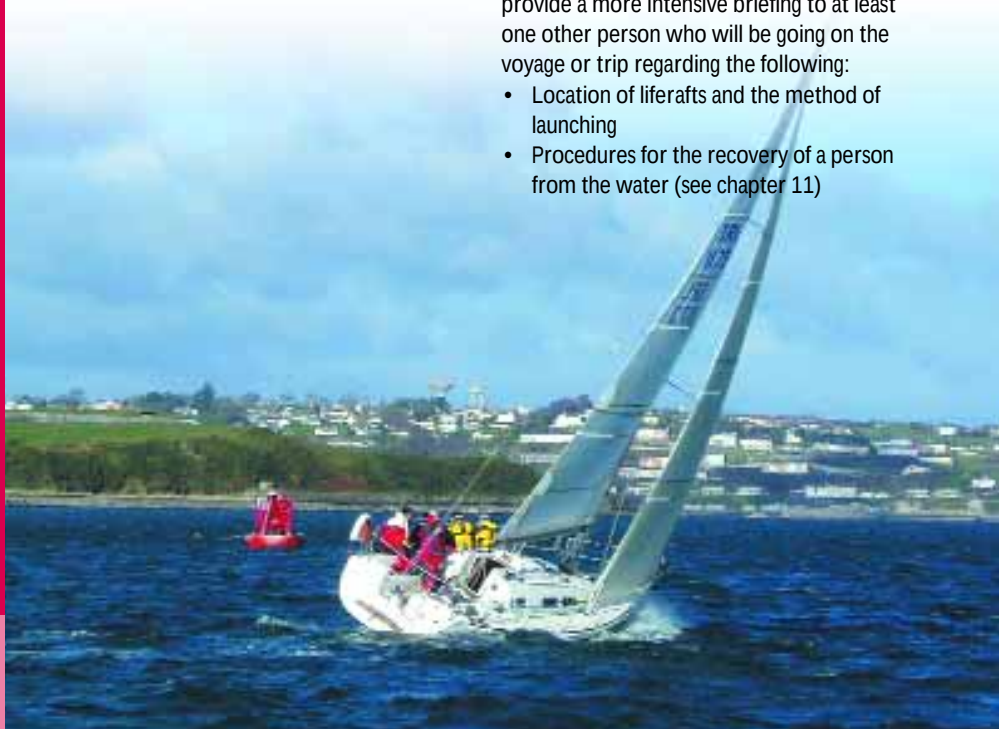
- Weather forecasts (see appendix 6)
- Tidal information
- Capability of boat and crew on board
- Planned route utilising charts and pilotage information as required

3.3 PRE-DEPARTURE SAFETY CHECKS AND BRIEFING

- Be aware of the current weather forecast for the area.
- Engine checks should include oil levels, coolant and fuel reserves.
- Before the commencement of any voyage the skipper should ensure that all persons on board are briefed on the following emergency procedures:
  - The stowage and use of personal safety equipment, such as PFD/ lifejackets, foul weather gear, lifebuoys and fire fighting appliances.
  - A simple plan of the boat showing the locations of such equipment and posted in a prominent manner is a useful aid.
  - The nominated first aider should also be introduced.

In addition to the above, the skipper should provide a more intensive briefing to at least one other person who will be going on the voyage or trip regarding the following:

- Location of liferafts and the method of launching
- Procedures for the recovery of a person from the water (see chapter 11)



- Location and use of fire-fighting equipment
- Procedures and operation of communications
- Equipment
- Location of navigation and other light switches
- Method of starting, stopping, and controlling the main engine
- Method of navigating to a suitable place of safety

Safety cards are considered an acceptable way of providing the above information.

3.4 RECOMMENDED SAFETY EQUIPMENT

On sailboats and motorboats less than 13.7 metres, the safety equipment carried should reflect the boat's function and area of operation.

For the purpose of this Code sailboats and motorboats are classed in six categories, four of which refer to coastal waters and are covered in this chapter and the remaining two categories in Chapter 4.

The four categories in this chapter, each covering a specific area of operation, are based on wind strength, and significant wave heights. However, it should be noted that actual wave heights and wind strengths encountered by such design classes might at times be greater.

Boat owners should be aware of the category that applies to their vessel, based on its intended usage and area of operation, and ensure it is equipped with the required safety equipment. The following table recommends the type and quantity of equipment that craft should carry in their respective operating areas.

3.4.1 Category A - Ocean

Boats in this category would generally be expected to be greater than 10 metres in length and:

- Undertake ocean passages.
- Are capable of sustaining, seas greater than 4 metres, and wind force greater than Beaufort 8.

3.4.2 Category B – Offshore

Boats in this category would generally be expected to be in excess of 7m in length and:

- Cruise around the coasts of Ireland, U.K. and NW Europe.
- Undertake offshore passages of between 50 – 500 miles.
- Are capable of sustaining seas up to 4 metres, and wind force up to Beaufort 8.

3.4.3 Category C – Inshore

Boats in this category would generally be expected to be in excess of 5m in length and:

- Operate within 10 miles of land, and always about four hours from a safe harbour that can be accessed at all times and under all tidal conditions.
- Are capable of operating in seas up to 2 metres, and wind force up to Beaufort 6.

3.4.4 Category D – Sheltered waters

Boats in this category would generally be expected to:

- Operate on tidal estuaries, or inshore coastal waters adjacent to a safe harbour.
- Are only used during the hours of daylight, unless equipped with necessary lights to comply with Collision Regulations (see appendix 1), or local navigation bye-laws.
- Are capable of operating in seas of up to 0.3 metres with occasional waves of 0.5 metres maximum height 0.5 metres, and windforce up to Beaufort 4.

3.5 SAFETY EQUIPMENT CHECKLIST

The following tables set out the recommended type and quantity of equipment that craft should carry for their category of craft. These levels of recommended equipment should be regarded as the minimum. Owners are encouraged to equip boats to a higher standard.

Sail boat and motorboat – Offshore/ Coastal

- Category "A" Craft - Ocean
- Category "B" Craft - Offshore
- Category "C" Craft - Inshore
- Category "D" Craft – Sheltered Coastal

1	Lifesaving and personal safety equipment	A	B	C	D
1.1	A suitable PFD/Lifejacket for each person on board, of at least 150 Newtons (CE EN 396) (see appendix 5).				(100N)
1.2	Crew safety harness/lifelines for all crew that may have to work on deck at any time.				
1.3	Appropriate clothing.				
1.4	An immersion suit per crewmember if operating in northern latitudes.				
1.5	Jack Lines capable of being rigged port & starboard and extending from the aft of the cockpit to the foredeck for use with crew lifelines.				
1.6	Life raft of sufficient capacity to cater for all crew carried.*			*	
1.7	Emergency Liferaft Grab Bag for abandoning ship.				
1.8	A buoyant heaving line/throw bag.				
1.9	Horseshoe type lifebelt with light. Danbuoy with flag fitted to one lifebelt.				
1.10	Buoyancy sling with floating line – can be fitted in lieu of one horseshoe lifebelt.				
1.11	Boarding Ladder				

*Category C craft engaged on overnight coastal passages.

2	Flares (all to be within expiry date - see chapter 11)	A	B	C	D
2.1	Hand held distress flares.	(6)	(4)	(4)	(2)
2.2	Hand held white flares.	(4)	(4)		
2.3	Parachute rocket red flares.	(12)	(4)	(4)	
2.4	Orange smoke signal canisters.	(2)	(2)	(2)	(2)

3	Radios and Communications (see appendix 2 for additional requirements for Sea Area A1, A2)	A	B	C	D
3.1	A suitable fixed Marine Band VHF radio transmitter, with DSC facility (Operators licence required from MRAU).				
3.2	Marine Band MF/ HF/SSB and/or global satellite communication system.				
3.3	EPIRB – type 406 - registered in the name of the vessel.				
3.4	Radio Transponder unit – SART.				
3.5	Waterproof hand held radio.				
3.6	A radio receiver AM/FM, capable of receiving shipping forecasts, and national/local weather forecasts.				

4	Fire Fighting	A	B	C	D
4.1	Fire blanket – CE marked.				[1]
4.2	Fire extinguishers in addition to a suitable extinguisher to fight oil fires in engine spaces or fire bucket*.	(3)	(3)	(2)	
4.3	All cooker/heaters using Liquid Petroleum Gas (LPG) should be installed as outlined in Marine Notice No. 1 of 2000.				

***Do not deploy the bucket overboard while the boat is moving.**

[1] If carrying cooking equipment

5	Navigation Equipment	A	B	C	D
5.1	Echo Sounder.				
5.2	Steering Compass.				
5.3	Hand Bearing Compass.				
5.4	Speed Log.				
5.5	GPS.				
5.6	Radar Reflector.				
5.7	Foghorn, powered or aerosol type.				
5.8	Barometer.				
5.9	Clock.				
5.10	Binoculars.				
5.11	Sextant and tables.				
5.12	Navigation drawing instruments, parallel ruler, dividers or plotting instrument.				
5.13	Full set of fixed navigation lights including anchor lights.				
5.14	Suitable up to date charts, nautical publications and tide tables for areas of cruising.				

6	Bilge Pumping	A	B	C	D
6.1	Manual bilge pump capable of pumping from any hull watertight compartment and with all hatches closed.	(2)	(2)		
6.2	At least one complete repair kit including spares should be carried.				
6.3	An electric or engine driven pump can be substituted for a manual model.				
6.4	A bucket of capacity 8 – 12 litres, suitably fitted with a rope lanyard.*				
6.5	Softwood tapered plugs, located adjacent to all, through hull underwater fittings.				
6.6	All through hull fittings to be fitted with isolation valves.				

***Do not deploy the bucket overboard while the boat is moving.**

7	Anchors and Warps	A	B	C	D
7.1	Anchor with chain/warp, as appropriate for a vessels size, and operating area ground holding conditions.	(2)	(2)		
7.2	Boats should have a suitably reinforced deck cleat/Samson post on the foredeck, and means of closing over the bow roller or fairlead used when anchoring.				
7.3	An adequate supply of warps and fenders, these should include suitable warps to allow the craft be towed if necessary.				

8	General Equipment	A	B	C	D
8.1	Emergency steering means, i.e. tiller for vessels fitted with wheel steering as their primary means of steering.				
8.2	Waterproof torch, capable of also being used for signalling.				
8.3	An appropriate tool kit and spare parts for the type of craft being used.				
8.4	Suitable secondary means of engine starting including battery or hand start.				
8.5	Suitable First Aid Kit including a First Aid manual.				
8.6	Storm sails which can be quickly rigged, or the facility to deep reef sails on yachts.				
8.7	Emergency repair kit including sail repair kit, spare wash boards and window blanks.				
8.8	Emergency water supply.				
8.9	Bosun's Chair.				
8.10	Instruction manuals for vessels essential equipment.				
8.11	Rigid or inflatable tender.				

3.6 COMPETITIVE USE – YACHTS

The Irish Sailing Association (ISA) is the national authority for sailboat racing in Ireland. All vessel owners/skippers participating competitively must be members of the ISA and all such racing must comply with International Sailing Federation (ISAF) Racing Rules for Sailing, the rules of the National Authority and the rules of the particular Class Association, where applicable.

The ISA publish safety guidelines for racing, this covers guidelines for an event/club safety officer and also special regulations governing sailing.

The special regulations contain three parts:

Part 1 Recommendations for minimum requirements for Sailing Dinghies.

Part 2 Recommendations for minimum requirements for local handicap day & overnight racing and cruising in yachts.

Part 3 Special safety regulations of the International Offshore Racing Council (ORC).

Recreational craft engaged in competitive racing must comply with these recommendations.

3.7 COMPETITIVE USE – MOTORBOATS

The Motorboat Association Ireland is the National Authority for powerboat racing in Ireland and racing is organised by clubs affiliated to the association. All racing is run in accordance with the rules and procedures of the Union Internationale Motonautique (UIM), which is the world governing body. The UIM set out requirements for vessel safety, skipper qualification, scrutiny requirements and safety management during a race.

3.8 NATIONAL ASSOCIATION

The Irish Sailing Association (ISA) is the national governing body for sailboat and motorboats in Ireland (see appendix 8 for contact details).

3.9 DIVE BOAT OPERATIONS

3.9.1 Training

Dive boat operators are recommended to undertake the following relevant training courses:

(i) Diver Coxwain

(ii) Diver Coxwain Instructor

(iii) Diver Medic

(iv) Diver Medic Instructor

The Comhairle Fo-Thuinn (Irish Underwater Council) recommend safety standards and also training courses (see appendix 9 for details of course providers).

3.9.2 Safety

Dive boat operators should be competent in the following:

- Be familiar with and experienced in "picking up divers", recovery of equipment procedure in the water, and relevant hand signals.
- Be aware of procedures for missing diver and missing pair of divers on the surface.
- Ability to initiate first aid and oxygen administration to an injured diver(s).

3.9.3 Pre-departure Checks and Briefing

Dive boat users should observe the following additional precautions:

- Be aware of weather forecast, tidal conditions and the bottom conditions for the dive site.
- Ensure that group is briefed prior to departure.
- Contact the Irish Coast Guard with your dive plan before leaving (Traffic Route).
- Complete Dive Log Sheet for all divers (check in and out of the water).
- Wear a suitable PFD/lifejacket when travelling to and from dive site (S.I. No. 921 of 2005).
- Ensure all diving equipment is regularly tested and serviced.
- Ensure that emergency plan is carried on-board and all divers are familiar with its contents and its location on board.

- Firmly secure all diving bottles and equipment prior to departure. Dedicated bottle stowage racks should be fitted to dive boats.
- Correct flag and signals must be displayed to indicate to other boat users that there are divers in the water.
- International Code of signals Flag "A". "I have a diver down, keep clear".

- Dive boats should not obstruct channels or approaches to harbours.

3.9.4 Operation of RIBs as Dive boats

- When underway in a RIB, occupants should wear a PFD/lifejacket in addition to their wet suits.
- Ensure the boat is suitable for the number of persons and gear carried – do not overload.
- Ensure all buoyancy tubes are at the correct pressure.
- All bottles and equipment to be correctly secured.
- Coxswain to wear engine kill cord when under way.

3.10 NATIONAL ASSOCIATION

Comhairle Fo-Thuinn (Irish Underwater Council) is the national association for diving and underwater sports in Ireland (see appendix 8 for contact details).

3.11 HIGH SPEED POWER / SPORTS BOATS

A high-speed power/sports boat is generally regarded as one capable of achieving speeds in excess of 17 knots. There are a variety of craft designed as high speed power/sports boats, including rigid GRP Vee profile hulls, RIBs, Cathedral type dory hulls etc. The high speed that can be attained by these craft place specific demands on the skills and capabilities of their operators. These craft allow a much shorter reaction time to an incident than conventional motor craft.

It is recommended that persons participating in power/sports boat activities undertake appropriate training. A number of training schemes and approved courses are available and information can be obtained directly from course providers (see appendix 9 for details of course providers).

Persons under 16 years of age are not allowed to be in command of a power/sports boat.

3.11.1 Pre-departure Checks:

- All persons on board any boat under 7 metres must wear a PFD/lifejacket – IT'S THE LAW.
- Check engine oil levels etc.
- Ensure all on board wear suitable clothing. Be aware of the effects of wind chill at speed.
- Carry sunscreen protection - factor 15+.
- If using an inflatable boat or RIB, ensure all tubes are correctly inflated.

- Engine kill cord – Always wear one, and test it prior to departing the berth.
- Competency and Skills - Ensure you have received adequate training in the operation and handling characteristics of boat type you are using.

3.11.2 On the Water

- Maintain a good all round lookout. Particularly when in main shipping channels.
- Observe designated speed limits, particularly on passage through anchorages, marina approaches and areas used by swimmers.
- Be aware of the wash generated by your boat, in particular when close to, or passing other boats.
- Know your limits.
- Know the boat's limits.
- Check fuel reserves regularly.
- Do not overload the craft – these craft are designed for a maximum number, if the boat is CE marked, this number will be indicated on the CE plate on the transom.
- Secure all boat equipment correctly.
- Ensure all occupants are secure and use the supplied seating and handgrips

3.12 WATERSKIING, WAKEBOARDS AND TOWED RIDES

Persons involved in towed activities such as water skiing, wake boarding, and the towing of inflatable doughnuts etc. should be aware of the following:

- A suitable PFD/ lifejacket must be worn.
- There should always be an observer in addition to the boat driver aboard the towing craft.
- Towing rides should only be undertaken in areas either specifically designated, or in areas clear of other shipping and water users.
- Ensure your Insurance Company is aware of these activities.

When water-skiing both observer and skier should be aware of the correct procedures and signals required. It is recommended that individuals undertake suitable training and coaching.

3.13 NATIONAL ASSOCIATION

The Irish Sailing Association (ISA) is the National Governing Body for sailboat and motorboats in Ireland (see appendix 8 for contact details).

The Irish Waterski Federation is the national body for waterskiing in Ireland (see appendix 8 for contact details).

