



Maritime &  
Coastguard  
Agency

# FISHERMEN'S SAFETY GUIDE

A guide to safe working practices and  
emergency procedures for fishermen



# 2

## Acknowledgements

The Maritime and Coastguard Agency (MCA)'s co-sponsors of this publication: Seafarers UK and Trinity House. (See pages 3 and 4 for more information about these charities)

The Safety Promotion Sub Group of the UK Fishing Industry Safety Group (FISG)<sup>1</sup>

The 'original' *Fishermen and Safety (A Guide to Safe Working Practices for Fishermen)* and other MCA publications.

Transport Canada's *Small Fishing Vessel – Safety Manual* and *Small Commercial Vessel – Safety Guide*

Crewsavers UK – photograph on page 41

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1. The Fishing Industry Safety Group (FISG) and its Sub Groups are made up of representatives from the fishing industry, Sea Fish Industry Authority, Marine Accident Investigation Branch, Department for the Environment, Food and Rural Affairs, Maritime and Coastguard Agency, Department for Transport, Royal National Lifeboat Institution and other associated bodies.



**the leading charity for  
our maritime community**

Seafarers UK has been helping the fishing community since 1917.

It is the only fund that gives grants to support the welfare needs of all seafarers and their families, including those of the fishing fleets.

Last year Seafarers UK gave over 2.5 million pounds to charities that directly help seafarers including the Mission to Deep Sea Fishermen Hull, Fleetwood Fishing Industry Benevolent Fund and Shipwrecked Fishermen and Mariners.

For more information about the work of Seafarers UK please see the website: [www.seafarers-uk.org](http://www.seafarers-uk.org) or phone 020 7932 0000.



## Trinity House

Proudly promoting the safety of the mariner since 1514

Trinity House is the General Lighthouse Authority for England, Wales, the Channel Islands and Gibraltar. To fulfil the role of safeguarding the mariner in its areas of responsibility Trinity House provides nearly 600 Aids to Navigation from lighthouses, buoys and beacons to the latest satellite navigation technology.

Additionally, Trinity House uses its knowledge and skills honed over 500 years to provide commercial services to the maritime industry using our state of the art vessels and our modern buoy yards.

We also offer voyages on our flagship THV PATRICIA and have converted a number of lighthouse keepers' cottages to holiday accommodation.



In addition a number of our lighthouses welcome visitors throughout the year allowing people access to educational opportunities and panoramic views of the surrounding area.

Trinity House is also the largest endowed maritime charity in the United Kingdom. It provides major grants to maritime organisations engaged in welfare provision, education and training, and the promotion of safety at sea, and spends around £3 million each year on its charitable objects.

For more information about Trinity House please visit [www.trinityhouse.co.uk](http://www.trinityhouse.co.uk) or telephone **020 7481 6900**.

# THE GUIDE

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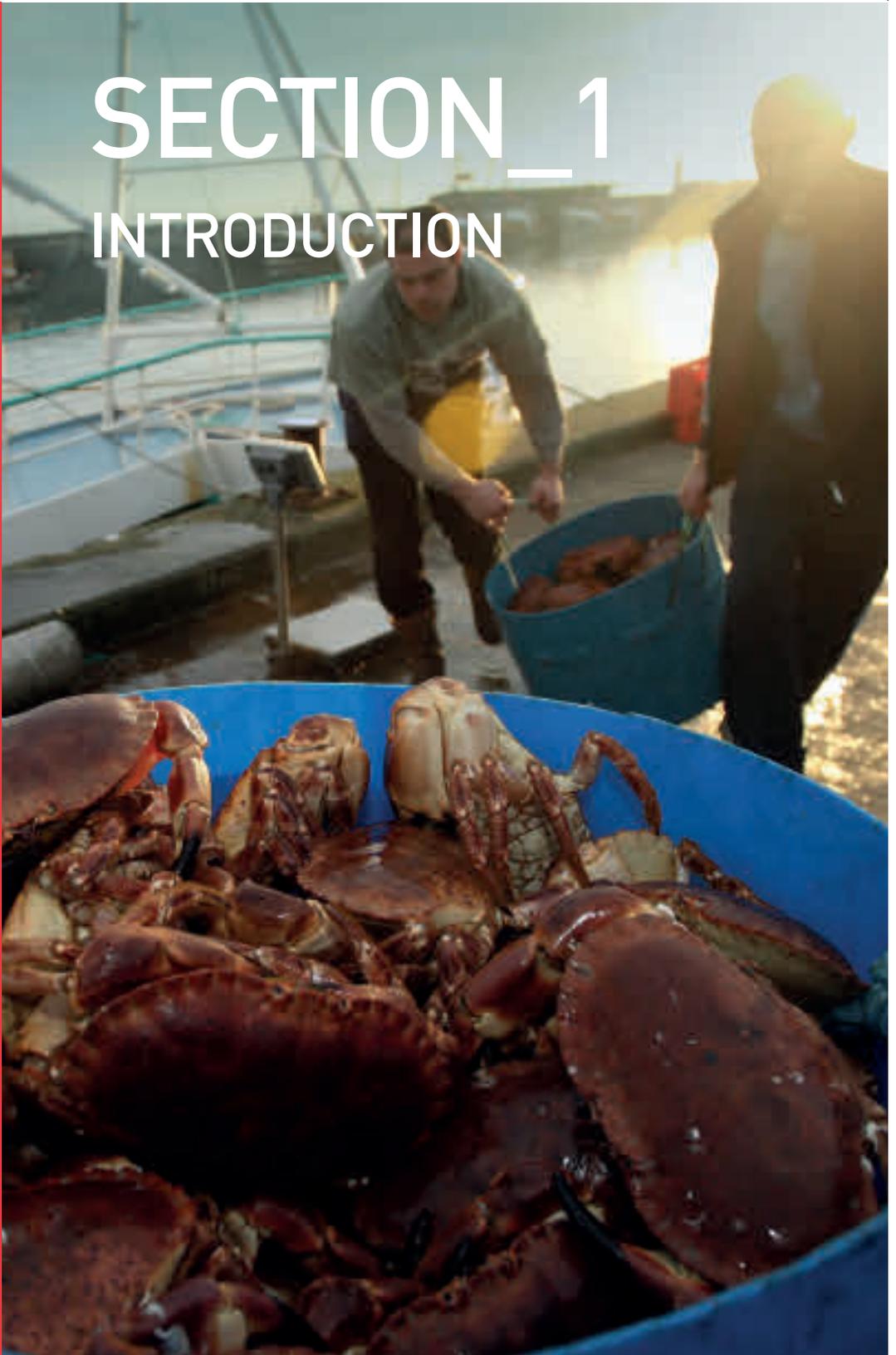
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# SECTION\_1

## INTRODUCTION



## Introduction

Safety applies to everyone in the fishing industry: beginners, experienced crew members, mates, skippers, and owners. Everyone has a part to play and this guide (which has the endorsement of the UK Fishing Industry Safety Group) is specifically intended to provide guidance and to promote safety awareness to all.

This guide provides a broad range of advice in respect of fishing vessel safety. (If more specific guidance is sought then please contact the MCA; see page 54 for details).

## How to use this Guide

This Guide has three uses:

1. Parts of the Guide apply mainly to owners and skippers and other parts to crew. However, it is the responsibility of everyone to ensure their vessel's safety and report when they identify a particular danger. This Guide should be used by everyone to help identify these dangers.
2. This Guide should be used as a reference guide. It is designed to allow readers to refer to it at different times of the year when considering the ongoing safety of the vessel.
3. It can also be used to prepare yourself, your crew and your vessel, for example on what to do in an emergency, or to ask a new crew member to read through it as part of their vessel induction.

## Obligations on everyone

To take care of their own health and safety and that of others.

To familiarise themselves with the risk assessment which should have identified the dangers relevant to the particular vessel and how to reduce or remove them. Ask your employer/skipper to keep you informed about the risk assessment for the vessel and the provisions for health and safety. (A copy of the risk assessment, which should be written if there are more than five crew, is to be kept on board and, thus, available for all crew members to discuss. It is preferable to have a written risk assessment for any size vessel).

To tell the employer/skipper at once if they notice a situation that poses a serious and immediate danger to health and safety.

To co-operate with the owner and any other responsible person in health and safety matters.

To be aware of the vessels drills and methods to abandon ship and how to act during an incident.

## 10 SECTION 1 | Skipper/crew health

### Skipper/crew health

Do you keep yourself fit and alert?

Are you well enough to go to sea?

Eat sensible meals; try to get what sleep you need; dress so that you are warm, and, as far as possible, dry and safely protected.

Fatigue causes impaired judgement and results in mistakes and accidents. If the vessel is fitted with a watch alarm; make sure that it is switched on and operational. Ensure that the watch alarm has a repeater in the cabin or is loud enough to be heard throughout the vessel.



Although nowadays, very few fishermen will drink alcohol while at sea, deaths and injuries still occur when crew members, who have been drinking ashore, fall either into the water or down onto the vessel, when attempting to board.

Drug abuse occurs in all walks of life and anyone who is under the influence of drugs on a fishing vessel poses a major hazard to himself and other crew members and the vessel.

Remember that the effects of alcohol and drugs last for several hours and being in charge of the vessel, or operating machinery, after drinking or taking drugs will put you yourself and others at risk. If you are aware of a fellow crew member being under the influence of alcohol and/or drugs then tell the skipper immediately.

To be aware of the vessel's drills and methods to abandon ship and how to act during an incident.

### Skipper/crew safety

A fishing vessel is a dangerous place, even for the experienced fisherman. Don't be over confident or careless, don't take unnecessary risks and be on guard for sudden vessel movements. Be familiar with the vessel's drills and risk assessments.

**Does everyone have suitable clothing and footwear for the job they do?**

- Is clothing close fitting and free of flaps or loose belts which could snag in gear or machinery. Are boots slip resistant and do they have protective toe caps.