SAILBOAT AND MOTORBOAT - INLAND WATERWAYS

Inland waterways comprise the navigable sections of the larger rivers, canal network and lakes. Conditions on inland waterways are generally not as severe as those experienced in coastal regions. However, they present their own unique set of hazards and difficulties such as locks, open weirs, strong flows in confined spaces, narrow bridges, relatively shallow water etc., and in the case of the larger lakes can be subject to significant wave and wind forces, which may present a danger to small craft.

4.1 TRAINING

It is recommended that persons participating in sail and motorboat craft activities undertake appropriate training. A number of training schemes and approved courses are available and information can be obtained directly from course providers.

For the purpose of this Code sailboats and motorboats are classed in six categories, four of which refer to coastal water and are covered in chapter 3 and the remaining two categories are covered in this chapter.

4.2 MINIMUM SAFETY EQUIPMENT VESSEL CATEGORIES

Boat owners should be aware of the category that applies to their vessel, based on its intended usage and area of operation, and ensure it is equipped with the required safety equipment. The type and quantity of equipment that craft should carry in their respective operating areas are recommended below:

4.2.1 Category E

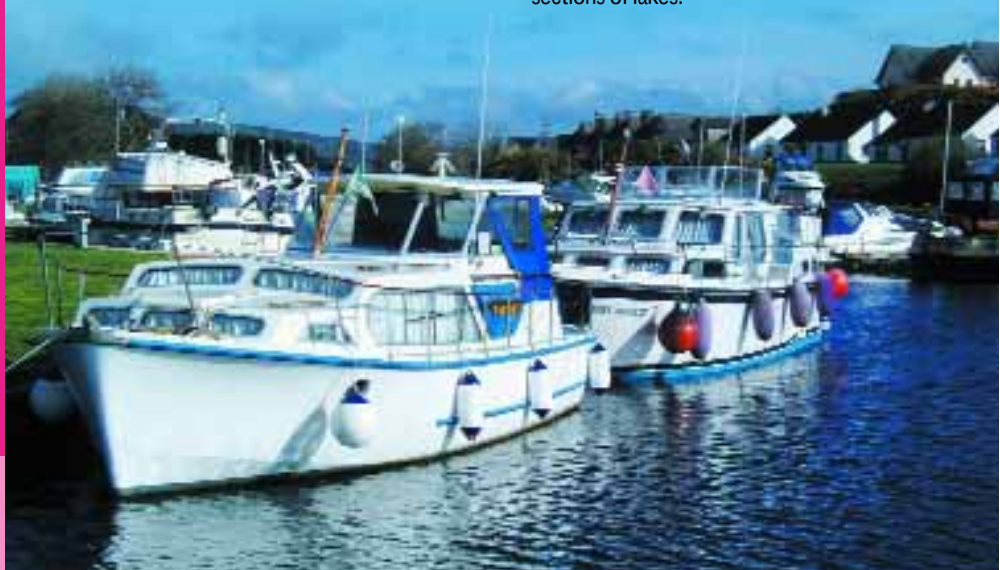
Craft that:

- Are capable of operating on the larger exposed lakes in extreme weather conditions.
- Have accommodation, and can be used for overnight habitation.
- Are capable of extended voyages.

4.2.2 Category F

Craft that:

- Are open boats without shelter for occupants, generally less than 7 metres in length.
- Operate locally on rivers and sheltered sections of lakes.



4.3 COMMUNICATIONS

It is recommended that all vessels operating on inland lakes and waterways carry a VHF radio telephone with a qualified operator holding at least the Short Range Certificate of Competency in Radio Communications Module 1 VHF only, as issued by the Department of Transport. This VHF unit should have, at all times while the vessel is underway, an energy supply, for example a fully charged battery. Equipment should be tested regularly (at least daily), while the vessel is under way. This will ensure that it is operating correctly. The vessel should hold a ship radio licence as issued by the Department of Transport.

It is recommended that all vessels operating on inland lakes and waterways carry a fully charged mobile phone. The mobile phone should at all times be fully charged and the signal strength of the mobile phone and the charge indicator of the mobile phone should be regularly checked while the vessel is under way.

As appropriate, vessels on inland lakes and waterways are recommended to carry a GNSS Global Navigation Satellite System receiver, commonly know as a GPS Global Positioning System receiver, to allow the vessel to indicate its position accurately to the search and rescue services in the event of an emergency. A supply of energy, should be available for this equipment while the vessel is underway and the operation of the equipment should be checked regularly (at least daily).

4.4 SAFETY EQUIPMENT CHECKLIST

The following tables set out the recommended type and quantity of equipment that craft should carry for their category of craft. These levels of recommended equipment should be regarded as the minimum, and owners are encouraged to always equip boats to a higher standard.

Sail boat and motorboat – Inland

- Category “E” Craft
- Category “F” Craft

1	Lifesaving and personal safety equipment	E	F
1.1	An approved PFD/Lifejacket for each person on board, of at least 100 Newtons (see appendix 5)		
1.2	Appropriate clothing		
1.3	A buoyant heaving line/throw bag		
1.4	Horseshoe type lifebelt with light		
1.5	Boathook (telescopic/fixed long shaft)		
1.6	Boarding Ladder		

2	Flares (all to be within expiry date) (see chapter 11)	E	F
2.1	Hand held distress flares or a red flag	(2)	
2.2	Orange smoke signal canisters	(2)	(2)

3	Fire Fighting	E	F
3.1	Fire blanket – CE marked		
3.2	Fire extinguishers one of which is suitable to fight oil fires in engine spaces or fire bucket*	(2)	
3.3	All cooker/heaters using LPG should be installed as outlined in Marine Notice No. 1 of 2000		

***Do not deploy the bucket overboard while the boat is moving.**

4	Navigation Equipment	E	F
4.1	Steering Compass		
4.2	Foghorn, powered or aerosol type		
4.3	Binoculars		
4.4	Navigation drawing instruments, parallel ruler, dividers or plotting instrument		
4.5	Navigation lights as required by boat length		
4.6	Suitable up to date charts for areas of cruising.		

5	Bilge Pumping	E	F
5.1	Manual/Electric Bilge pump capable of pumping from any hull watertight compartment and with all hatches closed		
5.2	At least one complete repair kit including spares should be carried		
5.3	A bucket fitted with a rope lanyard (Do not use bucket overboard while the boat is moving)		
5.4	All through hull fittings to be fitted with isolation valves		
5.5	Softwood tapered plugs located adjacent to each through hull underwater fitting		

6	Anchors and Warps	E	F
6.1	Anchor with chain/warp, as appropriate for a vessels size, and operating area ground holding conditions		(folding anchor)
6.2	Boats should have a suitably reinforced deck cleat/Samson post on the foredeck, and means of closing over the bow roller or fairlead used when anchoring		
6.3	An adequate supply of warps and fenders, these should include suitable warps to allow the craft be towed if necessary		

7	General Equipment	E	F
7.1	Emergency steering means, i.e. tiller, for vessels fitted with wheel steering as their primary means of steering		
7.2	Waterproof torch		
7.3	An appropriate tool kit, and spare parts for the type of craft being used		
7.4	Suitable secondary means of engine starting including battery or hand start		
7.5	Appropriate First Aid Kit		
7.6	Storm Sail which can be quickly rigged, or the facility to deep reef existing sails (Yachts)		
7.7	Set of Oars / Oarlocks / Paddles		
7.8	Suitable Knife		
7.9	Instruction manuals for vessels essential equipment		
7.10	Rigid or inflatable tender		

PERSONAL WATERCRAFT (PWC) – JET SKIS

Personal Watercraft (PWC) - known as jet skis or water/wet bikes, are a rapidly growing segment of the recreational craft market

A PWC is a watercraft that is less than sixteen feet long, propelled by a two stroke petrol engine directly powering a water jet pump and designed to be operated by a person who sits, stands or kneels on it. They are capable of speeds exceeding 100km / hr and are highly manoeuvrable in competent hands.

5.1 TRAINING

It is recommended that persons operating a PWC undertake appropriate training. There are a number of training schemes and approved courses available and information can be obtained directly from course providers (see appendix 9 for details of course providers).

5.2 EQUIPMENT FOR THE PWC

- Rope (5m x 8mm Nylon) for use in towing and mooring.

- A flare pack should be carried– minimum of l x pinpoint red, 2 x orange smoke in a watertight container.
- Carry a suitable folding anchor.

- Collapsible paddle, which can be stowed on board for use in the event of engine failure.
- Basic first aid kit.
- PWC should be equipped with a lanyard/kill cord to cut out the engine; the lanyard/kill cord must be attached to the operator's body, clothing, or PFD/lifejacket. A spare lanyard/kill cord should always be carried on board.

- Knife.
- Torch.
- Basic Tool Kit.
- Fire Extinguisher.

5.3 PERSONAL EQUIPMENT TO BE WORN/CARRIED BY OPERATOR OF THE PWC

- Suitable PFD/lifejacket (see appendix 5).
- A whistle, fitted to each PFD/lifejacket to attract attention in the event of an emergency, or entering the water.
- Suitable clothing including wetsuit and hand / foot protection

- A suitable helmet, preferably fitted with facial protection, if operating offshore or involved in wave jumping.
- Goggles are recommended, especially for salt water riding.

5.4 PWC OPERATIONS

5.4.1 Prior to Entering the Water (Pre- Launch Checks)

- To protect other water users, and due to high noise levels generated, PWC may be subject to specific local bye-laws issued by harbour boards, local authorities, or local councils restricting their speeds or areas of operation. It is the responsibility of PWC operators to be familiar with the relevant bye-laws in force in waters they use.
- Check the weather / sea condition forecast before starting out.
- Always complete a safety checklist (see 5.7), prior to departure. A waterproof laminated copy of the checklist permanently attached to the PWC, should be located inside the door of the storage compartment.
- Ensure all engine access and storage doors are correctly secure and sealed.
- Be aware of correct procedures for launching from and recovery of a PWC using a trailer.
- Operators should be familiar with and have practiced the procedure for righting a capsized boat. Rolling a craft over the wrong way may result in water entering into the engine, causing serious damage to it and rendering the PWC inoperative.

5.4.2 Emergency Procedures

- In the event of falling off the craft into cold water, re-board immediately. Immersion in cold water can result in a life-threatening drop in body temperature (hypothermia). Hypothermia can also be caused by wind chill, rain and perspiration. To avoid this danger, prepare by dressing correctly including wetsuit/drysuit, hand/ foot protection. Wearing your PFD/lifejacket affords additional protection against the cold.
- If in difficulty, remain with your PWC. Do not try to swim to shore in cold water unless you are very close to safety and you have no expectation of speedy assistance. Swimming and treading water use up valuable energy and produce rapid heat loss. If it is not possible to get out of the water, wearing your PFD/ lifejacket will help increase your survival time by keeping your head out of the water.

5.4.3 On the Water

- Don't drink or take drugs when riding a PWC: it is illegal to do so and your ability to make quick decisions is impaired. This is critical when operating a fast and manoeuvrable PWC.
- Study the manufacturer's manual and practice handling of your PWC under experienced supervision in open water and well away from other boaters.
- Be alert for the wave, wind, cloud changes that may signal weather changes.
- Avoid skiing alone, especially at sea.
- A high incidence of accidents with PWCs involve collisions with other craft, operators should exercise the utmost caution when approaching or overtaking other boats, and should never manoeuvre at speed in close proximity to other PWC, boats, or swimmers (see appendix 1).

- Where applicable, use buoyed channels and designated zones.
- If engaged in water skiing or towing a float, it is essential to carry an observer. This should only be done on craft with a carrying capacity of 3 or more persons.
- Always ensure sufficient fuel is on board for any intended trip, plan to return with the fuel tank $^1/_3$ full thereby allowing for any possible emergencies.
- Additional petrol should not be carried on board, and no fuel transfer should be attempted once the vessel is afloat.

5.5 OFFSHORE CRUISING

Subject to suitable weather and sea conditions, these craft are capable of undertaking coastal or offshore passages.

- Such passages should be undertaken in company with other PWCs or suitable support boats.
- A nominated person ashore should be aware of departure times, destinations and expected arrival / return times.

It is recommended that the following are carried on board:

- Compass.
- Waterproof VHF Radio.
- Passage Plan.
- Chart of Sea Area.

The majority of Personal Watercraft (PWC) are not fitted with navigation lights, which the law requires for operating at night, therefore their use is restricted to a period between sunrise and sunset.

5.6 NATIONAL ASSOCIATION

The Irish Sailing Association (ISA) is the national governing body for PWCs in Ireland (see appendix 8 for contact details).

5.7 PERSONAL WATERCRAFT CHECKLIST

Personal Gear	Tickbox
PFD/ Lifejacket	
Whistle	
Wetsuit	
Gloves	
Helmet	
Goggles	
PWC Equipment	Tickbox
Tow Rope	
Flare pack	
Anchor	
Collapsible Paddle	
Basic First Aid Kit	
Engine Kill Cord	
Spare Engine Kill Cord	
Knife	
Torch	
Basic Tool Kit	
Fire Extinguisher	
Pre Launch Checks	Tickbox
Local bye-laws/speed restrictions	
Weather Forecast	
Tides	
Local Chart	
Fuel & Oil Tank full	
Seats / Hatches sealed	
External Hull Check	
Engine test run	
Engine Stops Tested	
Offshore Cruising	Tickbox
Cruise in Company	
Passage Plan	
Nominated Person Ashore	
VHF Radio	
Compass	
Chart of sea area	

PERSONAL WATERCRAFT (JET SKIS)

WINDSURFING

6.1 TRAINING

It is recommended that persons participating in windsurfing activities undertake appropriate training. There are a number of windsurfer training schemes and approved courses available and information can be obtained directly from course providers (see appendix 9 for details of course providers).

6.2 WINDSURFING SAFETY

6.2.1 Prior to entering the Water

- Examine your rigging for worn ropes, loose fittings, ensure all are correctly cleated and tied off.
- Check the condition of the board; ensure there is a safety leash (where fitted) between the board and rig.
- Check all foot straps, and fins are

suitably attached, examine the mast foot, ensure the universal joint and mast track are in good condition.
- Advise someone ashore, where you are going and when you will be back.
- Carry essential spares, spare rigging lines, a 4 metre towing line, a dayglo flag, or miniflare and whistle to attract attention. These items can be carried in a harness pocket, or bum bag.
- Check the local weather and sea area forecast for the area you propose to sail in.
- Avoid sailing in offshore winds, and be aware of the influence of tidal streams both of which may carry you offshore or away from your start point.
- Ensure that your name and contact number are marked on your board, where possible apply retro reflective tape to the board hull.
- Avoid sailing alone - there is safety in numbers. Choose a recognised boardsailing venue where you can also learn from other sailors. Beginners should stick to enclosed waters.
- Be aware of local regulations and never sail in designated restricted areas or areas crowded by swimmers.
- Avoid offshore winds until proficient, as sailing back upwind once tired or overpowered becomes much more difficult.
- Be sure of your self-rescue capabilities with any rig you may be using. If in doubt do a practice drill.
- Dress correctly - A wetsuit is advised unless very warm plus hat, sunscreen and long sleeves to protect from the sun.
- It is recommended that persons participating in windsurfing activities always wear a PFD/ lifejacket.

- Be aware of your limitations. If in doubt don't go out.
- Avoid dehydration. Drink plenty of water.

6.2.2 On the Water

- Sail cautiously when leaving and returning to shore to avoid running aground or colliding with others.
- Never sail further from the shore than is necessary.
- Avoid collisions.
- Remain with your board no matter what happens, it is your largest buoyancy aid. Use the International hand distress signals if necessary (slowly and repeatedly raising and lowering arms outstretched to each side).
- Be aware of hypothermia and leave the water if symptoms occur (shivering, numb extremities and poor co-ordination).

6.3 NATIONAL ASSOCIATION

The Irish Windsurfing Association (IWA) is an affiliated club of the Irish Sailing Association and as such is the governing body for competitive windsurfing. Windsurfing events are run in accordance with the safety guidelines of the IWA (see appendix 8 for contact details).

CANOEING/KAYAKING

Canoeing covers a wide and diverse range of disciplines including sea kayaking, white water kayaking, surf kayaking, polo, slalom, marathon, sprint, freestyle and touring.

There are a number of basic safety precautions that should be applied to any canoeing activity, regardless of its speciality.

7.1 TRAINING

Undertake a recognised training course in the correct use of the specific type of canoe you wish to use. Be completely familiar with relevant rescue/recovery drills, self-righting techniques, e.g. Eskimo roll etc. Practice such drills with fellow members of your group. The Irish Canoe Union have a comprehensive training and accreditation scheme, which covers river, sea kayaking and open canoes (see appendix 9 for details of course providers).

7.2 PRIOR TO ENTERING THE WATER

- Ensure you are a competent swimmer, and capable of surviving in the water in areas you operate in.
- Undertake a basic First Aid Course, and life saving course.
- Never operate alone, always canoe in company.
- Do not operate a canoe if under the influence of alcohol or drugs.
- Inspect your craft and equipment thoroughly, check it is fitted with adequate buoyancy material, and that such buoyancy is correctly distributed and secured within the hull.
- Ensure that the bung is fitted correctly.
- Do not use the canoe, unless you are certain it is watertight. Boats with temporary repairs should not be used.
- Ensure if carrying additional equipment, that the canoe is never overloaded.
- Use a spray deck, with quick release where relevant, and be completely familiar with its use.
- When using a spray deck, ensure that the grab loop is in good condition and is within reach.
- Always ensure that your name / contact address are permanently marked on the hull. The addition of strips of retro-reflective tape to the hull is recommended.
- Check the hull is fitted with grab loops / towing lines. Kayaks over 270cm should have decklines fitted fore and aft, boats less than 270cm should have cowtails fitted.