**Is everyone able to move round the vessel safely in any weather?**

- Do you have the proper ladders and walkways for moving about the vessel; stepping on the winch or the edge of pounds to climb up or down may, one day, result in a fall. Is it possible to move easily around the working areas of the vessel without the dangers of tripping, slipping or falling? Are there any obstructions that need to be removed or made safer? Are all handrails in place and are they of sufficient height? Is there adequate lighting installed?
- Is the gear, equipment and fenders neatly and properly secured when not in use and loose equipment (above and below deck) securely lashed to the vessel?
- Are emergency routes and exits kept clear and doors and hatches easily operable at all times? Are hatch covers closed and fastened down when not in use? A hinged hatch cover, if temporarily open, should be secured so that it does not fall on you or your crewmate.
- Avoid standing on netting: it can slide easily across the deck, avoid walking on dredges and dredge poles, and ropes and wires which will cause trips.
- On shelter deck vessels, never make your way around the outside of the shelterdeck as a short cut to reach the bag hatch. Keep the top of shelterdecks clear to ensure visibility from the wheelhouse.

**Are the Freeing Ports obstructed?**

- If the catch is stowed on deck are you confident that it will not shift in bad weather.
- Freeing ports should be kept free of gear and any hinged flaps maintained in an operational condition.

**Is there a free flow of air into and out of the crew accommodation?**

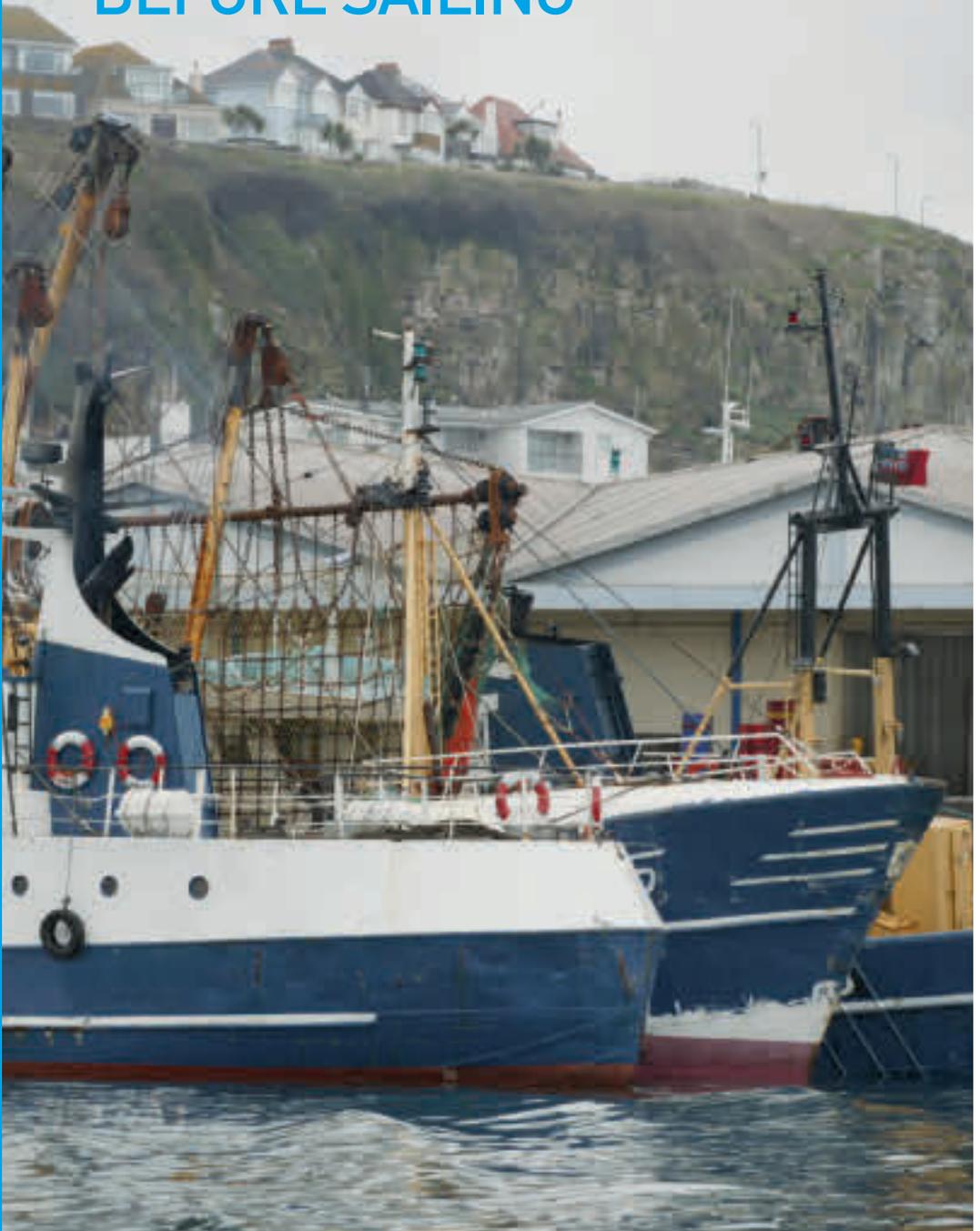
- Are accommodation ventilation ducts clear of obstruction, particularly in spaces which contain gas heaters?
- Are gas/smoke/fire alarms working and maintained correctly?

**Have you made modifications to the vessel?**

- Substantial modifications or alterations such as those affecting the vessel's dimensions or structure, the removal or repositioning of machinery or engines, changes in the vessel's mode of fishing and/or its gear or the fitting of additional equipment can affect the vessels stability. These must be investigated, prior to making any changes, to assess the effect on stability. In addition such modifications or alterations shall only be carried out after consultation and with the approval of the MCA.

# SECTION\_2

## BEFORE SAILING



## Boarding and leaving the vessel

Is the boarding of the vessel safe? Are the harbour ladders in good order?  
Can you make access safer?

Do any gangways have safety netting? Do you need to step across a gap between the quay and the vessel or between adjacent vessels?

Do you pass equipment on board, either hand to hand or slung from a rope, so you can have both hands free to board the vessel?

For further information, see the MCA's Marine Guidance Note MGN 337 (M+F) *Provision of Safe Access to Fishing and Other Small Vessels*, and also see page 53 for details of how to obtain this MGN.

## Checking equipment

### Is the equipment you work with:

- Suitable for use and for the purpose and conditions in which it is used?
- Maintained in a safe condition so that health and safety is not at risk?
- Inspected to ensure that it is, and continues to be, safe for use?  
Inspections should be carried out by a competent person and a record kept until the next inspection.
- Are controls for equipment installed in an area large enough to enable operators to work unhindered?

### Is the lifting equipment you work with:

- Sufficiently strong, stable and suitable for the proposed use?  
Similarly, the load and anything attached to it (fish boxes and crates, lifting hooks etc.) must be suitable;
- Positioned or installed to prevent the risk of injury? For example from the load falling or striking people;
- Visibly marked with any appropriate information to be taken into account for its safe use? For example safe working loads. Accessories, e.g. strops, slings, clamps etc. should be similarly marked.

Also:

- Are lifting operations planned, supervised and carried out in a safe manner by people who are competent?
- Has a suitable Risk Assessment been carried out before the operation begins?
- Is defective equipment taken out of service immediately?

## 14 SECTION 2 | Electrical installations

For further information see the MCA's Marine Guidance Notes; MGN 331 (M+F) The Merchant Shipping and Fishing Vessels (Provision and Use of Work Equipment) Regulations 2006 and MGN 332 (M+F) The Merchant Shipping & Fishing Vessels (Lifting Operations and Lifting Equipment) Regulations 2006 and also page 53 for details of how to obtain these MGNs.

### Single Handed Operations

Dangerous by nature, clearly there is nobody to raise the alarm when things go wrong.

The single hander should consider the risks. A risk assessment here is essential because once all the risks are identified, solutions can be applied.

**Carry out a risk assessment!** Think about the following;

- What can go wrong?
- Have you told someone where you are intending on going and when you expect to be back?
- Are you wearing your Personal Floatation Device (PFD) whilst on deck...will you float for long enough to be rescued?
- Do you wear a PLB with GPS Satellite Capability?
- If you have gone over the side, can you get back onboard? (Ladders or rope strops around the boat to aid boarding if you fall into the water)?
- Is there anyway of stopping the vessel if you go over?
- Can you stop machinery remotely? Are the emergency stops accessible from your main place of work?
- Can you free yourself from gear? (Rescue knife on belt?)
- Have you removed as much of the risk as possible before you leave port? Non slip decks. No bights of rope. Bulwark height. VHF Radio checked etc.
- Are you able to keep a good lookout?

These are all ideas; every type of vessel and operation is different so consider each case as different.

For further information on any of the above visit [www.gov.uk/government/organisations/maritime-and-coastguard-agency](http://www.gov.uk/government/organisations/maritime-and-coastguard-agency)

### Electrical installations

Only use qualified people to install and maintain electrical systems.

Are switchboards on vessels clearly marked and fuses/circuit breakers checked to ensure that they are the correct rating? Are the correct rated fuses being used? Using the wrong fuses may result in short circuits, fire danger and electrocution.

Is electrical equipment such as switchboards, fuse boxes, etc., protected from water leaks as this leads to short circuits and fire dangers?

Batteries give off hydrogen gas which will cause an explosion if ignited. Do not smoke or allow a naked flame near batteries.

## Emergency drills *(see also section 4: Emergencies)*

Emergency drills should be completed regularly on all FVs, a well-run and safe vessel of any size should be conducting emergency drills at least monthly.

Emergency situations require all persons on board to react in an effective manner and without panic. Whilst it is expected that all persons will have completed basic training in survival, first aid and fire fighting, it is also essential that regular training and practice takes place to ensure that the crew can react properly in various situations.

For further Information, please See MGN 430 – Fishing Vessels: Checks on Crew Certification and Drills.

- What problems could arise that would trigger ‘emergency situations’?
- Does each crew member know what to do in such situations?
- How often are emergency drills practised?
- Do you know where the fire fighting and lifesaving equipment is stowed?
- Do you know how to operate such equipment?
- Do you know how to recover an unconscious person?

On every vessel, all on board should be aware of what they should do and the equipment to use to cope with various types of emergency. Situations need to be discussed and courses of action planned.

Equipment may need to be obtained and located where it will be to hand if required. The layout of each vessel and fishing methods used will impose particular problems and it is essential that solutions are found before facing these problems in a real emergency. It is often too late to ask questions when an emergency has occurred.

For further Information, see MGN 430 – Fishing Vessels: Checks on Crew Certification and Drills.

## CO Alarms

Carbon Monoxide Alarms should be installed in every enclosed space that contains a fired cooking or heating appliance or where engine exhausts go through accommodation spaces. Fired appliances apply to but may not be limited to appliances fired by LPG, diesel or paraffin. CO Alarms are not required when heating or cooking is undertaken using electrical cookers or heaters.

## 16 SECTION 2 | LIFESAVING EQUIPMENT

CO Alarms should be of the Lithium Battery type and installed, regularly tested, maintained and replaced in accordance with the manufacturer's guidance.

- Signs of CO include staining, sooty smears or discolouration of surfaces around an appliance or its flue;
- appliances that are difficult to light, keep lit or burn weakly;
- burners with yellow or orange or 'floppy' flames that threaten to go out;
- an unfamiliar or burning smell when an LPG or oil appliance is on;
- smelling engine exhaust fumes regularly inside the space.<sup>1</sup>
- Carbon Monoxide Alarms are a useful back-up precaution but must NOT be regarded as a substitute for proper installation and maintenance of gas equipment by a Gas Safe registered engineer. If you decide to buy a carbon monoxide alarm, ensure it meets current safety standards (BS EN 50291) and carries the Kitemark.

### Lifesaving equipment

#### Personal Floatation Devices (PFDs) and buoyancy aids

Each year UK fishermen needlessly drown and yet had they worn a PFD their lives might have been saved or their bodies might have been recovered.

Manufacturers now supply various buoyancy aids and compact inflatable PFDs that can be comfortably worn whilst working on deck. How effective the different ones are will depend on the buoyancy given and if they support you properly in the water.

Typical buoyancy aids, such as the work vest or body warmer types, have 50-80 Newtons (11-18 lbf) of buoyancy, will keep your mouth clear of the water, however if you are unconscious then it will not stop you slumping forwards, with your face in the water.

A compact inflatable PFD, a 150 Newton (35lbf) version with automatic inflation, will operate even if you are unconscious when entering the water. They are lightweight and unrestriciting to wear.

**It is important that PFDs are worn on top of the oilskin jackets** and not underneath, as there must be sufficient space for the device to inflate: otherwise your breathing could be severely restricted.

<sup>1</sup> Source: Boat Safety Scheme and CoGDEM

A safety harness with a 'D' ring incorporated into your buoyancy aid or lifejacket will greatly assist in your recovery from the water.

**Try out the abandon ship lifejacket before an emergency occurs.** Follow donning instructions on the lifejacket and never wear clothing over it. Before entering the water, make sure the jacket is secured and hold both arms across the lifejacket/chest; with one hand blocking off your nose and mouth. Enter the water feet first.

**Check and service PFDs and lifejackets to ensure reliability.** Providing you follow the manufacturer's instructions, most single chamber lifejackets are easy to service and you can do this yourself. Also buy the necessary re-arm kits to enable you to service them. Check that the CO<sub>2</sub> bottle is not corroded and is screwed in properly.

**Test inflate (by mouth) the PFD or lifejacket every few months** and make sure that the gas cylinder is intact and firmly screwed in place. Make sure that the 'auto head' is correct and when repacking make sure that the valve cap has not been left in the deflate position.

**For PFDs and lifejackets to work, they must be kept in good condition.** You should inspect each one on a regular basis for outer skin and stitching damage, mildew, leaks, insecure straps or hardened stuffing. Follow the cleaning instructions as advised by the manufacturer.

**When dry, store the PFD or lifejacket in a cool well ventilated area.** If it gets wet, hang it up to dry in a well ventilated area before storing. Do not dry it in front of a radiator or other source of heat.

**Note: Safety Regulations require that appropriate numbers of lifejackets of an approved type for abandon ship purposes are carried on all fishing vessels. For reasons of practicality, properly maintained automatic inflatable lifejackets manufactured to BSEN 396, BSEN 399 or ISO 12402, which may be suitable for constant wear, are accepted for all purposes on vessels less than 12 metres Registered Length.**

### Immersion suits

Immersion suits provide the best protection from cold and exposure in the water. Only DfT/MCA (kite marked) approved suits should be used.

If you have a suit, don't wait for an emergency. Try it out so you will know how it works. You should be able to put it on unaided in under two minutes.

You should take the suit out of storage occasionally to air it and lubricate the zipper.

## 18 SECTION 2 | Lifesaving equipment

### Emergency Position Indicating Radio Beacons

Every EPIRB should:

- ❖ be fitted with a float free arrangement, whose operation will cause it to activate;
- ❖ be stowed in such a position that it is protected from possible damage and is easily removable from its mounting for placing in any survival craft (reference should be made to MGN 267(F) – The Location and Stowage of Liferafts and Emergency Positioning Radio Beacons (EPIRBs) on UK Registered Fishing Vessels;
- ❖ have the float-free arrangement routinely replaced or serviced in accordance with the manufacturers instructions;
- ❖ have the power source replaced whenever necessary and at least before its expiry date;
- ❖ be registered, reference should be made to The Merchant Shipping (EPIRB Registration) Regulations SI 2000, No. 1850 and Merchant Shipping Notice 1816 (M&F) – Mandatory Registration of Electronic Position indicating Radio Beacons (EPIRBs);
- ❖ on renewal, conform to IMO Resolution A.810 (19). The Radio and Telecommunication Terminal Directive Declaration of Conformity should include reference to IEC 61097-2 or EN 300 066 or the Marine Equipment Directive Annex referenced by the Compliance Certificate should be A. 1/5.6; and
- ❖ transmit the position obtained from a built-in GPS receiver to satellite.

### Personal Location Beacons

Personal Location Beacons or PLBs are becoming popular in all maritime sectors. They assist by using a GPS signal to track the location of the beacon. These can help with locating you if you are in the water or if your vessel has run into problems. **Remember to register your PLB with the MCA at Falmouth Maritime Rescue Co-ordination Centre:**

The UK Distress and Security Beacon Registry, The Maritime and Coastguard Agency, MRCC Falmouth, Castle Drive, Pendennis Point, Falmouth, Cornwall TR11 4WZ Tel: **01326 211569** Fax: **01326 319264** Email: **epirb@mca.gov.uk** Online registration: **www.gov.uk/406beacon**

### Liferafts

If you have an inflatable liferaft, be sure it is installed properly. Can the raft be easily launched; will it float clear if the vessel sinks before you are able to launch it?

Is it in a cradle or shaped bed, and secured as shown in the RNLI illustration? (see page 20)

Has the life raft been inspected and repacked and the HRU tested/replaced according to the recommendations and requirements of the manufacturer?

MGN 499 (M+F) provides further guidance on the servicing of inflatable liferafts, inflatable lifejackets and hydrostatic release units. MGN 499 will superseded by MGN 548 (M+F) 'Life-Saving Appliances – Inflatable SOLAS Certificated Liferafts, Lifejackets, Marine Evacuation Systems, and repair of Inflatable Rescue Boats – Servicing Requirements and Approved Service Stations' and MGN 553 (M+F) 'Life-Saving Appliances – Inflatable Non-SOLAS Liferafts, Lifejackets, Marine Evacuation Systems, Danbuoys and Lifebuoys – Technical Standards and Servicing Requirements'

Does everyone on board know how to launch the raft properly?

- Is the launching area clear of people and obstructions?
- Is the painter secured?
- Two people should grasp the container at the ends, and toss it over the lee side of the vessel.
- After launching, pull the painter until it is fully withdrawn and the raft inflates.
- If the raft over inflates, you will hear the sound of air escaping.
- If the raft inflates upside down, it must be made upright before boarding. To right a capsized raft, grab the righting strap and pull. When it starts to right, you will need to move backward to avoid having the raft land on you.

## Maintenance work

Have you been provided with suitable masks, gloves, goggles etc., as may be required, to carry out the maintenance tasks on the gear and the vessel?

The checklist on the following page has been created in order to help you consider what clothing/protective equipment you would need depending upon which work activity you are involved with.

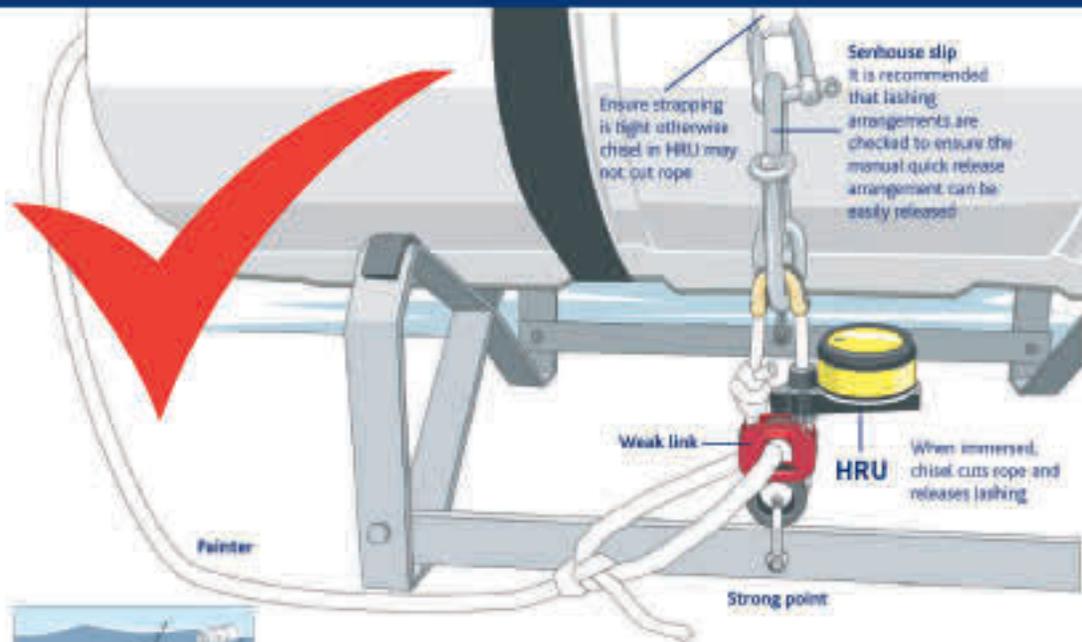
Stop machinery before commencing work on it and make sure that it cannot be accidentally restarted, either locally or from a remote position such as the wheelhouse. Turn off any isolator switches, remove fuses and attach a warning notice. Inform others about your intentions and where appropriate, have someone to help you; they can take action if anything should go wrong. Having finished work on machinery, whenever possible turn it over by hand before starting it up to make sure that everything is free. Check that all nuts and bolts are tight, refit all guards and clear away tools and equipment.