- Ensure that a responsible person is aware of your intended departure, locations, and return details.

7.3 PERSONAL SAFETY EQUIPMENT

- Suitable PFD/lifejacket (see appendix 5)
- It should be fitted with a whistle to attract attention, be in a Hi Visibility colour and fitted with retro-reflective strips.
- Ensure you are suitably attired for the type of activity, area of operation, and time of the year. Be aware of the dangers of hypothermia when wet and exposed to the elements.
- If paddling where the risk of head injury exists, a suitable helmet should always be worn.

7.4 SEA KAYAKING

Sea kayakers should observe the following additional precautions:

- Be aware of the weather forecast and sea area forecast. Only ever operate within your limits and ability. Canoeing in a force 4 or above should only be considered for the very experienced.
- Tidal conditions for areas that you are operating in.
- Be aware of the interaction between wind and tide on sea states.
- Carry a chart for area of operation. These can be laminated and attached to the kayak hull.
- Carry a hand held compass.
- Ensure a nominated person ashore is aware of your itinerary, departure and return times.
- Have a passage plan and alternative emergency plans, e.g. safe landing area down wind etc.
- Do not operate alone - kayak in company.
- If capsized and floating outside your craft - remain with it, it offers a better target to rescuers, and has a high buoyancy factor. Do not attempt to swim for shore unless adjacent to it.

The following additional equipment should be considered.

- Flares
- Towrope / throw bag
- Torch
- Suitable knife
- Portable waterproof VHF radio
- Portable GPS unit
- Personal EPIRB
- First Aid Kit
- Spare food / drink
- Paddle float / leash

Essential equipment should be carried on the person, or on an easily recoverable buoyant grab bag.

7.5 RIVER KAYAKING

River kayaking ranges from touring on slow moving Grade 1 water in either open canoes or recreational kayaks, to the more extreme white water river running, which can include whitewater rapid, waterfalls and features such as stoppers and undercuts. Freestyle kayaking is at the more extreme end of the canoeing spectrum. Trained and competent persons only should attempt this activity.

In addition to the basic safety precautions mentioned previously operators should observe the following additional items:

- Hulls are examined for damage each time prior to entering the water.
- Potential courses should be studied for hidden dangers, snags, currents etc, prior to putting boats in the water.
- Boats should never operate alone on a stretch of water.
- In extreme and difficult locations, shore based rescue / recovery personnel should be in attendance, trained and equipped in the rapid recovery of persons in distress.
- Contact numbers for medical assistance / rescue authorities should be available on site.
- Kayaks should have adequate buoyancy.
- Get First Aid training and carry a First Aid kit on river trips.
- If carrying a throwbag also carry a knife.
- Depending on the rivers difficulty, consider carrying some of the following:
  - Split paddles
  - Webbing slings and carabiners
  - Duct tape
  - Dry clothes
  - Group shelter
  - Food and money
  - Matches/lighter
- Be aware of the river's grading (1-6), and of the water level before committing. Be particularly cautious during flood water conditions.
- Inspect unknown drops before running them; be aware that drops may change or that new hazards may have formed (e.g. fallen trees etc.). Set up bank based rescue where appropriate.

7.6 NATIONAL ASSOCIATION

The Irish Canoe Union is the national association for canoe and kayak based activities in Ireland (see appendix 8 for contact details).

ROWING BOATS

Rowing includes “Olympic Style” rowing boats, racing gigs / skiffs and traditional racing currachs.

8.1 TRAINING

It is recommended that rowers undertake appropriate training. A number of training schemes and approved courses are available and information may be obtained directly from course providers (see appendix 9 for details of course providers).

8.2 OLYMPIC STYLE ROWING BOATS

These boats are used in the rowing events in the Olympic Games and are governed in Ireland by the Irish Amateur Rowing Union (IARU). Accordingly the following safety points should be adhered to at all times.

A coach and/or a safety boat should be in attendance at all times. Operators of such safety boats should be suitably qualified and boats should be suitably identified by markings or warning flags, to alert other craft in the area that there are rowing boats on the water.

Coach/safety boats should carry the following items of equipment:

- Suitable bailer
- Suitable inflatable pump - if an inflatable is used as a rescue boat
- A throw bag with at least 10m of buoyant line
- A sound signalling device - air or aerosol power klaxon
- Thermal exposure blankets
- Lifebuoys or additional PFD/lifejackets to assist persons in the water
- Suitable First Aid Kit
- Anchor and line
- Knife
- Engine Kill cord to be used by the engine operator
- Paddle
- Suitable handholds fixed to the side of the boat – to assist persons being rescued

All participants should be aware of the requirements set out in the Irish Amateur Rowing Union (IARU) water safety code.

8.3 BOAT CONSTRUCTION AND EQUIPMENT

- All rowing equipment should be kept in good order and inspected regularly.
- Buoyancy compartments located in bow and stern must be checked to ensure they are in good order and will function as intended. Boats should be handled carefully and correctly at all times when out of water, to avoid damage to hulls or injury to crews or spectators.
- Boats when placed on water and prior to crew embarking should be checked to confirm they are safe, free of leaks and all moving parts are functioning. Restraints and quick release mechanisms must be in good working order on boats equipped with fitted shoes. The use of Velcro straps on fixed shoes as opposed to lace –ups is recommended.
- Check ventilation bungs are in position, and that outriggers swivels, seats etc. are secure.
- Ensure all steering mechanisms are working.
- Sculls and oar buttons should be checked to ensure they are secure and properly set.
- Coaching launches should be on the water at all times such craft are in use. The use of unescorted outings are not encouraged, and if undertaken a designated person ashore should be aware of departure times, destinations, and return times.
- All persons participating should be in good health, and capable of swimming 100m while wearing light clothing.
- All boat coxwains should wear an approved PFD/lifejacket at all times.

Boats are not to be used at night unless they comply with the requirements of the International Collision Regulations regarding navigation lights. Boats should not be operated in weather or tide conditions that may compromise their low freeboard and stability.

Coaches, coxwains, and crew should at all times be aware of local navigation rules, including any possible hazards or potential dangers arising from tidal, stream, or wind that may prevail locally. When racing in competitions, the water safety code of the IARU is to be adhered to fully.

8.4 COASTAL RACING GIGS/ TRADITIONAL RACING CURRACHS

- Crew engaged in racing these boats should wear a suitable PFD/lifejacket at all times.
- Boats should be equipped with means of attracting attention (Aerosol Klaxon).
- Coaches / Crews should not operate these boats in waters beyond the capabilities of the crew or boats.
- Coaching / Rescue boats that may be in attendance, should be suitably equipped and operated by competent operators.

8.5 NATIONAL ASSOCIATIONS

The Irish Amateur Rowing Union (IARU) is the governing body for rowing in Ireland and represents over 100 Clubs across Ireland (See appendix 8 for contact details).

The Irish Coastal Rowing Federation is a governing body for coastal rowing in Ireland (see appendix 8 for contact details).

CHARTER BOATS/ BARE BOAT HIRE

Craft that are supplied with a skipper and crew as part of the hire are regarded as Passenger Boats and must be surveyed and licensed by the Maritime Safety Directorate (MSD). Boats that are offered for hire without crew, for operation by private individuals, are classed as charter or bare boat hire.

There is a range of boats available for hire to the public, examples ranging from:

- Cabin Cruisers transiting the Shannon waterways.
- Sail boats for use on extended coastal trips.
- Boats used for angling on inland lakes.
- Day boats for short local trips (coastal or inland).
- Sailing Dinghies.
- Windsurfers.
- Barges.

There are a number of boat charter associations, whose members adhere to an agreed code of operation, covering items such as:

- Safety equipment supplied.
- Operating limitations for boats.
- Training and familiarisation for customers in handling boats.
- Emergency backup and maintenance.

A number of operators will, depending on the type of boat being chartered and proposed itinerary, require customers to prove levels of competency to the company's satisfaction.

Members of the public intending to hire such craft should enquire about the following issues from a boat company.

9.1 TRAINING

While some operators offer a comprehensive training scheme, including personal instruction, and videos, some may not. Before departing on any boat, customers should request instruction by the owner/operator in the following items, specifically relating to the boat they are hiring.

- Engine operation, including operation of controls and basic engine checks.
- Emergency operation of boats equipment – e.g. emergency steering, alternative means of engine starting, anchoring.
- Location of all safety equipment (including PFD/lifejackets).
- Operation of safety equipment: including donning PFD/lifejacket, flares, radio as applicable to boat type.
- Fire Fighting appliance location and use (if applicable to boat type).
- Means of pumping bilges.
- Actions in the event of running aground.
- Instruction in boat handling, including berthing alongside, going astern, man overboard manoeuvres, and recovery procedures (this should consist of a short practical demonstration).
- Details of area of operation, local weather conditions, maps/charts as relevant.
- Maximum number of people/ luggage that a craft may carry.
- Contact points for rescue services, radio channels, and relevant mobile phone numbers.

9.2 INSURANCE

- Is the boat covered by insurance?
- What is the extent of the insurance cover?
- Are there any restrictions or conditions that apply to the insurance cover?

9.3 MINIMUM SAFETY EQUIPMENT ON BOARD

All boats offered for hire without a skipper, should as a minimum be fitted with the safety equipment recommended in the tables in Chapter 3 and 4, which are relevant to the area of operation of the craft.

Recreational Craft are classed into 6 categories:
Category A - Ocean
Category B - Offshore
Category C - Coastal
Category D - Inshore / Estuary
Category E - Inland waterways including large open lakes
Category F - Inland Waterways - open boats less then 7m. Operating in rivers and sheltered areas on lakes in moderate weather conditions.

Hire craft in Irish waters are generally confined to Categories C, D, E, and F.

SAFETY OPERATIONS

This Chapter provides basic guidance on safety on marinas and maintenance of equipment.

10.1 TENDERING OPERATIONS TO MOORED CRAFT

There are instances where boats are moored offshore due to tidal or draft restrictions, and access to them is achieved by the use of a smaller tender launched from shore. In such instances where a tender is used to access and board a moored vessel, the following precautions should be taken:

- Crew must wear a PFD/lifejacket at all times, for the operation of boarding the tender, transit to, and boarding of the moored craft.
- It is recommended operators carry waterproof handheld VHF radio.
- Persons under the influence of alcohol or drugs should not participate in tendering operations.
- Ensure the tender is in good condition and suitably equipped, if using an inflatable dinghy type, check the tubes are correctly inflated, and the dinghy is a multi tube type capable of remaining afloat in the event of failure of any single tube.
- Be aware of tidal and wind conditions prior to commencing any tendering operation.
- If launching directly from shore ensure that the launch point is safe to depart from, can be safely accessed, and not subject to excessive surf.
- Tenders other than inflatable types should have additional buoyancy fitted, this may be in the form of dedicated buoyancy tubes, polyethylene foam block, or integral buoyancy chambers built into the boat.
- All tenders should, if utilising an outboard engine, also carry a set of oars or paddles, and be fitted with a suitable painter.
- The tender should not be overloaded by either personnel or equipment. Many tenders are fitted with a manufacturers instruction plate on the transom identifying the maximum number of persons or equipment, or combinations of each, a tender may safely carry and the maximum power of any outboard engine that may be safely fitted to the boat – do not exceed these figures.
- Suitable means of boarding the moored vessel should be provided, e.g. boarding ladder, access gates on railings etc.

10.2 MARINA SAFETY

While the use of a marina facility offers benefits of increased convenience and comfort to boat operators, it should be noted that they are potentially dangerous locations. Many are located in deep water subject to strong tidal streams, exposed to strong winds and are fitted with a minimum of protective barriers.

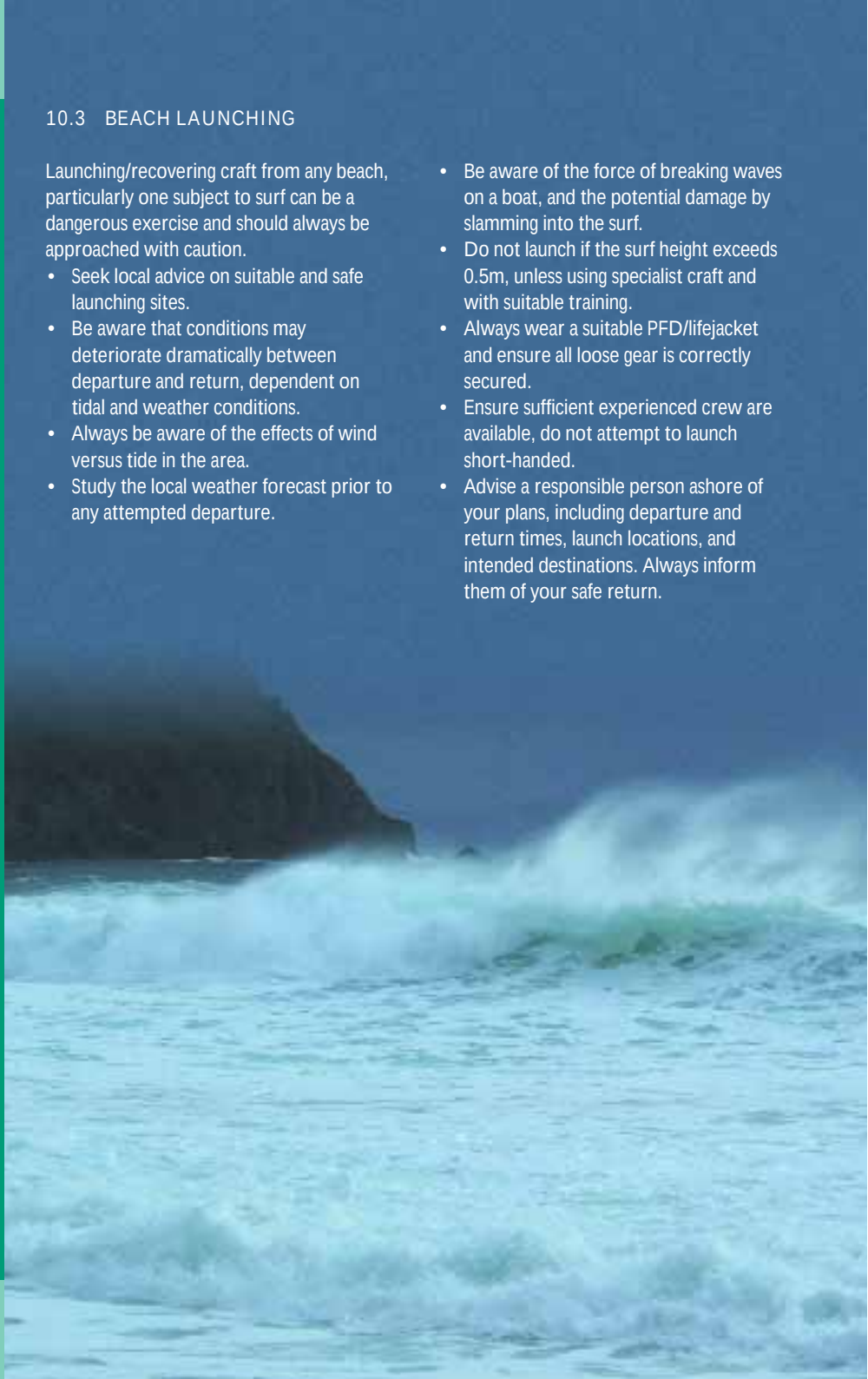
Users are encouraged to observe the following precautions when using and moving about on marina installations:

- Wear suitable non-slip footwear.
- Be aware of the surface condition of decks, particularly if wet.
- Do not obstruct marina walkways or finger berths with gear/trolleys.
- Ensure that boat operations which involve coming alongside and departing marina berths are controlled, and do not jeopardise crew members in the process of berthing the boat. A short step and not a long jump is the required transit from boat to berth.
- Instruct all crew on deck to wear PFD/lifejackets when bringing a boat on/off a marina berth.
- Do not leave children unattended on a marina facility.
- Ensure children are wearing a suitable PFD/lifejacket at all times when they are on a marina.
- When using shore power electricity supplies, always ensure trailing leads are in good condition, fitted with suitable plugs/sockets, and are correctly supported.
- Report any noted defects to the marina management.
- Observe all management safety instructions.
- Be aware of the dangers of moving about on a marina whilst under the influence of alcohol.

10.3 BEACH LAUNCHING

Launching/recovering craft from any beach, particularly one subject to surf can be a dangerous exercise and should always be approached with caution.

- Seek local advice on suitable and safe launching sites.
- Be aware that conditions may deteriorate dramatically between departure and return, dependent on tidal and weather conditions.
- Always be aware of the effects of wind versus tide in the area.
- Study the local weather forecast prior to any attempted departure.
- Be aware of the force of breaking waves on a boat, and the potential damage by slamming into the surf.
- Do not launch if the surf height exceeds 0.5m, unless using specialist craft and with suitable training.
- Always wear a suitable PFD/lifejacket and ensure all loose gear is correctly secured.
- Ensure sufficient experienced crew are available, do not attempt to launch short-handed.
- Advise a responsible person ashore of your plans, including departure and return times, launch locations, and intended destinations. Always inform them of your safe return.



10.4 MAINTENANCE

10.4.1 Rigging

Rigging components on a sailing craft are subject to extreme loadings. If these are set up incorrectly in the beginning and adjusted subsequently, the fluctuations in load can result in fatigue failure of stays, spreaders, or masts, despite the use of modern materials.

Rigging demands constant attention and inspection on an ongoing basis. While a boat is in service, it must be recognised that despite the use of materials such as stainless steel, components such as shrouds and terminals will not last indefinitely and must be replaced. On many boats above 6m, current practice is not to remove the mast at the end of the season. Consequently, rigs remain in place for many years without proper inspection.

The following maintenance should be undertaken in regard to vessel's rigging.

- A competent person should inspect all elements of the rigging visually, this should be done annually. As this may involve undertaking a masthead inspection working at height, individuals experienced in working aloft and using a suitable Bosun's Chair or equivalent should only undertake this work.

- Shrouds should be examined for signs of damaged, distorted or kinked wire strands.
- Stay wire end terminals should be visually inspected – rolled or swaged ends are prone to splitting. Norseman or Staylock terminals can be opened and inspected internally if required. Ensure turnbuckles are not distorted or damaged.
- Be aware of the age of your vessel's shrouds. A regularly used craft should consider stay renewal every 7-10 years depending on usage. Keep a record of renewal dates. It is advisable to renew stays on a rolling basis, changing a section every year.
- Always renew with suitable material, size, and terminals. It is recommended to have this work done professionally.
- Be aware of the correct procedure to tune rigging.

10.4.2 Inboard Engine Operation and Maintenance

On craft fitted with inboard engines the following procedures should be undertaken prior to proceeding to sea;

- Check oil and coolant levels.
- Inspect all bilges for leaks.
- Ensure all sea valves are open.
- Ensure adequate fuel is carried on board.
- While the engine is running inspect for any fuel leaks.
- Ensure an adequate cooling overboard discharge is present, prior to leaving the dock.
- Check that the engine operates ahead and astern prior to departure from berth or mooring.
- Battery electrolyte levels should be checked on a regular basis throughout the season.
- Propeller shaft systems including regular greasing of bearings and inspection of leakage rate at glands, should also be included in an owner's maintenance routine.

10.4.3 Outboard Engines

On craft fitted with outboard engines the following procedures should be followed:

- Unit should be serviced at the start of each season by a qualified technician.
- Ensure the unit cooling system is flushed with fresh water prior to lay up at the end of the season.
- Check the condition of the propeller/shear pin assembly if fitted, prior to departure.
- Be aware of the correct starting procedures before departing, in particular how to avoid flooding the engine.
- If using a two-stroke engine, always ensure the correct oil/fuel mixture is used.
- Engines should be correctly mounted onto the boats transom; in addition a safety lanyard should always be attached.
- The use of a "kill cord" with the unit is recommended at all times.

10.4.4 Annual Engine Maintenance

Owners, prior to the start of each season, should undertake the following annual maintenance procedures:

- Oil and filter change.
- Fuel tanks drained of water (ensure they are filled with fuel prior to lay up) and fuel filters renewed.
- Inspect all cooling pipes, and check levels of anti freeze fitted in cooling systems. Examine all exhaust lines for wastage or leaks.
- Inspect impellers on Sea Water Cooling systems (Jabsco pumps).
- Check condition of any starting battery systems.
- Examine condition of underwater anodes.
- Inspect condition of propeller shaft cutlass bearings.
- Check operation of all sea water hull shut off valves.

10.4.5 Minimum Spare Parts

For Inboard Engine

- Fan belt set.
- Oil/fuel filter set.
- Spare Jabsco sea water pump impellor and gaskets.
- Spare change of engine oil.
- Spare jubilee clips to suit hoses on board.

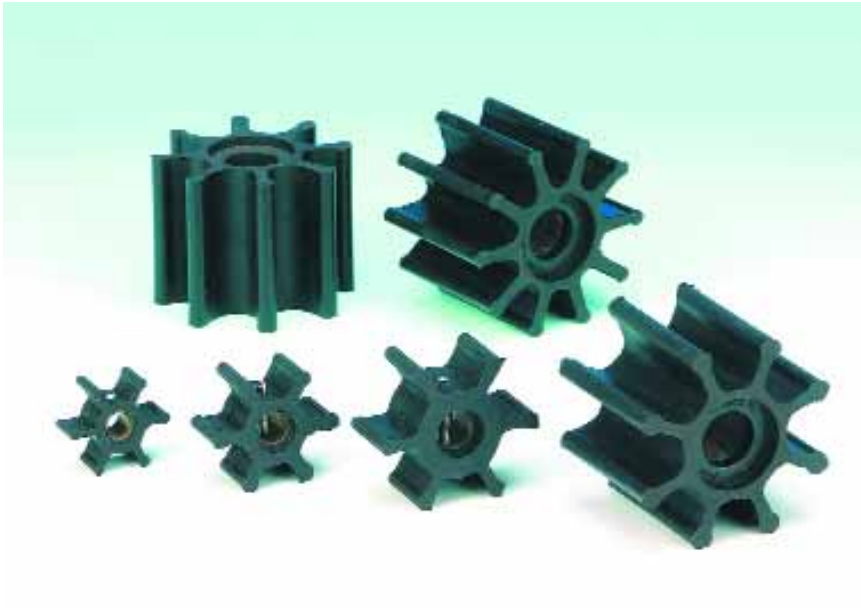
For Outboard Engine

- Spark plugs (in case of petrol engines).
- Spare Shear Pin (if relevant).

10.4.6 Tool Kit

Craft should carry a suitable and relevant tool kit comprising of the following suggested items:

- Screwdriver set.
- Spanner set applicable to each craft.
- Adjustable spanner.
- Torch.
- Spark plug spanner (in the case of petrol engines).
- Junior hacksaw and spare blades.
- Pliers & vise grips.
- Can of WD40 release oil, if relevant.



EMERGENCY PROCEDURES

11.1 PROCEDURE FOR MAKING A DISTRESS CALL USING VHF

There are two options for making distress calls; the PAN PAN and the MAYDAY.

11.1.1 MAYDAY

In cases where there is grave or imminent danger to either occupants or boat, then a MAYDAY should be broadcast, e.g. fire on board, serious injury.

The following format of broadcast should be used:

MAYDAY, MAYDAY, MAYDAY

THIS IS YACHT (state the boat's name THREE times)

MAYDAY

IN POSITION ...(give the position from a GPS receiver, or bearings from and distance off any fixed mark)
....(state the nature of distress)
....(state the nature of assistance required)
....(state the number of persons aboard)

OVER.

11.1.2 PAN PAN

The PAN PAN may be used in the event that urgent help is required but there is no grave or imminent danger to the boat or its occupants, e.g. mechanical failure, request for medical advice etc. broadcast always on channel 16, using maximum transmission power.

The following format of broadcast should be used:

PAN-PAN, PAN-PAN, PAN-PAN,

ALL STATIONS

THIS IS YACHT (state the boats name THREE times)

IN POSITION ...(give the position from a GPS receiver, or bearings from and distance off any fixed mark)
....(state the nature of distress)
....(state the nature of assistance required)
....(state the number of persons aboard)

OVER.

11.2 TYPES OF RADIO DISTRESS CALLS

The advent of the Global Maritime Distress and Safety System (GMDSS) has brought about a number of changes in the manner and procedure in which distress calls from craft are initiated.

Modern VHF radios are fitted with a Digital Selective Calling (DSC) facility, whereby a distress call is activated by pressing a dedicated switch on the radio. This system transmits an all station call on Channel 70.

For non DSC radios, Channel 16 remains the listening channel for distress calls.

Therefore there are two possible scenarios:

11.2.1 Automated Calling

This only works on DSC radio sets. The operator initiates an all station call by simply uncovering and pushing the red SOS switch on the radio's panel. This will transmit the Maritime Mobile Service Identity (MMSI) code - a series of 9 digits, without any further action required by the crew.

In addition to the MMSI number, it can also, if interfaced with a GPS give a boat's position, and possibly the type of emergency (depending on settings).

All information will be displayed on any receiving sets' display panel. Transmitting and receiving sets will switch to Channel 16 to allow further information be transmitted e.g. spoken MAYDAY message, nature of emergency etc.

11.2.2 Non-Automated Calling

VHF sets without DSC must rely on the traditional format of broadcast on channel 16 for making a MAYDAY call. Ensure the set is selected to channel 16 and that it is transmitting at its full power.

The MAYDAY broadcast format as described above should be used.

11.2.3 Use of Handheld VHF Radios

Portable VHF radio equipment can be used on small boats particularly where it is impracticable to install a fixed VHF radio. This equipment should be licensed and issued with a radio call sign.

The portable VHF will only be licensed for use on a boat for communications with coast stations, harbour authorities, marinas and other boats - **It should not be used on land.**

11.3 EPIRBS

Comparison of 406MHz and 121.5MHZ distress beacons
There are two models of Distress Beacons: The '406 MHz' and the '121.5 MHz'.

406 beacon
This is a digital signal and covers the entire globe. 406 beacons have a **unique identification code** which is part of it's signal. When properly registered the unique code provides information about the boat carrying the beacon. This includes the owner's emergency contact and the country of registration. The 406 signal may be received within seconds by Geostationary satellites.

121.5 Beacon

This is an analogue signal and has coverage over an area 900 to 1500 km from the coast. The 121.5 beacons are anonymous and do not tell rescue authorities who is in trouble, or even what is in trouble.

Orbiting satellites take 90 minutes on average to receive the signal but it may take up to **5 hours** depending on the conditions. Processing the 121.5 signal may take an **additional 45 minutes**.

From February 2009 the international satellite system (called Cospas-Sarsat) will no longer process the 121.5 signal. This will make all 121.5 beacons obsolete. Owners of the 121.5 beacon should work towards upgrading to the 406 at their next beacon battery changeover.

11.3.1 Changes to the distress beacon system

From February 2009, search and rescue satellites will no longer detect 121.5 MHz analogue distress beacons. Only 406 MHz beacons will be satellite detected.

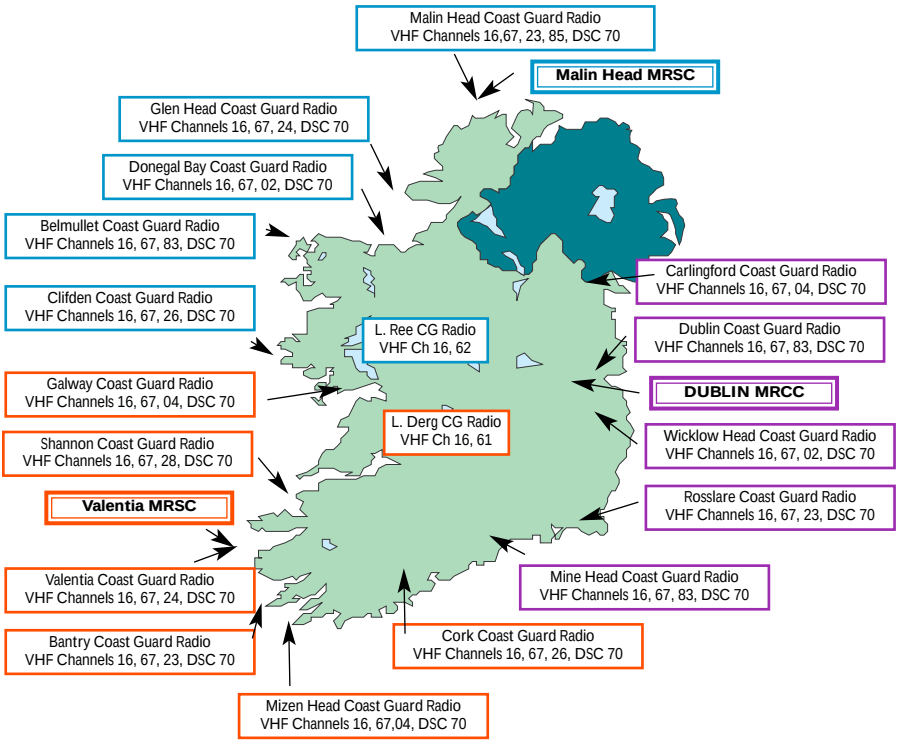
This decision has been made by the international organisation that controls the satellites to reduce false alarms. About 97 per cent of all 121.5 MHz analogue beacon detections are false alarms and this is placing an unnecessary strain on the global search and rescue system. The change has been made to ensure that scarce search and rescue assets needed for a genuine emergency are not wasted chasing false alerts.

False alarms from digital 406 MHz beacons can be resolved with a phone call as these devices transmit an identity code that can be cross-referenced with an ownership database.

11.4 MARINE VHF COMMUNICATIONS NETWORK

IRISH COAST GUARD

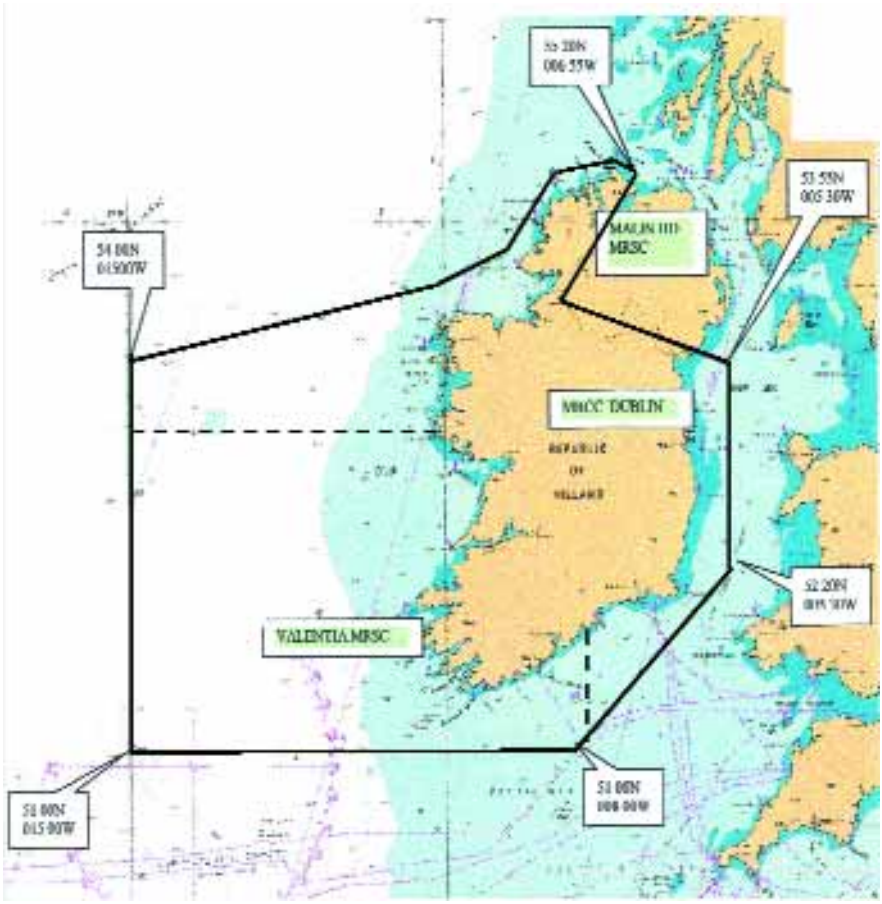
MARINE VHF COMMUNICATIONS NETWORK



Weather Forecasts at 01:03, 04:03, 07:03, 10:03, 13:03, 16:03, 19:03 & 22:03 on working channels

Malin Head Controlled Radio Stations	**Valentia** Controlled Radio Stations	**Dublin** Controlled Radio Stations

IRISH SEARCH AND RESCUE REGION



11.5 SURVIVAL AT SEA

Death by hypothermia or drowning presents the greatest risk to individuals who are forced to abandon their craft. The ambient sea temperature can cause people to very quickly become cold and affect their ability to help themselves once in the water.

After boarding a liferaft it is still possible to succumb to hypothermia. Individuals should take the necessary survival precautions.

Survival at sea even for relatively short periods of time is dependent on suitable equipment, adequate preparation and knowledge of survival techniques.

A number of recognised course providers offer a **one day Basic Sea Survival Course** (see appendix 9 for details of course providers) covering both the theoretical and practical aspects of sea survival techniques.

11.5.1 Choosing a Liferaft

When choosing a liferaft examine what survival equipment is included.

ORC Pack
- Bailer
- Red Handheld Flares (3)
- Sponges (2)
- Torch (with spare batteries and bulb)
- Leak stoppers (set)
- Pump
- Repair kit
- Paddles (2)
- Safety Knife
- Instruction leaflet
- Sea anchor
- Rescue quoit and line (30m floating)

It is recommended that additional equipment is carried in a suitable grab bag.