When dealing with pressurised systems, make sure that the pressure is relieved and ensure that equipment using hydraulic rams cannot fail as a result. Ensure that any lifting (or restraining) system is strong enough for the task and make sure that it cannot suddenly slip.

# RNLI FISHING SAFETY HYDROSTATIC RELEASE UNIT (HRU) INSTALLATION



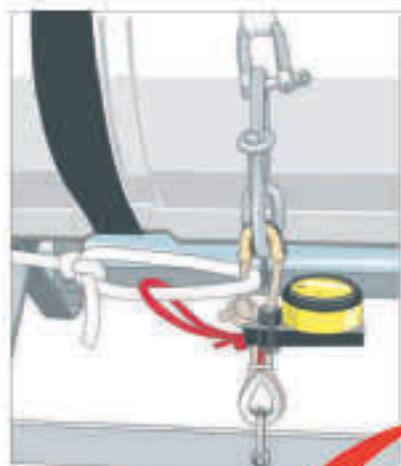
Lifeboats



1. If vessel sinks, Hydrostatic Release Unit activates and liferaft attempts to float to surface

2. Tension on painter will cause liferaft to inflate

3. Tension on weak link will cause it to break ensuring liferaft does not go down with the boat



Correct installation of older version HRU



Equipment checklist

Activity	Location	Working gear					Protective gear				Specialist		
		Oilskins	Boiler suit	Work boots	Gloves	Hard hat	Ear protection	Safety line, harness	Life jacket, buoyancy equipment	Safety goggles	Rubber gloves, apron	Insulated jacket and trousers	Breathing apparatus
Fishing watch	Working deck	✓	✓	✓	✓	✓		✓					
Any	Engine room		✓	✓	✓	✓	✓						
Any	Aloft	✓	✓	✓	✓	✓		✓					
Any	Outboard	✓		✓	✓	✓		✓					
Grinding/cutting	Engine room		✓	✓	✓	✓	✓		✓				
Grinding/cutting	Working deck		✓	✓	✓	✓			✓				
Exposed work e.g. shooting, hauling	Working deck	✓		✓	✓	✓		✓					
Mooring	Working deck		✓	✓	✓	✓		✓					
Stowage, handling	Fish room			✓	✓	✓							
Stowage	Refrigerated fish room			✓	✓	✓					✓		
Battery maintenance	Engine room			✓	✓				✓	✓			
Battery maintenance	Wheelhouse			✓					✓	✓			
Loading and unloading of fish boxes and lifting gear	Working deck	✓		✓	✓							✓	✓
Any	Enclosed space			✓								✓	✓
Vessel maintenance	Inside			✓	✓				✓				
Vessel maintenance	Outside			✓	✓	✓			✓				

## 22 SECTION 2 | Weather information

Have the right tool for the job and keep tools in good condition. Many accidents occur through either using the wrong tool for the task or by using brute force. Guards on power tools must be kept in place and always disconnect power tools from the supply when changing accessories.

For further information regarding working and protective gear see the MCA's Marine Guidance Note: MGN 311 (F) *Working and Protective Gear for Fishermen*. Please see page 53 for details of how to obtain this MGN.

### Weather information

Do you check the weather forecast regularly?

#### Weather warnings

Marine weather forecasts include four types of severe weather warnings: strong wind, gale, storm and hurricane force winds.

Strong Wind Warning: winds 20 to 33 knots – wave heights 2 to 3 metres.

Gale Warning: winds 34 to 47 knots – wave heights 6 to 9 metres.

Storm Warning: winds 48 to 63 knots – wave heights 9 to 16 metres.

Hurricane Force Warning: winds 64 knots and over – wave heights over 16 metres.

#### Severe sea states

Severe seas of any kind are dangerous if you are not prepared. You should take special care in the following situations.

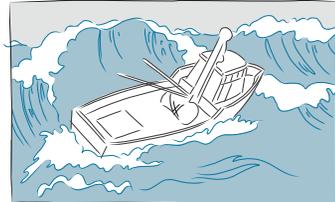
In beam seas, excessive roll can cause cargo to shift, creating a dangerous list. This could cause the vessel to capsize. Strong breaking waves could also capsize the vessel.

In following seas, a vessel may lose stability on a wave crest. If a vessel is overtaken by a wave crest, broaching may occur.

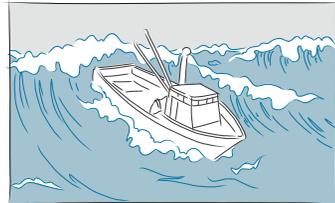
In quartering seas, the problems of beam and following seas are combined. Quartering seas represent the most dangerous situation in severe weather.

#### Thunderstorms

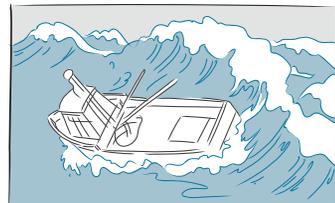
The strongest winds in a thunderstorm usually precede the storm centre itself,



Beam sea



Following sea



Quartering sea

in a zone up to three miles long. Gusts up to 50 knots can be expected in this zone. The winds blow downwards from the cloud, and they are especially dangerous for small vessels.

The heaviest rain occurs directly under the thunder cloud, leading to poor visibility. Heavy rain lasts from five to fifteen minutes. Thunderstorms normally last less than one hour.

Waterspouts may occur during a thunderstorm. A waterspout is a funnel of cloud reaching from the base of the thunderstorm cloud to the water, which may suck up water into the air. It usually lasts less than fifteen minutes. Although immature waterspouts may be very small, they can become extremely violent without warning.

### **Fog and snow**

Fog is a common problem at sea. The major hazard is reduced visibility. Vessels should proceed with caution, monitor radar carefully and make sound signals if necessary.

Snow also reduces visibility, and can be especially hazardous if it falls as melting snow. Melting snow not only reduces visibility, but it interferes with radar signals making it less effective. This usually occurs during arctic air outbreaks, and is a serious problem in mainland inlets.

### **Icing**

Accumulation of ice on a vessel may lead to serious stability problems. Substantial icing can occur when temperatures are between minus 3 and minus 8 degrees Celsius with winds 16 to 30 knots. The danger increases with colder temperatures or stronger winds.

### **Freezing sea spray**

This is the most common and the most hazardous form of icing. Spray blown by the winds can cause heavy icing on a vessel. Freezing spray usually occurs when the air temperature is less than minus 2 degrees Celsius, and the water is less than 5 degrees Celsius. Freezing spray warnings are included in marine weather forecasts.

### **Maritime Safety Information**

The Maritime and Coastguard Agency has produced a free Maritime Safety Information Leaflet (MCA/064 Printed 2010). This leaflet covers the broadcast of Safety Information which includes Meteorological Warnings.

# SECTION 3

## AT SEA



## Enclosed spaces

Any enclosed space is potentially life threatening and every precaution should be taken both prior to entry and while inside.

- ❖ It may be unsafe to enter an enclosed compartment or confined space either because the air in it has too little oxygen or because it has poisonous fumes in it, therefore there is a danger of suffocation. For example: fires, fumes from fuel or engines, escaped refrigerant gases, rotting fish in the refrigerated salt water tanks (RSW tanks) and rusting inside a space which is hardly ever entered.
- ❖ You need to wear approved types of breathing apparatus to enter these spaces. Have you been trained to check, maintain and use that apparatus so you are ready for an emergency? A risk assessment must be carried out and kept under review.
- ❖ Do not go into such a space until the skipper has given permission; and tell him when you and any others have come out. If possible plan how you will carry out the work with someone else. Test the atmosphere of the space before entering. Do not enter enclosed spaces until a series of checks have been carried out including permit to enter, gas certificates, safety gear on stand-by etc. If in doubt do not enter.
- ❖ If possible open doors, hatches and ports so that the space can be fully ventilated.
- ❖ Also wear a safety harness with a safety line attached; held by someone standing outside the enclosed space so that they can pull you out if a problem occurs. The person outside the space should know how to resuscitate you if you stop breathing.
- ❖ Do not go into an enclosed space to assist someone in difficulty without wearing the correct gear and having back up from other crew members.

## Fire

### Fire precautions

Each year fires kill people at sea and fires occur frequently on fishing vessels. Nearly always, this is due to carelessness or the misuse/poor maintenance of equipment and machinery.

- ❖ Does everyone know where it is safe to smoke on the vessel and where to fully extinguish and dispose of matches and cigarette ends? Are there designated smoking places, away from flammable liquids gases and aerosols?

## 26 SECTION 3 | Fire

- Are the fire detection and alarm systems regularly tested and well maintained?
- Are fire drills carried out at regular intervals?
- Are doors with self closing devices fitted at galley and engine room entrances? Only electromagnetic hold backs linked to the fire detection system are acceptable.
- Have you reported any damaged/faulty electrical equipment or wiring?
- Welding and electrical repairs should only be carried out by qualified people. Do not overload an electrical socket or circuit.

Is the vessel tidy and machinery well maintained?

- Have you cleared away all rubbish and reported any leaking oil?
- Are flammable items stored safely?
- Are flammable items stored in appropriate containers, away from crew quarters?
  - When cooking, do not overheat or spill fat or oil. Do not put water onto hot oil, and take care when frying chips; do not overfill the fryer with oil. Turn off cookers and heating plates as soon as they are finished with.
  - Never leave a hot stove unattended. Grease or oil can easily ignite and cause a major fire.

Are the vessel's heaters in good condition?

- Check the heaters' safety cut outs and alarms; report any that do not work. Do not dry clothes, etc., on or directly over a stove or heater.