ISAF Pack
- Bailer
- Thermal protective aids (survival bags) (2)
- Seasickness pills (min of 6 per person)
- Seasickness bags (min of 1 per person)
- Sea survival instructions
- Red Handheld Flares (3)
- First aid kit (including water to help take pills)
- Sponges (1 per person)
- Torches (2 sealed for life)
- Leak stoppers (set)
- Signal mirror
- Pump
- Repair kit
- Buoyant paddles (2)
- Signal card
- Whistle
- Safety knife
- Sea anchor
- 'Wet' notebook and pencil
- Rescue quoit and line (30m floating)

SOLAS B Pack
- Bailer
- Sponges (2)
- Leak stoppers (set)
- Pump
- Repair kit
- Buoyant paddles (2)
- Signal card
- Instruction leaflets
- Torch (with spare batteries and bulb)
- Anti-seasickness tablets (6 per person)

- Rescue line and quoit
- Safety knife
- Sea anchor (2)
- First aid kit
- Sick bag (1 per person)
- Whistle
- Red parachute flares (2)
- Red handheld flares (3)
- Buoyant orange smoke
- Heliograph
- Radar reflector
- Thermal Protective Aids (survival bags) (2)

SOLAS A Pack
As SOLAS B plus:

- Fishing kit
- Additional red parachute flares (2)
- Additional red handheld flares (3)
- Additional buoyant orange smoke
- Water (0.5 litre per person)
- Graduated drinking vessel
- Rations (10,000 kilojoules per person; non thirst provoking)
- Tin-opener

There are a number of essential points to consider when selecting a liferaft.

- **Two Compartment Buoyancy Chambers** – allows one chamber to be damaged without compromising the buoyancy of the raft.
- **Canopy** – protects the crew from the elements, reduces risk of exposure and improves the chances of the raft avoiding total inversion if capsized by a wave or inflating upside down.
- **Inflatable Floor** – offers improved insulation against the cold.
- **Sea Anchor** - offers relative stability to the raft in the sea.
- **Boarding Aid** – offers essential assistance to fully clothed person attempting to enter a liferaft from the water.

Liferafts require regular servicing by trained personnel at intervals laid down by their manufacturer. These should always be adhered to.

Liferafts should be stowed on board in a location where they can be rapidly deployed. They can be stowed either on deck or in a locker opening directly onto the deck. If stowed on deck it should be able to withstand heavy weather.
All liferafts rely on attachment of their painter to a suitable strong point on board in order to initiate the inflation procedure.

11.5.2 Abandoning Ship

The decision to abandon should only be taken if absolutely necessary. Often a damaged or incapacitated boat will, even in adverse weather conditions, offer greater protection to a crew than entering the water or deploying a liferaft.

The decision to abandon must be made taking into considering a number of factors:

- Condition of the boat, propulsion and power capabilities.
- Internal Flooding.
- Bilge Pumping capacities and capabilities.
- Weather conditions.
- Communications with rescue facilities.
- Physical condition of crew.

If abandoning a craft to a liferaft the following points should be adhered to:

- Be familiar with the correct method of launching. Read the instructions before departure and ensure other crew are familiar with its location and means of deployment.
- For offshore cruising; Category A & B should have a suitably equipped Grab Bag which can be transferred to the liferaft.
- Before launching the liferaft, check the water in the launching area is clear of people and obstructions.
- Wait until the liferaft is fully inflated prior to attempting to board. Do not jump onto the canopy. Avoid the raft chafing against the craft which is being abandoned.
- If at all possible board the raft without entering the water in order to reduce the effects of the cold.
- If it is not possible to board the liferaft without entering the water choose a suitable place to leave the boat while taking account of the sea state and drift of the boat. Remember, liferafts can drift much faster than most people can swim.
- Wear additional layers of clothing, including head gear as this prevents heat loss from the body. A suitable PFD/lifejacket should be worn at all times.
- Do not remain in the water longer than is necessary.

Once all crew are in the liferaft:

- The craft should cut free.
- Manoeuvre clear of the craft or any obstructions.
- Deploy the sea anchor.
- Close all entrances to conserve heat.
- Issue sea sickness tablets.
- Post a lookout.
- Maintain the liferaft - inflate the floor, bale out any water, check for leaks, ventilate by maintaining a small opening.
- Remain in the vicinity of the last position given prior to abandoning ship.

11.5.3 Survival In the Water

In the event of a liferaft not being available, the following applies:

- Ensure additional layers of clothing are worn prior to entering the water.
- Wear a hat and if possible cover the extremities of the body e.g. fingers, toes and face.
- Do not jump into the sea. Use an overside ladder if available. Avoid obstructions in the water adjacent to the hull. It may be preferable to abandon from either the bow or stern rather than amidships.

- Avoid unnecessary swimming in order to conserve energy and body heat.
- If possible form a group with other survivors to increase visibility for rescuers.
- Activate the PFD/lifejacket light and use the whistle attached to attract attention.

11.6 MAN OVERBOARD AND RECOVERY PROCEDURES

11.6.1 Recovery of Man Overboard

The loss of any person overboard presents a serious challenge to those remaining on board who have to safely position the vessel adjacent to the individual in the water and recover the person back aboard.

The situation can be even more traumatic if the skipper is lost and an inexperienced crew are on board.

On losing a crew member overboard other crew should undertake the following actions:

- Deploy a lifebuoy, throw bag, rescue quoit etc.
- Appoint a crewmember to maintain visual contact with the individual in the water at all times regardless of the boat's manoeuvres.
- Depending on the type of craft, exercise the required manoeuvre as described in the following section.
- Issue MAYDAY.

Position the victim adjacent to the boat and if the person is physically capable re-board by means of a suitable boarding ladder or swimming platform.

For an exhausted or injured crewmember, external means of recovery will be required, such as:

- Dedicated recovery sling under the arms of the individual, using halyards/ winches, boom etc. to provide purchase.
- Use of victim's safety harness or PFD/ lifejacket fitted with integral harness.
- Use of a sail deployed over the side as a scoop and recovered using the boats running rigging.
- Use of an inflatable tender, partially deflated to recover the individual from the sea.
- Launch the liferaft and have the victim recovered into it.
- On Inflatables, one tube may be partially deflated to aid recovery of an injured or unconscious person.

Many boats today are equipped with a bathing platform at the stern which facilitates recovery of persons from the water.

On boats with outboard engines, the engine may be used as an impromptu ladder to re-board provided the engine is shut down.

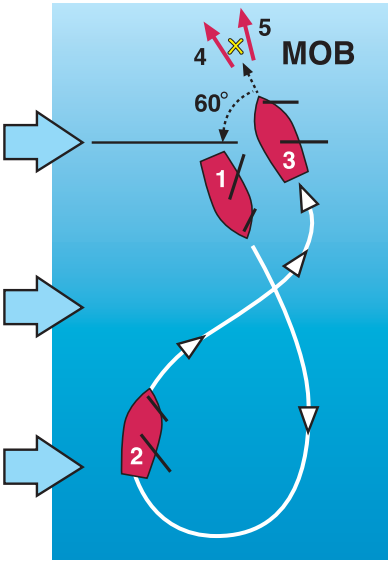
Be aware of the dangers of hypothermia affecting persons who have been immersed in the sea for a period of time, ensure the casualty is kept dry and warm. Alcohol should not be given to the victim.

11.6.2 Manoeuvring Boat to Aid Recovery of Man Overboard

11.6.2.1 Craft Without an Engine

A simple way to recover is to:

1. Put the craft into an "apparent" beam reach (burgee across the craft). Allow yourself some sea room to manoeuvre and get yourself organised to recover the person from the water.
2. Tack and sail on the opposite beam reach (person in water now on weather bow).
3. Approach on a close reach easing the sheets in the final stages. Leeway will increase as you slow down - allow for this.
4. In a larger craft it is easier to come alongside to windward of the person in the water and make the recovery over the leeward side.
5. In a dinghy, come alongside to the leeward of the person in the water and make the recovery by the weather shroud.



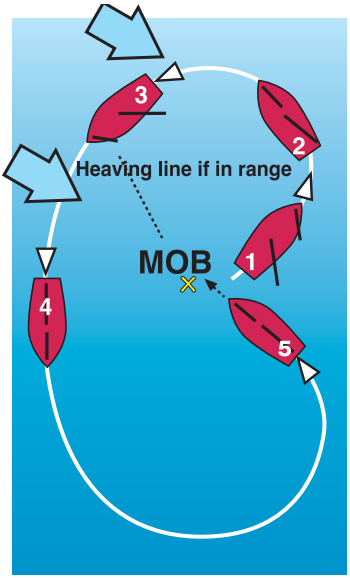
11.6.2.2 Craft With an Engine

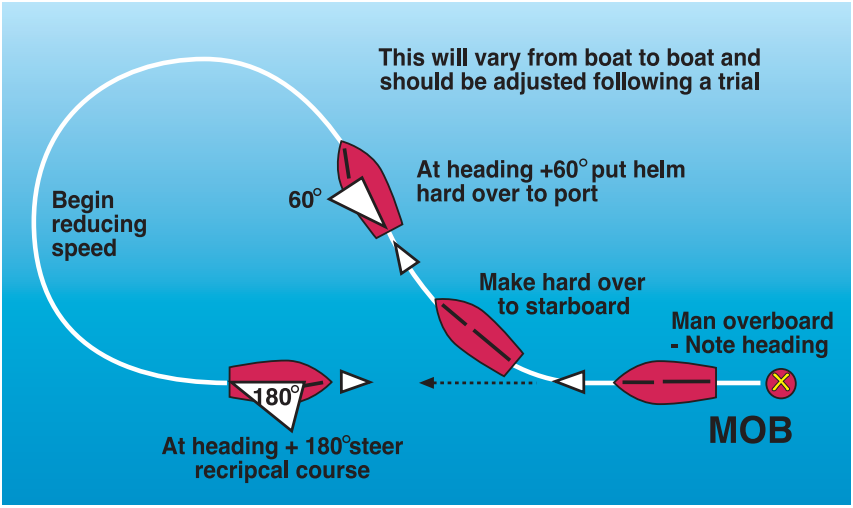
To stay as close to the person in the water as possible:

1. Come up to wind and tack, leaving headsail cleated so that boat stops hove to (yachts).
2. Throw a heaving line to the person in the water, if in range and haul alongside.
3. If not within heaving line range:
   - start the engine.
   - lower or furl the headsail.
   - sheet the main sail amidships.

Ensure there are no lines or sheets lying loose on deck or overside that could foul the propeller.

4. Motor to leeway of the person in the water and approach him/her head to wind.





1. If you can see the person in the water clearly, a simple sight 180 degree turn is the quickest.
2. If you lose sight of the casualty, due to poor visibility or heavy weather and sea state, the "Williamson Turn" is a good way to get to a reciprocal course which will take you back down your track. From the moment the skipper is aware of a "man overboard" situation put the helm to starboard and adopt a course of "original course + 60 degrees". Then put the helm immediately to port until the vessel has completed a turn which brings the compass reading to "original course plus or minus 180 degrees". This will put you on a reciprocal course where you should proceed slowly with a good lookout as the casualty will be dead ahead of you.
3. In heavy weather the reciprocal course may bring the sea astern, in which case a short approach head to sea may be more appropriate once the turn has been completed.
4. Do not waste time while the craft is turning to approach the person in the water. Prepare for the recovery as it is too late when they are alongside.
   - Which side will you approach?
   - Have a heaving line ready.
   - Wear a PFD/lifejacket and lifeline; if you don't, you may get pulled on top of the person in the water.
5. The initial approach to the person in the water will vary depending on weather/sea conditions and the type of boat. Let the weather help rather than hinder. Stop upwind and drift down.
6. If you are concerned about drifting onto the person in the water bring your stern into the wind. If you are not confident with your boat handling skills or if it looks likely that the boat could come down on top of the person in the water, throw them the heaving line and pull them alongside to a position which is a safe place for recovery.
7. **Ensure the propeller is not turning when you are alongside the person in the water.**

11.7 HELICOPTER RESCUE PROCEDURES AND EMERGENCY TOWING METHODS

In the event of a helicopter rescue situation the following points should be noted and followed:

- Prepare well in advance of the arrival of the helicopter; ensure crew are well briefed on correct procedures.
- Clear all obstructions on deck prior to its arrival. Ensure there are no items of loose or moveable gear on deck.
- All operations will be directed by the crew of the Helicopter – follow all instructions they issue.
- Do not be distracted by the noise of the helicopter overhead, it may be necessary to have a crewmember positioned inside the boat to maintain radio communications with the helicopter due to the excessive noise on the outside decks.
- The pilot will give specific instructions regarding course and direction he may wish you to steer. Generally boats will maintain a course to give the wind at 30 degree to the Port Bow. The preferred area to conduct winching operations is normally the port quarter. This affords the pilot visual contact with both the boat and his winch man.
- Due to the risk of static build up from a hovering helicopter, follow the pilot's instructions exactly with regard to earthing of a static discharge wire prior to placing the winch man on board. The wire is usually dropped into the sea to discharge static prior to commencing the operation.
- Under no circumstances should the winch line be made fast at any time to the boat.
- On arrival of the winch man on board, he will assume command of all subsequent operations - follow his instructions at all times.
- **Do not fire parachute flares when a helicopter is operating in the vicinity.**

11.8 EMERGENCY TOWING - RECEIVING OR GIVING A TOW

Towing should be undertaken with preparation and care by all parties involved in the operation. If assistance is being offered by the RNLI lifeboat, always follow the instructions of the coxswain, as to how to take the line and secure it onboard.

In all other circumstances the following should be observed:

- All crew working on deck must wear a suitable PFD/lifejacket.
- Consider the use of lifelines and safety harnesses if weather and sea state require them.
- Use the most substantial and longest line available to you, join several together using a bowline if necessary.
- Use a light heaving line as the first line to be transferred between boats. The heavier towline can be passed across using this line.
- The boat offering the tow must take care not to foul its own propeller when transferring a tow line, or come in contact with the disabled boat.
- A towline can be floated downstream to a disabled craft using a fender.
- Both craft should use a towing bridle to secure the towline. Ensure the load is spread over several cleats to distribute the load and allow for efficient steering.

- Ensure an agreed means of communications are established either by VHF or hand signals.
- The towing boat should slowly commence to get underway. Speed should be adjusted to suit the vessel being towed and local sea conditions.
- In open water it is generally best to tow in line astern. However in sheltered waters and approaching channels and berths it is possibly beneficial to change to an alongside tow, to allow ease of berthing etc.
- The towed craft should be positioned slightly forward of amidships of the towing craft and adjusted by means of springs and breast ropes. This allows the towing craft better positioning through the paddlewheel effect of its own propeller and controllability through its rudder, which is prevented if the towed boat is positioned aft of the tugs rudder position. If the towed boat is too far aft the combination of tug and tow can become quite un-manoeuvrable with the two only wishing to alter course in the direction upon which the towed vessel is made fast.

11.9 FLARES

Flares are an effective way to signal passing aircraft and nearby boats that you are in trouble and require assistance.

There are three types of flares used as distress signals:

- Red handheld flares are for night-time use and can be seen up to 10km away.

- Orange smoke flares are for day use only and can be seen up to 4 km away on a clear day. They can be either handheld or buoyant cartridge type.

- Rocket parachute flares can reach a height of 300 metres and are used for longer range attention seeking.

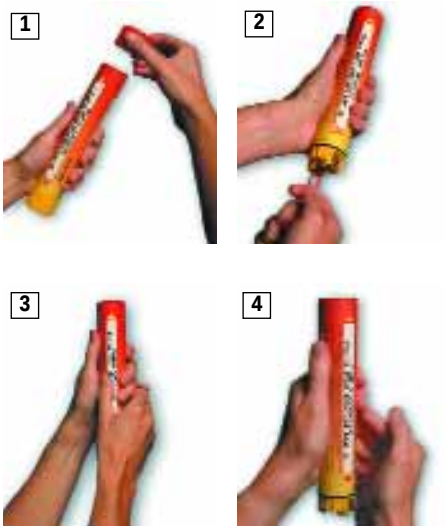
Flares will burn for about one minute so only use when other boats and planes are in the area.

White flares are available for the purpose of attracting attention or marking a position by a boat.

Flares are explosives and should be treated with care. Store in a waterproof container. They should always be within their expiry date.

Everyone on board should know where they are stored and how to use them.

Operating Instructions are printed on all flares - always read them prior to firing!



Do not operate flares when a Rescue Helicopter is in the immediate vicinity, always follow the pilots instructions.

11.9.1 Disposal of Expired Pyrotechnics

PYROTECHNIC EXPIRY DATES

Flares have clearly marked instructions for use and expiry dates printed on the packaging. The expiry dates printed on pyrotechnics (Flares) are determined by the required performance of the distress signals as set by marine approval bodies.

SOLAS standards are used to regulate the quality and performance of distress signals for use on commercial vessels. Recreational craft are not required by law to carry SOLAS approved flares. However, most products supplied for the leisure market in this country are of SOLAS standard.

Expiry dates are generally 3 years from the date of manufacture.