### Fire extinguishers

- Do you know where the fire extinguishers are located, what type of fire each one is appropriate for and how to use them?
- When you joined the vessel, did you find out where the fire extinguishers were and how to use them?
- Is the fire fighting equipment always kept in its proper location, maintained in good working order and available for immediate use?
- Before you get under way, is the presence of extinguishers and other portable fire fighting equipment checked?
- Do you ensure all extinguishers are visually inspected each month, and serviced once a year?
- Is the location of fire fighting equipment clearly indicated by luminescent signs and are they placed in close proximity to areas of high fire risk to allow for safe and quick access?

### If you find a fire

- ❖ Raise the alarm at once. If you feel it is safe to do so, tackle the fire with a suitable extinguisher. If it is a fat or oil fire in the galley, etc., it is better to use a fire blanket. Leave any fire blanket in place for at least five minutes after turning the cooker off. Remove the blanket very carefully – as the flames could start again.
- ❖ Close any ports, doors or ventilators, which might let in air to feed the fire.



If you are in an enclosed space where there is a big fire or lots of smoke, leave the space by crawling. Nearer the deck, the air will be purer; less full of smoke and cooler.

If, when in the engine room, you hear the CO<sub>2</sub> (carbon dioxide) or other fixed fire fighting medium alarm, leave the room immediately, closing the door: even if you cannot see a fire. If you remain you may be asphyxiated.

When fighting a fire, make sure that a quick and safe retreat is possible at all times.

## Galley

Consider what footwear to wear – shoes or boots help protect against scalds and bruising and are less prone to slipping on wet and greasy flooring. Is the floor clear and free from anything that may cause you to slip? Mop up spills of grease or liquids as soon as they happen.

## 28 SECTION 3 | Galley

Can you safely 'wedge yourself in' in rough weather?

Do you smell for leaks in joints, valves and connections before lighting gas appliances?

Do you follow the set instructions for lighting oil-fired galley stoves and keep clear of the burners when lighting them?



If a first attempt is unsuccessful or the burners go out, do you ventilate the stove before relighting?

Is the galley fuel control valve set correctly and do you ensure that the stove does not overheat? Is there dry, clean sand in the drip tray at all times?

Check that the controls are turned off when gas burning appliances are not in use. If they are not going to be used again for some length of time, the main regulators close to the storage bottles should be shut.

Gas bottles must at all times be located in an open deck position – never in a closed space.

Is there a fire blanket and other appropriate fire-fighting devices available for use, and do you know how to use them?

Never pour water onto hot fat; the water explodes into steam, throwing fat out of the pan and this may cause severe burns.

Are the protective rails in place around stoves and are fiddles or guards in use on top to prevent pans sliding?

Appliances that are purchased should meet the latest standards and be suitable for use on boats and be installed and serviced regularly (at least

annually) by qualified persons. Repairs should only be undertaken using proprietary components. Vents and flues should be checked for damage and blockages.

Are galley flues and vents clean and free from grease?

Are smoke and gas alarms working properly?

Remember Gas installations require service through a Gas Safe registered engineer

Ensure Carbon Monoxide alarms are fitted and operating correctly.

## Flooding

Flooding is a major cause of accidents and one that can have catastrophic results for the vessel and for everyone on board.

Is your vessel watertight?

- Inspect the hull regularly for damage or wastage.
- Check that the bulkheads are watertight.
- Check the interior to ensure that there are no unnecessary holes or penetrations in bulkheads.
- Close all windows and doors; secure hatches.
- Have accessible sea cocks which are easily closed. Check them regularly so they do not seize up.
- Check unattended spaces regularly.
- Check, maintain and clean bilge pumps and systems.
- Remove obstructions in the bilge system.
- Find out how to work the bilge and sea water pumping system.
- Check that non-return valves are operational and are not jammed open.
- Never remove a non-return valve.
- Carry portable salvage pumps and a good length of suction hose – it could save lives.
- Install bilge level alarms low down – an early warning could prevent a problem becoming a catastrophe.
- Don't leave bilge alarms in the alarm condition – reset as soon as possible.

## 30 SECTION 3 | Global Maritime Distress and Safety System

- ❖ Make sure that all pipe work is suitable for marine use – cheaper materials may not be up to the job. Do not mix different types of metal in the pipe run.
- ❖ If valves are not fitted above the floor plates, rapid and practical means shall be provided to allow for the valve to be operated from floor plate level. If valves are fitted in wells, extended spindles shall be fitted to a higher level to enable their accessibility if flooding occurs.

See the MCA's Marine Guidance Note MGN 165 (F) 'Fishing Vessels: The Risk of Flooding'. Please see page 53 for details of how to obtain this MGN.

A DVD entitled 'Flooding' can be obtained from the RNLI by calling 0800 328 0600 or emailing [fishingsafety@rnli.org.uk](mailto:fishingsafety@rnli.org.uk)

### GMDSS

GMDSS (Global Maritime Distress and Safety System) is a maritime communications system, not just for emergency and distress messages, but also for all types of existing vessel-to-vessel and vessel-to-shore routine communications. Commercial vessels over 300 gross tonnage and certain smaller vessels including some fishing boats, must fit GMDSS equipment.

There are several elements that make up the total GMDSS system including Digital Selective Calling (DSC) via radio, satellite communications NAVTEX weather and navigation information dissemination, Search and Rescue Radar Transponders (SARTs) and Emergency Position Indicating Radio Beacons (EPIRBs).

Owners and Skippers should check the Codes and Regulations using the directions provided on page 53 of this Guide to identify the mandatory and recommended equipment for their vessels.

#### GMDSS Sea Areas

**Area A1.** Within range of VHF coast stations with continuous DSC alerting available (about 20-30 miles).

**Area A2.** Beyond area A1, but within range of MF coastal stations with continuous DSC alerting available (about 100 miles).

**Area A3.** Beyond the first two areas, but within coverage of geostationary maritime communication satellites (in practice this means Inmarsat). This covers the area between roughly 70 deg N and 70 deg S.

**Area 4.** The remaining sea areas. The most important of these is the sea around the North Pole (the area around the South Pole is mostly land). Geostationary satellites, which are positioned above the equator, cannot reach this far.

**What is DSC?**

DSC is primarily intend to initiate ship/ship, ship/shore and shore/ship radiotelephone and MF/HF radiotelex calls. DSC calls can also be made to individual ships or groups of ships. DSC distress alerts, which consist of a preformatted distress message, are used to initiate emergency communications with ships and rescue co-ordination centres.

Small vessel owners are recommended to fit DSC equipment, since without DSC vessels will have difficulty contacting ships which are monitoring the DSC calling channel only. However in vessel traffic service zones, ships will still be required to maintain a listening watch on the appropriate frequency.

## Machinery

**Machinery is very unforgiving – treat it with respect.**

Is the deck machinery in good working order? Do brakes and clutches work properly for a safe and efficient operation? Are the guide rollers worn and in need of replacement? Repair broken or damaged controls immediately. Are adequate tools and spares carried on board?

Think about the equipment on the vessel; can it be made safer by the addition of a guard or other safety measures? Would a person falling against the rotating winch be safe? If in doubt about the reliability of any of your equipment employ a specialist. Test warning alarms and emergency stops.

Never remove guards or safety devices from equipment. If they have to be removed for maintenance purposes put them back immediately afterwards.

Please see RNLI Deck machinery safety video here:

<http://rnli.org/Pages/Video-Details.aspx?VideoItemID=dfSonwPv>

**Operations**

Only experienced persons should operate the deck machinery.

Have new persons on the vessel been trained and made aware of the dangers before being allowed to control the machinery?

All equipment used in hoisting/hauling must be inspected and examined at regular intervals with written records of this to be kept. All gear must be maintained in good working order.

Do you know the safe load of machinery?

Do not be tempted to overload machinery.

Is there a clear system of signals in place to communicate with the operator?

The person should stand clear and give signals in a clear unmistakable manner. Do not rely on shouted instructions as they can easily be confused.

## 32 SECTION 3 | MACHINERY

Always complete the task; secure the winch and close down machinery before you leave – the job is not finished until the area is made safe.

Can the operator clearly see the operation and that the crewmen, handling the winch, trawl doors and other operations, are stood clear before operating the winch? If not, a clear systems of signals needs to be established to ensure the safety of the crew.

Do not get in the way of the person operating the winch and do not distract his attention by unnecessary 'chit-chat' or behaviour.

The gear should be controlled by a dedicated operator at all times, and they should not carry out other tasks at the same time

Do not stand on slack warp laid on the deck; if the 'stopper' chain slips, it may suddenly become tight, throwing you up and perhaps overboard.

Is there an emergency stop button within a safe easy reach of the operator? A sharp look out should always be maintained and crew warned of the imminent danger of heavy oncoming seas during fishing operations or other work is being undertaken on deck.

### Hauling Gear

Is the winch adequately guarded? A hand rail or a simple guard could be sufficient to prevent someone being caught up in the winch. Is there danger from the moving warps? Could a frayed wire snag on oilskins and pull a hand or foot into the sheave? Can you prevent such risks by a guard or a barrier? Many vessels now fit separate winches for these tasks, which is now much safer and usually gives a more efficient operation.

Keep your clothing, especially cuffs and gloves well clear of a warping drum, and if your hands are too close, a sudden surge can drag you into the turning drum.

If Fairleads or a hanging block is used to bring nets or lines inboard it must effectively retain the gear even when the vessel is rolling heavily, otherwise the gear may sweep sideways across the deck. If a fairlead is not used, the hauler must be easily able to follow the lay of the gear.

### *V-Wheel Hauler*

- Ensure that the sheaves are in good condition and that there is a good angle of wrap to effectively grip the rope ensuring that it does not suddenly pull back out putting the crew in danger.
- The ejector knife must be correctly in place to ensure that the rope ejects from the V of the sheaves.
- Operating a V section hauler without the knife is very dangerous as the rope may be carried around and pull the hands of the person handling the rope from the hauler into the sheaves.

*Capstan Hauler*

- These need great care as a riding turn can quickly pull the operators hands into the drum.
- It is essential to slow down to guide each leg rope around the drum and the operator needs to ensure that no loose clothing or cuffs can catch in the rope around the drum.
- This type of hauler should ideally be replaced with the much safer V-wheel type.