Flares should be replaced prior to the expiry date as the chemical components used in flares degrade over time and variations in temperature and humidity can accelerate this process.

Out of date flares may look acceptable to the naked eye, however:

- they can burn at a lower brightness (candela).
- the colour of the flare can fade.
- the burn time can lengthen which could be a fire hazard.
- for rockets; the ejection height and flight stability may be affected.
- red flares can fade and therefore may not be recognised as a distress signal.

Expiry dates are set to ensure that pyrotechnics will still perform to the stringent specified quality standards at the end of their official lifetime. The life of the product allows for a performance safety margin so that even if storage conditions are not optimum, the distress signals will still meet the approval bodies' performance specifications.

In date flares should be stored on board in a waterproof, buoyant container.

Out of date flares must be disposed of carefully. Ultimately they require disposal by the Army Ordinance Division, however collection schemes are arranged on a regular basis and advice of these schemes are available from the MSD or the Irish Coast Guard.

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 Rules also apply to sections of our inland waterways.

The rules 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.

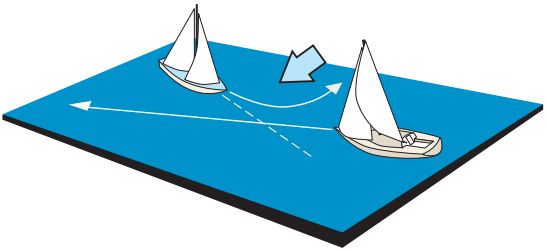
- As a general rule, power gives way to sail. But sailors must be reasonable - don't expect large, less manoeuvrable vessels under power to give way.
- All small craft should give large vessels a wide berth.
- In narrow channels, keep to the right (starboard). If plenty of distance separates two passing 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, beware 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 crafts manoeuvring qualities.

A number of the collision prevention rules are included below.

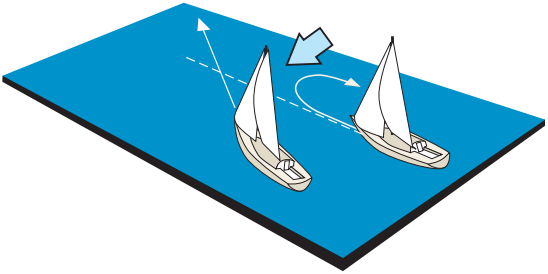
Sailing Vessels – Rule 12

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:

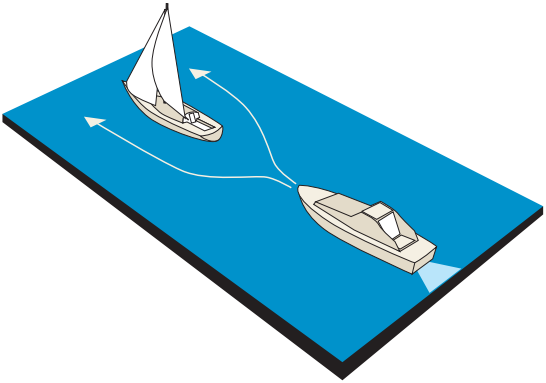
i. When each has the wind on a different side, the vessel that has the wind on the port side shall keep out of the way of the other. This is commonly known as the starboard rule.



ii. When both 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.

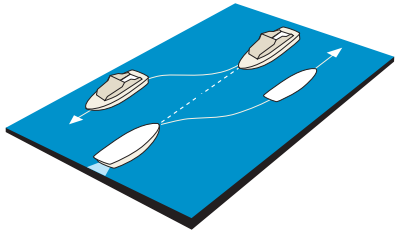
Head-on Situations – Rule 14

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 determined 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.

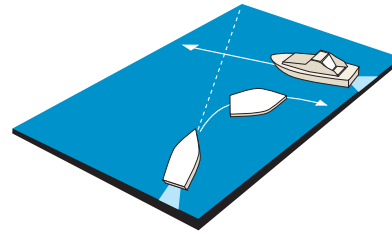
Note: For sailing vessels see Rule 12.



Crossing Situations – Rule 15

When two power driven vessels are crossing and at risk of collision, the one 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.

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

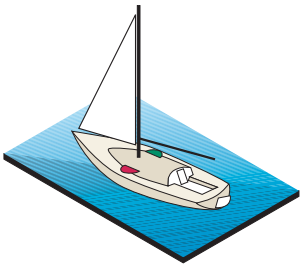
Navigation lights must be displayed on boats operating between sunset and sunrise and in restricted visibility. The types of light required are determined by the boat type and their activity. They indicate the length of boat, the direction of travel or if they are anchored.
Navigation lights must also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

Rule 20 of the Collision Regulations requires that lights prescribed shall, if carried, be exhibited from sunset to sunrise, and also from sunrise to sunset in restricted visibility and may be exhibited in all other circumstances when it is deemed necessary.
Under way: a vessel is 'under way' when it is not at anchor, made fast to shore or aground.

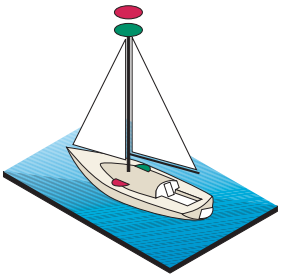
Rule 21 provides definitions for lights.

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

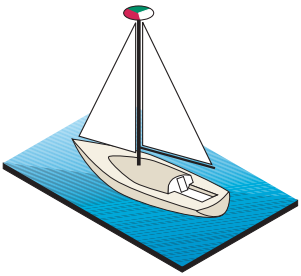
Light Combinations



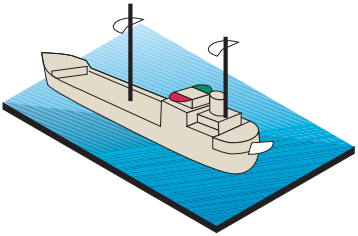
A. Sailing vessels under way shall exhibit sidelights and a stern light.



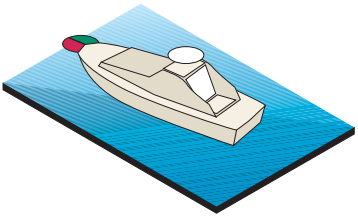
B. Sailing vessels may, in addition, carry an all-round red light above a green light.



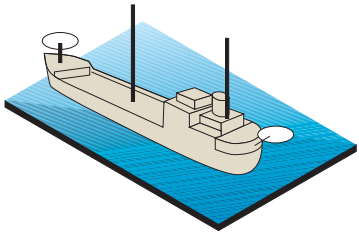
C. Sailing vessels less than 20 metres may combine sidelights and stern lights in a tricolour masthead light (but not with vertical lights as in (B) above).



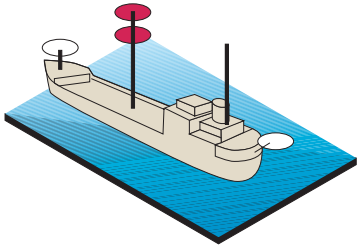
D. Power driven vessels shall carry a masthead light forward and a second masthead light abaft of and higher than the forward one; except that a vessel less than 50 metres may, but is not obliged, to carry the second light. Vessels underway shall carry sidelights and a stern light. (From a big ship mariner's 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).



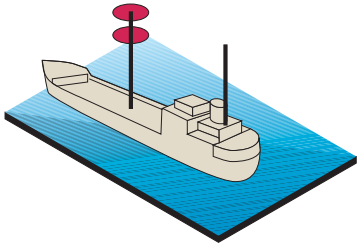
E. Power driven vessels under 12 metres may, in lieu of lights as in (A) carry an all-round white light and sidelights; the latter may be combined in one lantern.



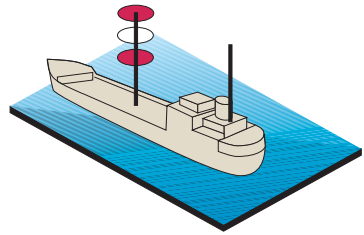
F. Vessels at anchor carry one all-round white light in the fore part of the vessel and a second light at or near the stern lower than the forward light, except that vessels less than 50 metres need not carry the second light. Vessels less than 7 metres need not show anchor lights unless in a narrow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



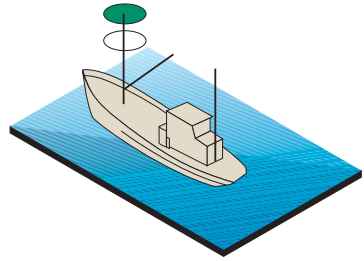
G. Vessels aground shall show two all-round red lights in addition to anchor lights.



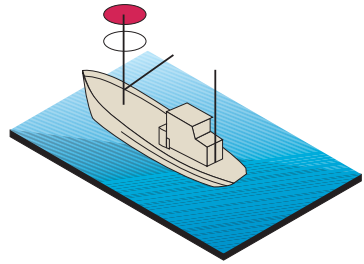
H Vessels not under command shall exhibit two all-round red lights and, if making way through the water, sidelight and stern light.



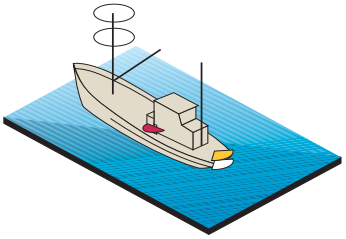
I. A vessel restricted in its ability to manoeuvre shall exhibit three all-round lights in a vertical line, the highest and lowest red, the middle light white. If making way through the water, sidelights, masthead lights and stern light shall also be shown.



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



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



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

Visibility of Vessel Lights

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

	50m & over	12m – 50m	Under 12m
Masthead	6nm	5nm*	2nm
Sidelight	3nm	2nm	1nm
Stern light	3nm	2nm	2nm
Towing	3nm	2nm	2nm
All round	3nm	2nm	2nm

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

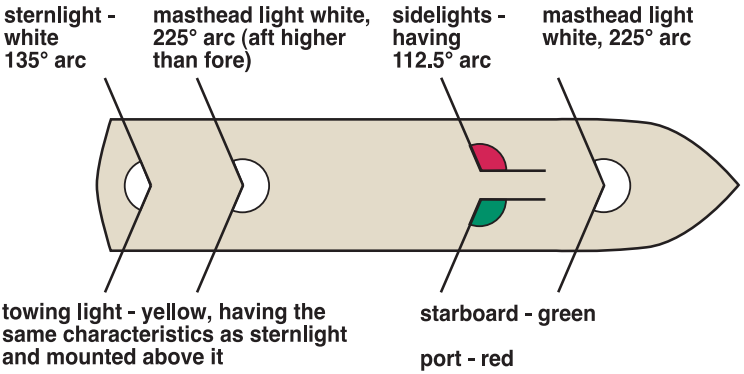
Rule 28 Vessel constrained by draught, - three vertical all-round red lights as well as navigation lights.

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 operators should be familiar with.
Whistle - Any sound signalling apparatus capable of making 'short' or 'prolonged' blasts.

Short blast – sound blast of about 1 second duration

Prolonged blast –sound blast of 4 to 6 seconds duration



Manoeuvring and warning signals – Rule 34

Craft, which 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 will 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).

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

Category of vessel	Interval	Signal
Power under way, making way	Every 2 minutes	▬
Power under way, not making way through water	Every 2 minutes	▬ ▬
Not under command	Every 2 minutes	▬ ■ ■
Restricted manoeuvring, constrained by draught	Every 2 minutes	▬ ■ ■
Sailing vessel (NOT using power)	Every 2 minutes	▬ ■ ■
Vessel fishing	Every 2 minutes	▬ ■ ■
Vessel towing or pushing	Every 2 minutes	▬ ■ ■ ■
Vessel towed – if manned	Every 2 minutes	▬ ■ ■ ■
Pilot vessel on duty – gives appropriate signals as above and may sound H, i.e. 4 short blasts		■ ■ ■ ■
Vessel at anchor (under 100m length) bell	5 secs every minute	
Vessel at anchor (length, 100m or more) bell, 5 secs/min followed by gong from aft, 5 secs/ min		
Vessel at anchor may give warning if possibility of collision to approaching vessel		■ ▬ ■
Vessel aground as at anchor preceded and followed by 3 distinct BELL strokes		
Vessel under 12 metres length may make the appropriate signals given above, but if 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 sound signals.

Vessels nearing a blind bend in a channel will sound one prolonged blast. Any vessel on the other side of the bend repeats with a similar signal.

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 taken for any signal authorised elsewhere, 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 light, 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

The final rule in COLREGs, Rule 37, refers to distress signals. The following are Internationally recognised distress signals:

- 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 (Emergency Positioning Indicating Radio Beacon – EPIRB).
- Orange coloured smoke signal.
- Slowly raising and lowering of outstretched arms.
- Signals transmitted by SART.
- 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 (. . . . . .).
- Signal consisting of a square flag having above or below it anything resembling a ball.
- A gun or other explosive signal fired at intervals of about a minute.
- Rockets or shell throwing red stars fired one at a time and short intervals.
- A radio telegraph-telephone alarm signal.
- Radiotelegraph alarm signal.
- Flames from a vessel – e.g. from burning oil barrel.

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 (for)

OR

They wish to signal to you by light and sound makers (red), approximately 1 minute intervals

Shore to Ship Signals

Safe to land here.

OR

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

Morse code signal by light or sound

Landing here is dangerous. Additional signals about 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	(Optional) Visual Signals
Require assistance	V
Require medical assistance	X
No or negative	N
Yes or affirmative	Y
Proceeding in the direction	↑

Note: Use International Code of Signals by means of flares or flags or by sound and those which have a dark centre to the background

Air to Surface Replies

Message Understood.

Drop a message

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 of vessel rocking wings.

3

Directly ahead and level in required direction.

Your assistance is no longer required.

Cross low, astern of vessel rocking wings.

Note: If a turn performed alternately in 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 pennant "Close Up"

I am unable to comply.

Morse code signal by light.

OR

International flag "N".

Note: The last signal is not appropriate in prevailing conditions.

APPENDIX 2

GUIDANCE NOTES ON
RADIOCOMMUNICATIONS

Category A Craft – Ocean voyages

The following radiocommunications equipment should be installed on this category of 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, and,
  (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 also be fitted on the craft when it is operating in Sea Area A2 (approx. 150 nm from a coast radio station):
  (i) An MF radiotelephone installation capable of transmitting DSC on 2187.5 kHz, and,
  (ii) An 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, which is capable of transmitting and receiving telephony or telex, in addition to the equipment, which is 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 this category of 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, and,
  (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) An MF radiotelephone installation capable of transmitting DSC on 2187.5 kHz.
  and,
  (ii) An 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, which is 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 this category of 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.

Calculation Of VHF Range

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

(a) Height of antennas,
(b) Power output,
(c) Propagation conditions.

Approximate VHF range (A), this 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 approx. 20 nautical miles.

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

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

When hand-held VHF radiotelephones are being used the range will be reduced to approximately 1/4 of the above figures.

Also, 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) 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 Station 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 Station Licence on board.

The application form for a Radio Station Licence may be obtained from the Maritime Radio Affairs Unit (see Appendix 8 for contact details).

When the Radio Licence application has been approved a Radio Call Sign and 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 radio equipment fitted on their craft. The minimum radio operator qualifications required are as follows:

Craft Category A, B & 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 R&TTE and EMC EU Directives.

Equipment must have the CE mark to show compliance with the Directives and must also meet the specifications as 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.

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 + PLB	EN300 066
INMARSAT Satcom C,	ETS 300 460
Satcom M or Mini-M	DEN/ERM RP01-34

APPENDIX 3

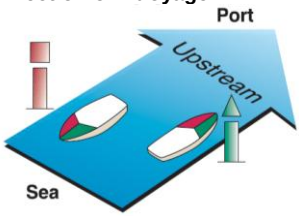
BUOYAGE

COASTAL WATER SCHEMES

Buoyage Types
Buoyage used in Irish Coastal Waters is International Association of Lighthouse Authorities (IALA) Region A.

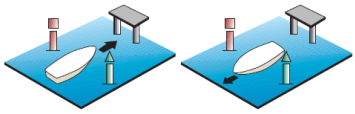
Under this system, boats proceeding up a marked or buoyed channel from sea, must always have their starboard side to the green buoys.

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

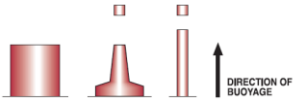


There are five types of marks under the IALA System A:
1. Lateral.
2. Cardinal.
3. Isolated Danger.
4. Special.
5. Safe Water.

1. Lateral Marks

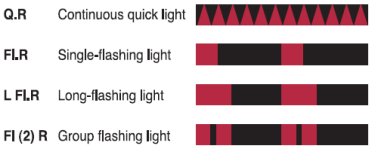
These are used to indicate the port (left) and the starboard (right) sides of the channels when travelling in the Direction of Buoyage, that is into port.

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.