*Multi-wheel Hauler*

- Care is needed to guide the leg ropes around the sheaves and operators must be very careful to ensure that their clothing does not become trapped by the rope around the sheaves.

*Hauler Control*

- The control must be in good condition and within easy reach of the hauler operator.
- Fit a guard over the control to ensure that it cannot be operated accidentally or caught by the gear.
- Controls that give smooth speed control should be fitted in preference to just stop start controls.

*Hauler Power*

- Excessive hauler power on a small vessel can very easily result in the vessel being pulled over if pots are fouled on the seabed.
- Check the relief valve setting of the hauler hydraulics and reduce the power to be sufficient to haul the string of pots effectively but not sufficient to endanger the vessel.

*Never leave the hauler unattended*

- Leaving the hauler unattended is tempting, especially when hauling long anchor tows, to leave the hauler control to carry out other tasks. Sometimes, the crewman returns just too late to stop the anchor/weight hitting the davit block and as they reach for the control the anchor/weight swings over striking them on the head.

**Lifting Gear**

Stand well clear when deck cranes are being used; they can move in many planes and the operator may cause it to move in a direction that you do not expect. Will your lifting and towing gear cope with expected loads? Trying to lift a heavy load on deck can result in capsizing. Know the safe working load of deck cranes and do not exceed it.

## 34 SECTION 3 | MACHINERY

Ensure crew members are not at risk when reaching over rails to hook lifting beckets. If you cannot avoid a crew member leaning over the rail, ensure they wear a safety harness.

Do not simply tie a piece of rope to lift items. Vessels should carry proper slings and shackles which are suitable for the load. Winch operators should be able to see crew members handling bags.

A lifted load may swing; use a steadying rope – NOT your hands.

Great care is needed when positioning the net into the power block as men can be easily struck by the power block or knocked overboard. The crane operator must ensure that the men at the rails are aware before moving or operating the power block.

After use the deck crane must be returned to its stowed position with the power block securely located in a purpose designed rest.

### **Machinery with Hooks**

#### *Jigging Equipment:*

- Ensure that the jigging reels or mackerel gurdies are securely mounted at height that enables the crewmembers to operate them comfortably and safely.
- Lures and hooks passing across the deck or over the gunwale have obvious dangers for crewmembers.
- Where guards or barriers are practical they should be installed.
- Powered jigging reels must have stop controls within easy reach of the person operating the reel.

#### *Mechanised/Electronic Systems:*

- Mechanised electronic jigging systems must only be used by persons who have had training in the safe use of such equipment.
- Guards must be in place when in use and the equipment must be isolated from the power source when cleaning or maintaining it.

#### *Mechanised Longlining:*

- This can be a simple system utilizing a random baiter or a totally mechanised system that baits the hooks with a precision baiting machine; hauls and removes fish; cleans the hooks and loads them onto storage rails ready for shooting.
- Whether it is simple or complex, it is essential that the crew are fully trained on how to operate it, how to clean it and the dangers it may pose to them.

## Manual handling

Lifting baskets, boxes of fish and other heavy or awkward items can easily result in injuries unless great care is taken and correct techniques are used. Never bend your back over the load when lifting heavy weights. Stand with your feet a little apart, and keep your back straight.



Take a firm grip and keep the load as close to your body as possible.

Lift smoothly and don't twist your body. If you need to turn to one side, move your feet.

Do not reach and lift; slide the load towards you before lifting.

Get help with heavy or awkward items; do not be tempted to lift too much.

## Potting and creeling

### Check equipment and machinery

Have you made sure that the equipment operates smoothly and safely?

Is the hauling winch properly set up and maintained?

Are the controls in good working order and easily reached by the operator?

Is there any risk of the rope snagging the control? Is there an emergency stop for the hauler that can be quickly reached by other crew members?

Are the sheaves in good condition and is the rope ejector knife correctly in place? Is the angle of wrap sufficient to ensure that the rope will not pull out?

Is the davit block/roller in good condition and does it enable the pots to be hauled in board with minimum manual effort and with safety for the crew?

Does it effectively retain the rope even when the vessel is rolling heavily?

## 36 SECTION 3 | Potting and creeling

### Think about the layout of the vessel

Does the layout on your vessel allow the safe working of pots/creels? Are there any possible snag points that the rope or pots may snag on when shooting? Could you modify the vessel to enable the pots to be shot directly off the deck via a transom gate or a shooting ramp?

Is it possible to improve safety by installing a barrier to separate the rope from the area where the crew handle the pots?

Can the pots be securely stacked in sequence ready for shooting? Have you a system of clearly marking any out of sequence pot? Are they away from freeing ports and safety equipment?

Is the number of pots in a 'string (fleet)' limited to the number that can be easily and safely worked in the deck space available on the vessel? Are you satisfied that the number per string is safe or would safety be significantly improved by reducing the number per string?

Are you confident in the number of 'strings' you can safely carry on the vessel? Have you considered the effect on stability of carrying pots stacked high on the vessel? You should consider all aspects of the loading on the vessel, the weight of pots and rope, the catch on deck, the pull of the hauler and the effects of wind and tide. Is your vessel overloaded?

If the catch is stowed on deck are you confident that it will not shift in bad weather, block the freeing ports, or the boxes fill with water and overload the vessel?

Keep unnecessary gear away from the shooting and hauling area.

Avoid shooting in fairways and harbour approaches.

Have a sharp knife handy.

Beware: familiar and repetitive tasks may cause lapses in concentration that can result in serious accidents.



## Ropes and lines, etc.

Ropes, cables, lines and chains when in use can be dangerous: they can snap, suddenly become taut, trap you, etc., so try not to step over a rope or net or a moving warp. It could pull tight and injure you, or pull you into a winch, or into the sea. Do not put your foot on one to steady it or to judge its tension.

To lessen the danger of crew members being entangled in ropes, is it possible to install a barrier to keep the rope clear of the area where the crew are handling fishing gear?

Before working always inspect the rope you will be using; whether it is a lifeline, gantline, or stage rope. Check for damage, and make sure it is right for the job. Your life may depend on it. Know the safe working load of the rope, and do not exceed the limit.

If you are not involved, stay well clear of a rope or cable, etc. which is moving, especially if it is under strain.

Synthetic ropes are stronger and last longer than natural fibre ropes. However they are not suitable for some jobs. Synthetic ropes should never be discarded over the side, and should be used with caution on a winch drum.

Synthetic ropes, in particular, stretch and give no audible warning when approaching their breaking point. They recover their length almost instantly when tension is released, and recoil violently when a break occurs. Most mooring ropes are synthetic; so keep them in a protected position during any mooring or towing operation.

Do not expose rope to oil, petrol, paint or other chemicals. These can cause severe damage, especially to natural fibre rope.

Do not allow ropes to remain excessively soiled or dirty. Wash in clean water and always dry natural fibres before storage.

## Stability

Capsizing due to insufficient stability is a major cause of fatalities for boats under 24m length, especially those under 15m. The causes relate to two main factors:

- ❖ the centre-of-gravity is too high, making the vessel top heavy, and
- ❖ there is insufficient freeboard due to overloading

**EVERY VESSEL WILL CAPSIZE IF THE CENTRE OF GRAVITY IS TOO HIGH!**

## 38 SECTION 3 | Stability

The main causes of the Centre of Gravity being too high are:

- weight growth over time created by any weights added above the deck, such as: masts, gantries, derricks, net drums, gutting shelters, pots, creels, etc.; or
- less weight lower down the vessel, for instance changing a heavy engine for a lighter one, **THEREFORE:**
  - consider the effect of any vessel modifications on the stability before and especially after making them; and
  - check the drafts or freeboards at annual intervals so see if the vessel has got significantly heavier.
- too much catch being loaded on deck instead of being stowed in the fish room, **THEREFORE:**
  - stow fish below as soon as practicable

**HIDDEN DANGERS:** two factors cause a substantial rise in the effective Centre of Gravity:

- when lifting with a crane or derrick, the effective Centre of Gravity of the load is at the head of the lifting device, even when the load is only just above the deck, **THEREFORE:**
  - do not exceed the safe working load of any lifting device;
  - check the Stability Book for stability limits on safe lifting capacity; and
  - stop any lifting operation well before any part of the deck is submerged.
- ‘free-surface effect’ caused by loose water (or fish) rushing from side to side as soon as the vessel heels. This is true of both water-on-deck and liquids in tanks that are not empty or completely full, **THEREFORE:**
  - keep all scuppers and freeing ports clear at all times;
  - use pound boards to limit the movement of loose fish, whether on deck or stowed below;
  - keep tanks either pressed full or empty whenever possible;
  - divide wide tanks by installing longitudinal watertight divisions (NOT baffles); and
  - keep the level of bilge water low.

Swamping of the working deck is particularly dangerous because:

- the weight of water in itself raises the actual Centre of Gravity, and

- it also creates a massive free-surface raising the effective Centre of Gravity, and
- the weight of water reduces the freeboard and so increases the vulnerability to further swamping.

Effective freeing ports and scuppers are vital for quickly removing shipped water and so maintaining stability.

#### **OVERLOADING:**

#### **EVERY VESSEL WILL CAPSIZE IF IT IS OVERLOADED!**

The main causes of overloading are:

- ❖ weight growth of the vessel itself, causing it to float deeper in the water, THEREFORE:
  - check the drafts or freeboards at annual intervals so see if the vessel has got heavier and,
  - if it has, either remove the extra weight or reduce the catch you take on board.

Note: Freeboard is the distance between the water and the working deck of the vessel.

- ❖ taking on board so much catch that the freeboard is substantially reduced, THEREFORE:
  - know your minimum safe freeboard and stick to it. Don't be tempted to load too big a catch – you may not live to land it!
  - fit a Freeboard Guidance Mark  
[www.safetyfolder.co.uk/freeboard.php](http://www.safetyfolder.co.uk/freeboard.php)
- ❖ lifting an excessive load or heaving back too hard on fouled fishing gear, THEREFORE:
  - stop any lifting operation well before any part of the deck is submerged.

#### **REMEMBER:**

#### **WHEN YOUR FREEBOARD IS GONE – SO IS YOUR SURVIVABILITY!**

#### **BECAUSE:**

As the effective Centre of Gravity is increased, AND as the freeboard is reduced the ability of the vessel to resist the energy of the waves is rapidly reduced. Both dangers have capsized fishing vessels even in flat calm conditions, often resulting in fatalities.

### LEARN MORE ABOUT STABILITY

For additional information on Stability, please visit <http://rnli.org/safety/respect-the-water/activities/Pages/commercial-fishing.aspx>

Attend a Stability Awareness Course, for details visit <http://www.seafish.org/training/seagoing-training/fishing/voluntary-training>

How to check your freeboard and stability: refer to MGN 503(F). MGNs are available at: [www.gov.uk/government/collections/marine-guidance-notices-mgns](http://www.gov.uk/government/collections/marine-guidance-notices-mgns)

For guidance on the impact on safety whilst loading and lifting, go to the Seafish Safety Folder <http://www.safetyfolder.co.uk/freeboard.php>

### Navigating safely

The 'Rules of the Road' apply when one vessel approaches another, and determine what each vessel must do. The best defence against collision is keeping a proper lookout at all times both by sight and hearing.

Fishermen are strongly encouraged to attend the Navigation Course run by Seafish ([www.seafish.org.uk](http://www.seafish.org.uk)) through the local Group Training Associations. The course covers basic navigation and watchkeeping skills.

### Watchkeeping

With the continued development of modern day audio/visual equipment – mobile phones, the iPod and the portable DVD player supplementing the old favourites of domestic radios, CD players and television sets, the number of potential distractions is increasing.

If you have any of these items, or similar, in the wheelhouse of your fishing vessel then **they should never be used to the detriment of navigational duties**. The proper place for these 'distractions' is in the crew accommodation.

Investigations into collisions and groundings involving fishing vessels have shown that poor watchkeeping is a major cause of such incidents. A competent and alert Watchkeeper, keeping a proper all round lookout at all times, is absolutely essential for the safety and wellbeing of the crew and the vessel.

Marine Guidance Note – MGN 313 (F): 'Keeping a Safe Navigational Watch on Fishing Vessels' gives more information and explains why fishing vessels need to maintain a proper navigational watch at all times. Please see page 53 for details of how to obtain this MGN.

# SECTION\_4

## EMERGENCIES



### Man overboard (MOB)

If you or a crew member go overboard, getting back on board, even with the help of others can be very difficult. Priority should be given to preventing anyone going overboard in the first place. You should review all your activities for the potential of someone going overboard and act to eliminate the risk or reduce the risk as much as possible.

Wearing a PFD or lifejacket at all times on deck will significantly increase your chances of survival if you go overboard.

When a man overboard situation occurs, it is essential that the right actions are taken quickly as the cold temperature of the water will rapidly reduce the person's ability to survive. Raise the alarm by shouting "Man Overboard!" or press the MOB alarm if fitted, to alert all on board.

Immediately throw the lifebuoy, together with its smoke float/light unit, overboard. Although the person in the water may not be able to reach the lifebuoy it will mark his approximate position.

Ensure that the helmsman is aware of the situation. He should mark the vessel's position – most Nav aids have a MOB function. It may prove vital if contact is lost with the person in the water.

Act as lookout (or ensure that somebody else does) and watch the person in the water and point at them continuously, in view of the helmsman so he knows where the man in the water is.

If it is safe and depending on how the fishing gear is deployed, the helmsman should start to turn as quickly as possible to avoid losing sight of the person in the water.

In most circumstances and weather conditions, recovery of a person from the water should be carried out from the 'weather side' of your vessel. This prevents the vessel from drifting down on top of them and reduces the risk of ropes and heaving lines (being used for the recovery) from fouling the propeller.

Deploy a scrambling net or ladder if possible. Have a heaving line ready to throw to the person in the water in case it is difficult to manoeuvre alongside them.

A boat hook can assist in getting the person back alongside.

During the hours of darkness a white parachute flare, which will pick up the retro reflective tape on clothing/buoys, can be used to illuminate the area. Remember your night vision will be impaired if you look at the flare.

**Additional follow up action**

The following additional actions should also be considered depending upon the circumstances:

- ❖ Sound an alarm of three long blasts if there are other vessels in the vicinity.
- ❖ Initiate a Pan broadcast or an equivalent DSC 'urgency' message.
- ❖ Advise the Coastguard of the situation.
- ❖ Consider starting an appropriate search pattern if the person in the water is still missing.

**In the water**

If you fall or are washed overboard the actions mentioned below will assist you to survive until you can be rescued:

- ❖ Don't panic – it is essential to conserve as much energy as possible; you will need it to assist with your recovery from the water.
- ❖ Tighten up the wrist, ankle and neck fastenings of your protective clothing to reduce heat loss and delay the onset of hypothermia and subsequently death. Do not attempt to swim back to the vessel, for the same reasons.
- ❖ In rough conditions turn your back to the waves to keep your mouth and nose clear of spray.
- ❖ Look for the lifebuoy which may be close by. If you can reach it, invert it over an upraised arm thence over your head and shoulders. Remain calm, keep your legs close together and restrict your movements so that the cold water will not be flushed into your clothing.
- ❖ Remember to activate the light on your lifejacket at night. Use the whistle to assist those persons searching for you. You can increase your buoyancy with some types of lifejacket by additional oral inflation; in cold water you may need to do this.
- ❖ Whatever your situation conserve your body heat because the greatest threat to your survival is from the cold. In UK waters during the winter your ability to assist in your rescue will be greatly diminished in minutes.

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- ❖ The Heat Escape Lessening Position (HELP) protects these critical body areas and slows down the loss of heat. Try to keep in this position.



### Recovery

A person in the water can become unconscious or unable to help themselves very quickly. Ensure that your recovery equipment can recover unconscious persons from the water.

Every vessel should have an action plan for recovery of a person from the water. Make sure that you know the necessary equipment and what to do.

Crew members effecting the rescue of a person from the water should wear a lifejacket, complete with harness and lifeline, to ensure that they do not get pulled into the water as well. This is vital if a crew member goes over the side to assist in a rescue.

A rescuer should only enter the water as a last resort. Do not compromise the rescuer's safety and do not leave your vessel dangerously undermanned.

### After recovery

When the person is back on board and fully conscious, take off their clothes (even if they are shivering a lot), wrap them in blankets, enclose their body in a large plastic bag or sheet and lay them down. A good method for warming them up at a sensible rate is for one or two people to huddle up to them.

Do not rub the surface of the body. Do not put them in a shower.

The person must not be heated up quickly, so do not give them hot drinks or a hot water bottle. If they are able to swallow, give them sugar, glucose or condensed milk, or a warm sweet drink. Do not give them alcohol in any form.

If the person seems semiconscious or unconscious, check their breathing and heart rate. If these have stopped then take action as indicated in **Breathing Stopped** or **Heart Stopped** below. Otherwise disturb them as little as you can. Do not remove their wet clothes, but wrap them in blankets and, if possible, in a Thermal Protective Aid (TPA), large plastic bag or sheet. Put the person in the recovery position. When they are able to talk to you fairly well, give them warm sweet drinks, sugar, glucose or condensed milk.

Do not leave the person on their own, especially if they are still cold. The person should be kept under constant supervision in case they become unconscious; if they do then place them in the recovery position.

Handle hypothermia victims as gently as you can because jolting them could damage the heart. Do not lift the casualty by arms or legs as elevating the limbs could cause a heart attack.

### **Breathing stopped**

If a person's breathing appears to have stopped, lay them on their back on a hard surface. Remove from their mouth any food, vomit, false teeth, etc. Tilt the head as far back as possible and push the lower jaw open. Listen for breathing. If their breathing has stopped, keep their head and jaw in the tilted position; hold the forehead back, pinch the nose and keep the mouth open.

Take a deep breath, seal your mouth around the casualty's and blow into it hard but steadily, whilst watching their chest. If the chest does not rise, check again that their throat is not blocked, and, if possible, tilt the head further back and blow into their mouth again. You can also close the mouth and blow through the nose. Take care not to blow too hard, as this may cause the stomach contents to blow into the casualty's mouth.

Blow into the person's lungs at a rate of about 10 inflations a minute, with each inflation lasting two seconds, until the casualty starts breathing by themselves. Keep checking to see if the lungs are inflating and check from time to time if they can breathe on their own. If they can, stop blowing into the lungs, but watch in case they stop breathing again.

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### Heart stopped

If the casualty's heart has stopped, their breathing will also stop. Listen to the chest for heart sounds.

Make certain that they are lying on a hard surface. If you are sure that their heart has stopped, place the heel of your hand on the lower half of the breast bone, with your second hand over your first. Keep your arms straight, and press the breast bone down 3½ to 5cms, for half a second. Maintain a rate of about 100 times a minute and after every 30th compression; blow into the lungs two times as indicated in the 'Breathing Stopped' section.

Continue pushing and blowing, listening every so often to see if the heart has restarted. If a pulse is found then carry on, as indicated in the 'Breathing Stopped' section, until the casualty is breathing by themselves. Check the heart regularly because it may stop again.

### Abandon ship

On joining your vessel make sure that you know how to release and operate the life raft. It should be stowed securely where it cannot be easily damaged, but it can be launched quickly.

The life raft must be capable of being automatically released and activated from a sinking vessel. Such float free arrangements are achieved by securing the life raft's painter to a Hydrostatic Release Unit (HRU). Do not put anything on top of the life raft or other emergency gear and make sure the liferaft can float free on release and has not been tied down to the boat via anything other than an HRU arrangement. Find where the lifejackets, portable emergency radio and flares, etc. are kept and how they work.

Do not abandon the ship unless the skipper orders you to do so. Often you are safer in a stricken vessel than you would be in the life raft. If you abandon ship put on as much warm clothing as time and circumstances allow. Then put on your lifejacket, and fasten it properly. If you are working below deck, keep warm outer clothing close at hand for use in an emergency. If you have time, take the vessel's EPIRB with you and stream it behind the life raft. If possible also take Hand held VHF Radios, SARTs, flares etc.