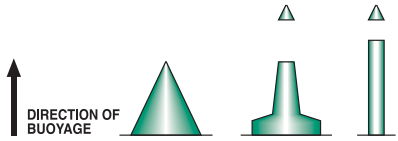


Colour:	Red
Shape (buoys):	Cylindrical (can), pillar or Spar
Topmark (if any):	Single red cylinder (can)

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:

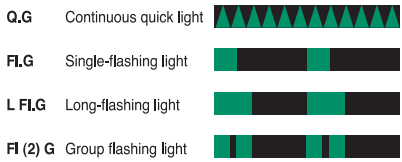


Starboard-hand marks are coloured green (exceptionally, black may be used) and the basic shape is conical (and topmark when fitted). If lit, the light will be green on any rhythm. This mark would be on the starboard side of a vessel when travelling in the Direction of Buoyage.



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:

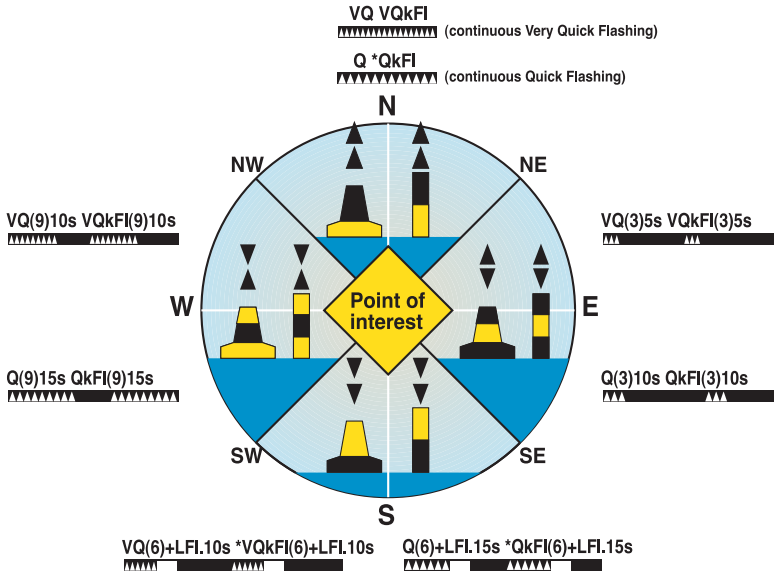


When marks are numbered the odd numbers will lie on the starboard side and the even numbers will lie on the port, when travelling in the Direction of Buoyage. They are numbered from seaward.

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 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 chart.



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
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
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
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
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.

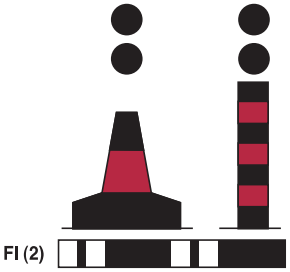
Pass on the western side of this mark.

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.

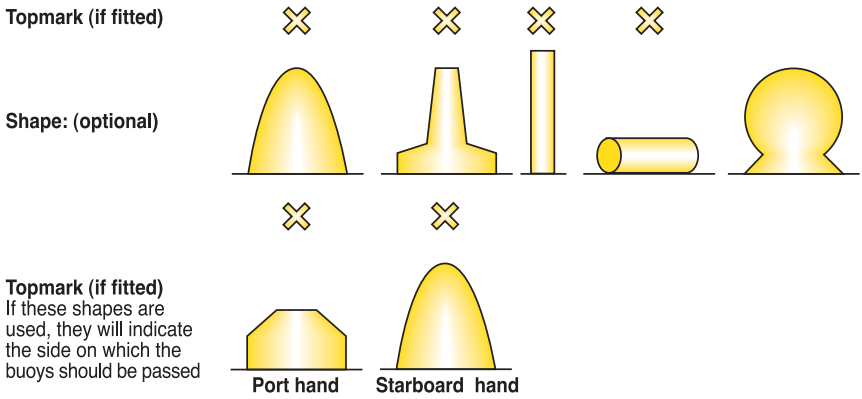
Isolated Danger Marks are not always positioned centrally over a danger and it is therefore advisable not to pass too close.



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.

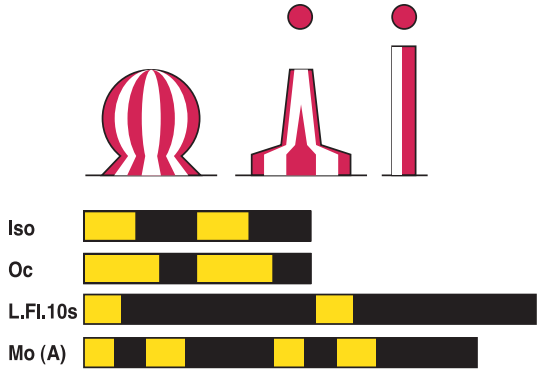
The colour of the special mark is always yellow and the top mark is a single yellow X. If a light is fitted it will be yellow and may have any rhythm not used for white lights, for example, FlY, Fl (4) Y.



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. The buoy shape is optional but should not conflict with that used for a lateral or special mark.

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



INLAND WATERWAYS SCHEMES

Masters using inland waterways should exercise caution and refer to charts and navigation guides regularly to avoid confusion. The following are details of the principal marking schemes used on the Shannon and Erne waterways.

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

Shannon Navigation

NOTE: Waterways Ireland has responsibility for the management, maintenance, restoration and development of a number of inland navigable waterways including the Shannon. The navigation marker system set out below is currently in operation. However, Waterways Ireland is committed to changing the navigation marker system on the Shannon Navigation from red and black to red and green. For further information please contact Waterways Ireland (details in Appendix 8) or check their website www.waterwaysireland.org.

On the Shannon Navigation upstream of Shannon Bridge, Limerick, the buoyage system consists of red and black lateral marks; downstream of Shannon Bridge, the IALA system A applies.

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

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

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 & black buoys or stakes will be used in seemingly the reverse sense to mark the problem area. Do not go between the Red/Black pairs in this situation but follow the basic rules keeping red marks to your

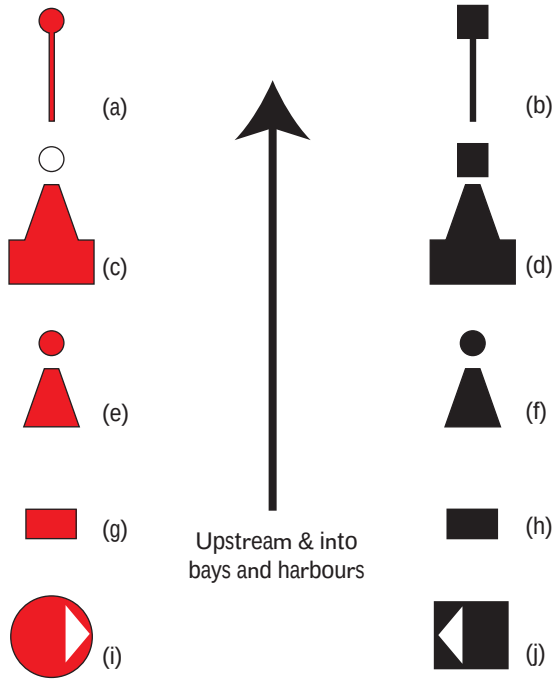


Figure 1 - Shannon Navigation Marks

left going upstream or black marks to your right. See Fig 2

WARNING: marks can become discoloured and mishapen 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 black from red, when visibility is poor because of cloud, darkness, rain or the sun in the wrong direction.

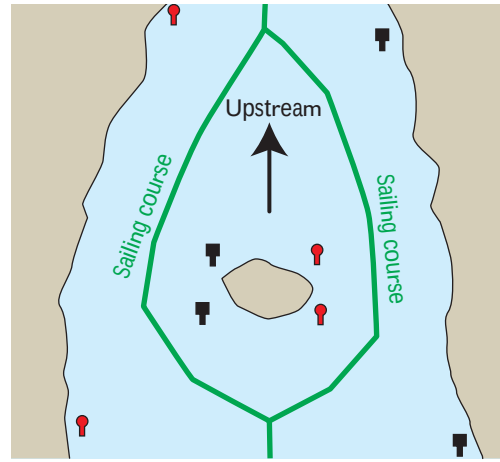


Figure 2 - Middle Ground Marking

Erne Navigation

On the Erne navigation the marking system consists mainly of stakes with red and white painted top-marks. The top-marks 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.

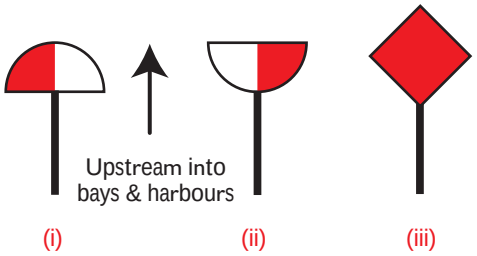


Figure 3 - Erne System Marks

Shannon-Erne Waterway

The Shannon Navigation system of red and black 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.

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. It is done for two principal reasons:

- For recreational purposes such as fishing, swimming or an overnight stay etc.
- As an emergency action, to keep from 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, 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 for only 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 number and type of anchors for a particular craft should be largely determined by her size and intended cruising area.

The Anchor Rode

Connecting the anchor to the vessel is the anchor rode, which may be either chain or synthetic rope. An advantage of chain is its weight adds to the holding power of any anchor, and it is resistant to damage, but 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.

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 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

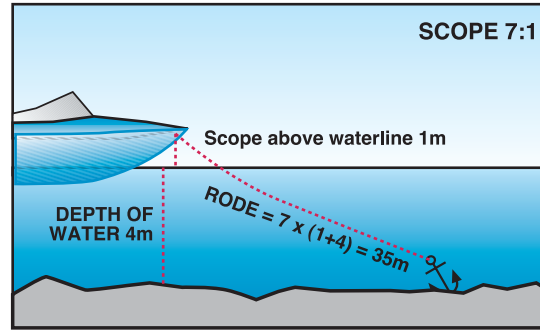
type of anchor you will use, assuming that you have a choice. Ideally, the water should be deep enough so you will not have to worry about sitting on the bottom at low tide. However, deeper is not always better. The deeper the water, the longer the rode must be, and so the greater your swinging circle 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, 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 Builders 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.

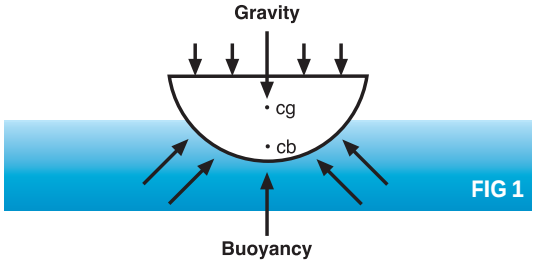
Looking at a cross-section of a boat's hull, sitting level in the water, you can imagine two theoretical points.

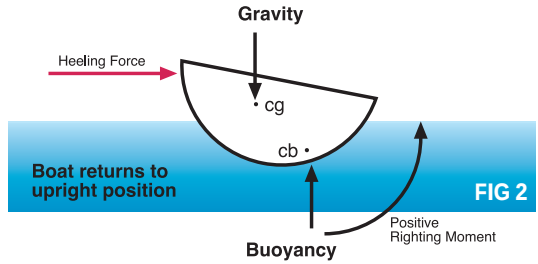
The *Centre of Gravity (CG)* will be in the very centre of the entire hull space. The force of gravity can be considered to act through this point.

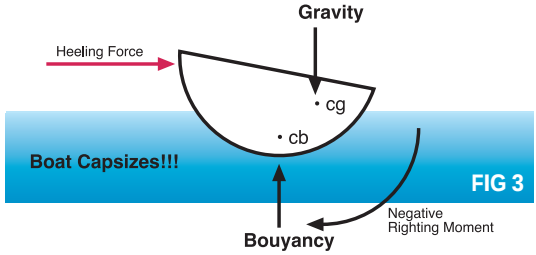
The other point, the Centre of Buoyancy (CB), will be in the centre of the underwater portion of your boat, and through which the upwardly acting buoyancy force acts.

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 boats 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 adversly 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 effected. If aft, there is the risk of swamping over the stern, and handling will be affected.

Weight too High
This will reduce stability making 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

PFD/LIFEJACKETS, JACKLINES & SAFETY HARNESS

Types of personal flotation devices (PFD/Lifejackets)

The term personal flotation device (PFD) is an all-encompassing term, which covers all forms of personal protective equipment, intended to help keep a person afloat. These range from "CE" marked lifejackets through to "CE" marked buoyancy aids.

The following table lists the different types of PFD/lifejackets acceptable and a brief description is given together with suggestions for areas of use.

The below table is for guidance only and persons are to assess the risks appropriate to their area of operation and select personal flotation devices accordingly.

Type and Markings	Suggested Uses
 **New Standard:** I.S. EN ISO 12402-1: 2006 **Old Standard:** IMO SOLAS/EU Marine Equipment Directive	Lifejackets for sea-going 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.
 **New Standard:** I.S. EN ISO 12402-2:2006 **Old Standard:** EN 399 - 275N	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 mouth and nose clear of the surface at an angle and with sufficient freeboard to limit mouth immersions in waves.
 **New Standard:** I.S. EN ISO 12402-3:2006 **Old Standard:** EN 396 - 150N	For swimmers and non-swimmers of any age. For general offshore and rough weather use. Turns most unconscious wearers face up in water (depending on the clothing worn). These 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.
 **New Standard:** I.S. EN ISO 12402-4:2006 **Old Standard:** EN 395 - 100N	For swimmers of any age. For use in relatively sheltered/calm waters and are intended for those who may have to wait for rescue. Will not turn unconscious wearers face up in water (depending on the clothing worn). 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.

Type and Markings	Suggested Uses
 **New Standard:** I.S. EN ISO 12402-5:2006 **Old Standard:** EN 393 - 50N	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.
These are special purpose Lifejackets and cover levels 50 - 275 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 water craft (jet-skis), water skiing 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 PFDs manufactured in Ireland will have this prefix.

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

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

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 where the vessel on which it is required to be used is reasonably likely to be.
2. The device is appropriate to the body weight of the person who is to wear it.
3. 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. For further details see Marine Notice No's 18 of 2006 and 7 of 2002.

Marine Notices are available on the Department of Transport website: www.transport.ie or from the Maritime Safety Directorate, Department of Transport, Leeson Lane, Dublin 2.

Notes for Selection of PFD/Lifejackets

The selection of PFD/Lifejackets is a complex issue and it is dependent on many factors such as area of operation for the vessel, seasonal variations, night and day time work, type of work being carried out, ease of use etc. In this section we have attempted 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 (EN396) 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 clothing worn.

If the wearer is unconscious when entering the water, only automatically activated devices will inflate and those who have the manually activated type must be aware of this limitation.

Consideration should also be given to fitting personal flotation devices with lights. These lights should comply with the EuroNorm standard EN ISO 12402-8:2006 (EN394).

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.

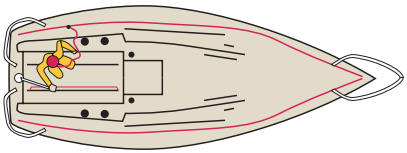
2. PFD/lifejackets should be worn correctly to prevent them from riding up above the wearer's shoulders, thigh straps where supplied, should be correctly fitted and adjusted.

3. Wearers should be fully familiar with the operation of their inflatable PFD/lifejackets both manually and automatically.
4. Inflatable PFD/lifejackets must be checked regularly and maintained in accordance with the manufacturer's instructions.
5. As a minimum, checks should include ensuring that the gas cartridges have not been punctured, or unscrewed, that the zips, buckles, fasteners and webbing straps are functioning correctly and that lights, if fitted, are functioning.
6. 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.

Image courtesy of Crewsaver

PFD/Lifejackets are also available for babies.

Jacklines & 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 in relation to jackstays to be aware of:

- 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 comes on them.
- They should be tested each season and if in doubt cut them in half and have them replaced with new ones which are relatively inexpensive.

Images courtesy of Crewsaver

APPENDIX 6

WEATHER & SEA STATES

Forecasts and Warnings
Met Eireann 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
Small craft warnings issue during summer months when winds exceed force 5.

Weather forecasts should always be checked prior to departure and can be obtained from the following 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.
- National Television Channels.
- Local Radio stations will broadcast forecasts for local waters.
- Teletext p. 162, 163 including any small craft warnings issued.
- Telephone & fax - Met Eireann offer a charge service for detailed sea area forecasts.
- Internet - Met Eireann web page – www.meteireann.ie
- Coast Guard Radio - generally announced on VHF Ch 16 and broadcast on Ch 26.
- Harbour Offices, Yacht Clubs and Marinas will post a copy of the current local sea area forecast.
- Navtex receivers on board provide a printed forecast in addition to navigation information.

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

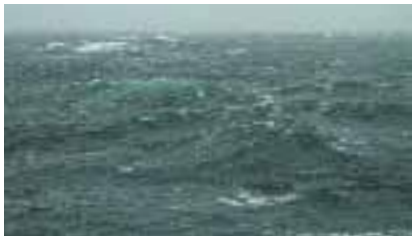
BEAUFORT FORCE 5

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 Breeeze
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 begins 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

APPENDIX 7

MARINE NOTICES

The Maritime Safety Directorate publishes Marine Notices throughout the year. These contain pertinent information regarding vessel safety and navigation. A selection of relevant Notices can be found at www.transport.ie

Attention should also be paid to marine related notices issued by harbour authorities, local authorities, the Commissioner of Irish Lights and Waterways Ireland.