#### Manually launching the life raft

Before launching ensure that the painter is untied from the HRU and made fast to a strong point. Make sure that the water in the launching area is clear of people or obstructions.

After launching, pull and keep pulling on the painter until inflation occurs; there may be as much as 72 metres of painter within the life raft which must be fully withdrawn and given a sharp pull, before inflation can occur. Wait until the buoyancy tubes are fully inflated before boarding.

Premature boarding may prevent proper inflation. If possible, board the life raft without entering the water. It is important to keep out of the water to reduce the effects of the cold.

Never jump onto the canopy of a life raft. Jumping onto the canopy could cause injuries to yourself or a person already inside and may damage the canopy.

While waiting for others to board prevent the raft(s) from chafing alongside the vessel to avoid damage to the fabric of the life raft.

#### **If you go into the water**

If it is necessary to enter the water, choose a suitable place to leave the vessel bearing in mind:

- the drift of the vessel; it may drift towards you faster than you can swim away;
- position of the life raft in the water, the raft may drift more quickly than you can swim;
- the sea state;
- other hazards e.g. burning oil.

Do not jump into the water if there is an alternative method such as an over-side ladder or by means of a rope or fire hose. Unless it is unavoidable, do not jump from higher than 4.5 metres into the water.

Before jumping into the water ensure that your lifejacket is securely tied and hold it down by crossing your arms over your chest; block off your nose and mouth with one hand; keep your feet together; check below to avoid obstructions; look straight ahead; jump feet first.

Do not look down when jumping as it makes you unstable and likely to fall forward.

Once in the water your body heat will be lost more rapidly than it can be generated. This leads to cold water shock, hypothermia (cold exposure), unconsciousness and death. Extra clothing will help to prevent cold water shock and help to delay the onset of hypothermia.

Get into the life raft as soon as possible. Otherwise get clear of the vessel but do not swim aimlessly. Float as still as possible in your lifejacket. Swimming increases heat loss.

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Activate the lifejacket light, if you have one, and use the whistle to attract attention to your position.

If possible, form a group with other survivors in the water. There is safety in numbers and a group is more easily located.

Boarding the life raft unaided from the water is a difficult operation. Make maximum use of available foot and hand holds. It may help, if you can, to bob down and use the buoyancy of your lifejacket to help you out of the water.



### **In the life raft**

Once all persons are in the life raft cut or slip the painter. (Use the safety knife provided, stowed near the entrance, in the life raft).

Manoeuvre clear of the vessel's side and any other obstructions. Getting clear of obstructions avoids the risk of damage to the survival craft.

Life rafts can drift rapidly. The drogue or sea anchor reduces the rate of drift and therefore assists those that are searching for you. It holds the entrance at right angles to the weather; helps to steady the craft and greatly improves the stability in rough weather. If there is water in the life raft then bail this out with the bailer provided.

Close the life raft entrance once everyone is inside. This keeps out the cold and wet and keeps in the warmth generated by the occupants. If available put on a thermal protective aid. Post a lookout.

Maintain the life raft. Inflate the floor for insulation against the cold, bail out the water and check for damage or leaks. Ventilate the life raft by maintaining a small opening.

Take sea sickness tablets as early as possible. Most people, including 'hardened' fishermen suffer from seasickness in life rafts. Seasickness results in loss of body fluid and incapacitation.

Rig the radar reflector and EPIRB or SART if available. Have VHF radio ready for use along with flares.

**Maximising your chances of survival**

Regardless of how near to you the rescue services may be you must take action from the outset to safeguard yourself against immediate threats to your life. First and foremost, protection should be against the dangers of the environment. Protection has a higher priority than indicating location, and as it is possible to survive many days without water and many weeks without food, both protection and location have higher priorities than food and water.

Do not attempt to sail away from the area of the vessel as the search for survivors will start at the last known position of the vessel. If you have a portable radio with you then transmit a Mayday message. If an EPIRB or radar transponder is available switch it on. Rescuers can 'home in' on these signals.

Distress flares and rockets should be used sparingly, and only when there is a likelihood of them being seen. Ensure that when using flares and rockets you follow the manufacturer's instructions.

If the sun is shining the daylight signalling mirror can be used to attract attention. If sighted by a searching aircraft it may be some time before rescue is at hand but your location will be known.

The most common cause of death is cold water shock and drowning; usually because people get too cold to help themselves. Even after boarding a life raft you could die of hypothermia if you have not taken the necessary precautions. The epic survival voyages which attract so much publicity have nearly all occurred in tropical waters. Survival at sea for even a short period is dependant upon adequate preparation and knowledge of survival techniques. Different vessels have different types of survival equipment. Do you know which types are on board, where they are and how to use them? If not then find out. You are not a survivor until you have been rescued.

# SECTION\_5

## USEFUL INFORMATION



## Mandatory training

A vital factor, essential to safety in any industry, is training and in an industry such as fishing, with the dangers imposed by the weather and the sea, it is especially important that people know how to deal with all possible hazards.

All fishermen have to undergo basic training, as from 1st January 2005, as indicated below:

### New Entrants

A new entrant is defined as a person who is for the first time gainfully employed or engaged as a crew member on a commercial fishing vessel registered in the United Kingdom.

Before starting work as a fisherman all new entrants must have completed the following course:

- 1 day Basic Sea Survival.

Within 3 months of starting work, all new entrant fishermen must complete the following additional courses:

- 1 day Basic Fire Fighting and Prevention;
- 1 day Basic First Aid; and
- 1 day Basic Health and Safety (only required of new entrants after 01 January 2005).

Upon completion of these four courses, new entrants are recommended to apply to Sea Fish Industry Authority (Seafish) for a New Entrant photo identification card verifying their compliance with these requirements.

### Experienced Fishermen

An experienced fisherman is defined as a fisherman who has been working as a fisherman for two years or more.

In addition to the courses required of new entrants (above), all experienced fishermen, regardless of whether they hold a Certificate of Competency, must complete the following course:

- 1 day Safety Awareness and Risk Assessment.

Upon completion of this course, experienced fishermen are recommended to apply to Seafish for an Experienced Fisherman photo identification card verifying their compliance with this requirement.

**Training Providers (TPs) run the Training Courses and information about the TPs can be obtained from the Sea Fish Industry Authority (Seafish): Phone 01472 252 300 or Website [www.seafish.org/training/seagoing-training](http://www.seafish.org/training/seagoing-training)**

These courses equip you to be able to deal with likely emergency situations.

## Voluntary Training Courses

Seafish offer a number of voluntary training courses in Navigation, Engineering and Stability.

Completion of these courses (with the addition of the Royal Yachting Association's GMDSS Short Range Certificate for radio operators) make up the requirements for the Seafish Under 16.5m Skipper's Certificate, which is also accepted by the MCA for use on small commercial vessels.

Seafish also currently offer other voluntary courses for new entrant fishermen. These include:

- Introduction to Commercial Fishing – a 3-week induction course for those wanting to begin a career in fishing
- Sea Fishing Apprenticeship – a year-long course for new entrants developed in collaboration with the Maritime Skills Alliance

Further details and up to date information on training can be found on <http://www.seafish.org/training>

## Fishing vessel manning requirements

Extract taken from Statutory Instrument 1984 No.1115 *The Fishing Vessels (Certification of Deck Officers and Engineer Officers) Regulations 1984*. Further details can be found in MGN411 – Training and Certification Requirements for Crew of Fishing Vessels and their Applicability to Small Commercial Vessels and Large Yachts.

### Deck Officer requirements

Column 1	Column 2	Column 3		
Fishing Area	Length of Vessel	Minimum number of qualified deck officers to be carried		
		Class 1 (Fishing Vessel) Certificate	Class 2 (Fishing Vessel) Certificate	Class 3 (Fishing Vessel) Certificate
Unlimited	40 metres and over	2	1	-
Unlimited	Under 40 metres	1	1	-
Limited	30 metres and over	1	1	-
Limited	24 metres or more but under 30 metres	-	1	1
Limited	16.5 metres or more but under 24 metres	-	1	-

**Deck**

With the exception of vessels of less than 24m Registered Length operating in the limited area, only persons holding a Certificate of Competency as a Deck Officer or a 5 day Bridge Watchkeeping Course shall be in charge of a navigational watch.

**Engineer**

Every fishing vessel with a propulsive power of 750 kilowatts or more operating in the unlimited area must carry at least two qualified engineer officers, being at least a Chief Engineer holding an Engineer Officer Certificate of Competency (Fishing Vessel) Class 1 and a Second Engineer holding an Engineer Officer Certificate of Competency (Fishing Vessel) Class 2.

The MCA has issued a General Exemption, which is included as Annex A to MGN 411, which allows vessels with a propulsive power of 750 kilowatts or more operating in the limited area, as an alternative to the option above, to carry a Chief Engineer holding an Engineer Officer Certificate of Competency (Fishing Vessel) Class 1 and the holder of an Engine Room Watchkeeping 5 day course certificate.

## Maritime and Coastguard Agency's MSNs, MGNs and MINs

**What are MSNs, MGNs and MINs?**

Merchant Shipping Notices (MSNs) contain the technical information that is associated with the Regulations (Statutory Instruments) laid down by Parliament.

Marine Guidance Notes (MGNs) provide guidance on safety and pollution prevention matters.

Marine Information Notes (MINs) provide information about the MCA's business arrangements, on matters which are time limited or subject to regular updates.

Identifying letters on these publications show whether it is addressed to merchant shipping (M), the fishing industry (F) or both (M+F).

**Why do I need MSNs, MGNs and MINs?**

To keep up to date with safety and pollution prevention regulations.

To get advice and information on a range of safety issues that will keep you and your vessel safe.

To comply with regulations for the carriage of nautical publications.

## 54 SECTION 5 | MCA'S MSNS, MGNs AND MINS

### **Where can I get MSNs, MGNs and MINS?**

MSNs, MGNs and MINS are available from the MCA website at:

**<https://www.gov.uk/topic/ships-cargoes/m-notices>**

## Contact details

Tel: 020 3817 2000

[www.gov.uk/mca](http://www.gov.uk/mca)

email: [fishing@mcga.gov.uk](mailto:fishing@mcga.gov.uk)

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