APPENDIX 8
CONTACT DETAILS

Department of Transport
Maritime Safety Directorate

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

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

Telephone:	+353 (0)1 2844601
Fax:	+353 (0)1 2844602
Email:	hq@irishunderwatercouncil.com
Website	www.scubaireland.com

Commissioners of Irish Lights
16 Lower Pembroke Street
Dublin 2
Ireland

Telephone:	+353 (0)1 632 1900
Fax:	+353 (0)1 632 1946
Email:	info@cil.ie
Website:	www.cil.ie

General Forecast Office

Telephone:	+353 (0)1 8064255
Fax:	+353 (0)1 8064275
Email:	forecasts@met.ie

Note: Provision of forecasts is subject to a fee

Inland Waterways Association of Ireland (IWAI)

2 Kylemore Park
Taylor's Hill
Galway

Telephone:	+353-91-589333
Lo-Call	1890 924911
Email:	Freagrai@iwai.ie
Website:	www.iwai.ie

Irish Amateur Rowing Union Ltd.
Sport HQ
Block 13 Joyce Way
Parkwest Business Park
Nagor Road
Dublin 12

Telephone:	+353 (0)1 625 1130
Fax:	+353 (0)1 625 1131
Email:	info@iaru.ie
Website:	www.iaru.ie

Irish Canoe Union
Sport HQ
Joyce Way
Park West
Dublin 12

Telephone:	+353 (0)1 6251105
Fax:	+353 (0)1 6251106
Email:	office@irishcanoeunion.com
Website:	www.irishcanoeunion.com

Irish Coast Guard HQ
Leeson Lane
Dublin 2

Telephone:	1890 443 311
Fax:	+353 (0)1 678 2269
Email:	admin@irishcoastguard.ie

Irish Coastal Rowing Federation Ltd

Website: www.coastalrowing.net

Irish Sailing Association
3 Park Road
Dun Laoghaire
Co. Dublin

Telephone: +353 (0)1 2800239
Fax: +353 (0)1 2807558
Email: info@sailing.ie
Website: www.sailing.ie

Irish Sea Kayaking Association

Website: www.irishseakayakingassociation.com

Irish Surfing Association
Easkey House
Easkey
Co. Sligo

Telephone: +353 (0)96 49428
Fax: +353 (0)96 49428
Email: info@isasurf.ie
Website: www.isasurf.ie

Irish Water Safety
The Long Walk
Galway

Telephone: +353 (0)91 564400
Lo-Call: 1890 420202 (24 Hours)
Fax: +353 (0)91 564700
Email: info@iws.ie
Website: www.iws.ie

Irish Water Ski Federation

Website: www.iwsf.ie

Irish Windsurfing Association

Website: www.windsurfing.ie

Marine Survey Office (Ballyshannon)
Department of Transport
Town Council Building
Abbeyview
Ballyshannon
Donegal

Telephone: +353 (0)71 982 2400
Fax:
Email:

Marine Survey Office (Cork)
Department of Transport
Government Buildings
Sullivan's Quay
Cork

Telephone: +353 (0)21 496 8992
Fax: +353 (0)21 496 8617
Email: domcork@eircom.net

Marine Survey Office (Dublin)
Department of Transport
Leeson Lane
Dublin 2

Telephone: 1890 443 311
Fax: +353 (0)1 872 3409
Email: info@transport.ie

Maritime Radio Affairs Unit
Department of Transport
Room 503
Leeson Lane
Dublin 2

Telephone: 1890 443 311
Fax: +353 (0)1 6783109
Email: radiosurveyors@transport.ie

Maritime Radio Affairs Unit (Clare)
Department of Transport
Francis St
Ennis
Co. Clare

Telephone: +353 (0)65 6865699
Fax: +353 (0)65 6865975
Email: eamon.corry@transport.ie

Maritime Safety Division
Department of Transport
Leeson Lane
Dublin 2

Telephone: 1890 443 311
Fax: +353 (0)1 678 3419
Email: marineleisuresafety@transport.ie

Mercantile Marine Office (Dublin)
Depatment of Transport
Leeson Lane
Dublin 2

Telephone: 1890 443 311
Fax: +353 (0)1 678 3489
Email: info@transport.ie

Mercantile Marine Office (Cork)
Department of Transport
Government Buildings
Sullivan's Quay
Cork

Telephone: +353 (0)21 496 8989
Fax: +353 (0)21 496 8617
Email: domcork@eircom.net

Met Éireann Headquarters
Glasnevin Hill
Dublin 9

Telephone: +353 (0)1 8064200
Fax: +353 (0)1 8064247
Email: met.eireann@met.ie
Website:
www.met.ie/marine/seaareaforecasts.asp

R.N.L.I.
15 Windsor Terrace
Dun Laoghaire
Co Dublin

Telephone: +353 (0)1 2845050
Fax: +353 (0)1 284 5052
Website: www.rnli.ie

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

Telephone: +353 (0)1 4956300
Fax: +353 (0)1 4956301
Email: questions@scouts.ie
Website: www.scouts.ie

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

Telephone: +353 (0)90 6494232
Fax: +353 (0)90 6494147
Email: info@waterwaysireland.org
Website: www.waterwaysireland.org

FISHERY BOARDS

Central Fisheries Board
Unit 4, Swords Business Campus
Balheary Road
Swords
County Dublin

Telephone:	+353 (0)1 8842 600
Fax:	+353 (0)1 8360 060
Email:	info@cfb.ie
Website:	www.cfb.ie

Eastern Regional Fisheries Board
15a Main Street
Blackrock
Co. Dublin

Telephone:	+353 (0)1 2787022
Fax:	+353 (0)1 2787025
Email:	info@erfb.ie
Website:	www.fishingireland.net

North Western Regional Fisheries Board
Abbey Street
Ballina
Co Mayo

Telephone:	+353 (0)96 22623
Fax:	+353 (0)96 70543
Email:	nwrfb@iol.ie
Website:	www.northwestfisheries.ie

Northern Regional Fisheries Board
Station Road
Ballyshannon
Co. Donegal

Telephone:	+353 (0)71 9851435
Fax:	+353 (0)71 9851816
Email:	hllyoyd@nrfb.ie
Website:	www.nrfb.ie

Shannon Regional Fisheries Board
Ashbourne Business Park
Dock Road
Limerick

Telephone:	+353 (0)61 300238
Fax:	+ 353 (0)61 300308
Email:	info@shannon-fishery-board.ie
Website:	www.shannon-fishery-board.ie

South Western Regional Fisheries Board
1 Nevilles Terrace
Masseytown, Macroom
County Cork

Telephone:	+353 (0)26 41221
Fax:	+353 (0)26 41223
Email:	swrfb@swrfb.ie
Website:	www.swrfb.com

Southern Regional Fisheries Board
Anglsea Street
Clonmel
Co. Tipperary

Telephone:	+ 353 (0)52 23624
Fax:	+ 353 (0)52 23971
Email:	enquiries@srfb.ie
Website:	www.srfb.ie/

Western Regional Fisheries Board
The Weir Lodge
Earl's Island
Galway

Telephone:	+353 (0)91 563118
Fax:	+353 (0)91 566335
Email:	info@wrfb.ie
Website:	www.wrfb.ie

APPENDIX 9

LIST OF COURSE PROVIDERS
(see appendix 8 for full contact details)

Chapter Two: Sailing Dinghies	• Irish Sailing Association
Chapter Three: Sail & Motorcraft – Coastal Operation	• Irish Sailing Association • Comhairle Fo-Thuinn (Irish Underwater Council)
Chapter Four: Sail & Motorcraft – Inland Waterways	• Irish Sailing Association • Inland Waterways Association of Ireland • Comhairle Fo-Thuinn (Irish Underwater Council)
Chapter Five: Personal Watercraft (Jet Skis)	• Irish Sailing Association
Chapter Six: Windsurfing	• Irish Sailing Association • Irish Windsurfing Association
Chapter Seven: Canoeing/Kayaking	• Irish Canoe Union
Chapter Eight: Rowing	• Irish Amateur Rowing Union
Chapter Eleven: Emergency Procedures	• Contact the Marine Survey Office

APPENDIX 10

RECREATIONAL CRAFT DIRECTIVE – ADVICE ON BUYING A RECREATIONAL CRAFT

Advice to members of the public on the purchasing of recreational craft

Since June 1998 all recreational craft, new to the European Economic Area (EEA) must meet the requirements of European Communities (Recreational Craft) Regulations, 1998, which implement the EU Recreational Craft Directive (RCD). The Directive's application is tasked to the Maritime Safety Directorate.

In 2004 the European Communities (Recreational Craft) Regulations, 1998, were amended by the European Communities (Recreational Craft) (Amendment) Regulations 2004. The main purpose of this amendment is to include harmonised provisions on exhaust gas and noise emissions from engines. Personal Watercraft (Jet Skis) are covered by the Directive from January 1st 2006.

The Directives are beneficial for consumers, as they require craft to meet essential safety, health, environmental protection and consumer protection requirements.

The Directive applies to:

- All new recreational craft between 2.5m – 24m in length, regardless of their means of propulsion that have been placed on the EEA market after 16 June 1998.
- All recreational craft manufactured in third countries placed, for the first time, on the EEA market from third countries after 16 June 1998.
- All new personal watercraft of less than 4m in length that have been placed on the EEA market as from 1 January 2006.
- All personal watercraft manufactured in third countries placed, for the first time, on the EEA market from third countries as from 1 January 2006.

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.

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1 The EEA consists of Austria, Belgium, Bulgaria, 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, United Kingdom.

Anyone considering buying

- Recreational craft
- Partly completed boat
- Personal watercraft (PWC)

should ensure that the boat/PWC comes equipped with the following five items:

1. Builder's plate
2. CE mark
3. Craft identification number
4. Owner's manual
5. Declaration(s) of conformity

1. & 2. BUILDER'S PLATE & CE MARK

Every new boat sold or first used in the EU since 16 June 1998 must have a builder's plate. This plate has the maker's details and technical information such as the design category, maximum loading weight and engine power. It must also have the CE mark.

The Four Boat Design Categories are as follows:

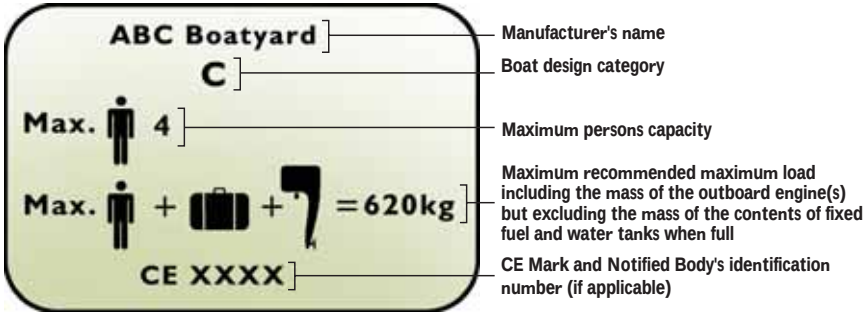
A. 'OCEAN' - Designed for extended voyages where conditions may exceed wind force 8 (Beaufort scale) and significant wave heights of 4m and above, but excluding abnormal conditions, and vessels largely self-sufficient.

B. 'OFFSHORE' - Designed for offshore voyages where conditions up to, and including, wind force 8 and significant wave heights up to, and including, 4m may be experienced.

C. 'INSHORE' - Designed for voyages in coastal waters, large bays, estuaries, lakes and rivers where conditions up to, and including, wind force 6 and significant wave heights up to, and including, 2m may be experienced.

D. 'SHELTERED WATERS' - Designed for voyages on sheltered coastal waters, small bays, small lakes, rivers, and canals when conditions up to, and including, wind force 4 and significant wave heights up to, and including, 0.3m may be experienced, with occasional waves of 0.5m maximum height, for example from passing vessels.

Boats in each Category must be designed and constructed to withstand these parameters in respect of stability, buoyancy, and other relevant essential requirements.



BUILDER'S PLATE

3. CRAFT IDENTIFICATION NUMBER (CIN)

The Craft Identification Number or CIN is unique to each craft. It is a code that identifies the manufacturer, country of manufacture, and date of construction. The CIN is located on or near the starboard of the transom near the top and must be permanently attached.

The CIN contains the following information:

IE ABC 12345 D 3 01	
IE	Country where boat was built (Ireland)
ABC	Manufacturer's/Notified Body Identity Code
12345	Serial Number
D	Month of Manufacture (A = January, B = February etc.)
3	Year of Manufacture (2003)
01	Model year (2001)

4. OWNER'S MANUAL

Every new craft must have an owner's manual. It contains the instructions and information essential to the safe use and maintenance of the craft. It should also contain all the instructions and manuals for any equipment fitted.

5. DECLARATION OF CONFORMITY

Attached to the owner's manual is a document called the Declaration of Conformity. This is a legal document signed by the manufacturer, or his authorized agent, 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.

Craft excluded from the Directive
The following craft are excluded:

- Craft intended solely for racing
- Canoes and kayaks, gondolas and pedalos
- Sailboards, sailing surfboards and powered surfboards
- Submersibles, aircushion vehicles and hydrofoils
- Original, and individual replicas of historical craft designed before 1950 and built predominantly from original materials
- Experimental craft provided they are not subsequently placed on the Community market
- Craft built for own use, provided they are not subsequently placed on the Community market within five years of being put into service
- Craft specifically intended to be crewed and to carry passengers for commercial purposes

PLEASE NOTE THIS ADVICE IS DESIGNED TO PROVIDE BASIC GUIDANCE. IT IS NOT A COMPLETE AUTHORITATIVE STATEMENT OF THE LAW.

For more information contact:

Maritime Safety Directorate
Dept. of Transport
Leeson Lane,
Dublin 2,
Ireland

Tel. + 353 1 678 3434
Fax. + 353 1 678 3419
Email: marineleisuresafety@transport.ie

APPENDIX 11

GLOSSARY OF TERMS

AHC	Ampere Hertz Capacity
Class XII Boats	Recreational craft greater than 13.7m in length.
COLREGS	The International Regulations for Preventing Collisions at Sea, as amended.
COSPAS/SARSAT	A satellite system to provide distress and alert information to Search and Rescue services.
CQR	Pronounce “secure”. A plough anchor.
DCMNR	Department of Communications, Marine & Natural Resources.
DSC	Digital Selective Calling, (part of GMDSS).
EPIRB	Emergency Position Indicating Radio Beacon.
GMDSS	Global Maritime Distress & Safety System.
GMDSS Sea Area A1	An area within the radiotelephone coverage or at least on 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 (approx. 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 (70°N to 70°S approx).
GPS	Global Positioning System – U.S. satellite navigation system.
HRU	Hydrostatic Release Unit.
HF	High Frequency
IALA	International Association of Lightouse Authorities.

IMO	International Maritime Organisation – this is based in London and is the UN specialised maritime agency. It is responsible for maritime safety and prevention by 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 sea, 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.
IWSA	Irish Water Safety Association.
ISA	Irish Sailing Association.
LOA	Length overall of vessel.
LSA	Life Saving Appliances.
Marine Notice	Advisory or guidance notices issued by the Maritime Safety Directorate.
MARPOL	Marine Pollution convention of the IMO.
MED	Marine Equipment Directive (Wheel mark).
MF	Medium Frequency.
MMSI	Maritime Mobile Service Identity.
MOB	Man Overboard.
MSD	Maritime Safety Directorate – a division of the Department of Transport
MSO	Marine Survey Office – a division of the MSD.
NAVTEX	Marine Safety Information service, via dedicated telex receiver.
NRT	Net Registered Tonnes.

Partially Smooth Waters	Areas of coast defined via Marine Notice which identify areas of "partially smooth" waters around the coast of Ireland.
PFD	Personal Floatation Device.
PLB	Personal Locator Beacon.
PWC	Personal Watercraft (jetskis).
Pleasure Craft	See recreational craft.
RCD	Recreational Craft Directive.
Recreational Craft	Vessels used for leisure or sport purposes.
RNLI	Royal National Lifeboat Institution.
RYA	Royal Yachting Association.
SAR	Search and Rescue services incorporating cliff, sea and air rescue.
SART	Search and Rescue Radar Transponder.
SOLAS	IMO Safety of Life at Sea Convention 1974 / 78 as amended. This convention was one of the first international treaties of its kind. It was formed and ratified as a reaction to the Titanic disaster in 1914, where 1500 people lost their lives.
SI	Statutory Instruments (Secondary Legislation).
Statutory Requirements	Irish legislation comprising of Acts and Statutory Instruments and incorporating national law, European Union Directives and obligations under various international maritime conventions.
Smooth Waters	Areas of coast defined via a Marine Notice which identify areas of "smooth" waters around the coast of Ireland.
To Sea	All sea areas not defined as "smooth" or "partially smooth" water in a Marine Notice.
VHF	Very High Frequency
VTS	Vessel Traffic System

THE CODE OF PRACTICE FOR THE SAFE OPERATION OF RECREATIONAL CRAFT has been developed to establish standards of safety and protection for all users of recreational craft. The Code sets out best practice for various types of recreational craft including vessel standards, equipment, safety operations, emergency procedures and current legislative requirements.

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