Maritime & Coastguard Agency

FISHERMEN'S SAFETY GUIDE

A guide to safe working practices and emergency procedures for fishermen

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GET MORE ONLINE

The online version of this guide includes links to MGNs, MSNs and other online resources, for example the Safety Folder, websites and email addresses for other organisations.

To read the regulations listed in the printed copy of this guide, go to gov.uk and use the search box. Type in for example: MGN 587 into the search box and you will get a link to the full guidance.

Read this document online for quick links and guidance updates:
www.gov.uk/government/publications/fishermens-safety-guide

THE GUIDE

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INTRODUCTION

Introduction:

Safety applies to everyone in the fishing industry; beginners, experienced crew members, mates, engineers, skippers and owners. Everyone involved has a role in safety and safe vessel operation and this guide is intended to provide guidance and to promote safety awareness to all.

How to use this guide:

This guide will help you identify hazards, assess risks and put in place control measures. It is not intended to be a definitive guide but to help you to conduct risk assessments and to improve safety on your vessel. To help you through this guide, the following explanations of what can go wrong, hazards, risks, consequences and what you can do about it; control measures may help.

What can go wrong

Hazard: anything that may cause harm to yourself, others, the vessel or the environment.

Almost anything can be considered a hazard, but a sensible approach will enable you to decide on real hazards and not the extreme possibilities.

This may be:

- An obstruction that persons could trip over – a trip hazard
- A slippery area of deck – a slip hazard
- Hatchway left open – a fall hazard
- Winch operator cannot see crew members handling the fishing gear – an entanglement hazard
- Falling overboard

RISK: A combination of how likely harm is to occur and how serious it would be

Something with serious consequences, for example, permanent injury or death, even if it is unlikely, such as man overboard, is a more serious risk than something that is likely but will not cause too much harm. You need to be aware of the serious risks.

CONSEQUENCE: how could the hazard cause harm and who may be harmed?

Consequences vary; a slip, trip or fall may result in a few bruises or it could lead to death.

Think about what is reasonably possible; a trip near the winch could result in the person falling into moving parts or the net itself.

On small vessels, all the crew could be at risk or it may just be the one person who works in a particular location such as the engineer. However, a hazard on deck may pose danger to any person crossing the deck including crew from other vessels.

What can you do about it

CONTROL MEASURES: What can you do to minimise the risk?

Control measures can do two things:

1. Reduce the chances of the incident occurring
2. Reduce the impact of the consequences if the incident does occur

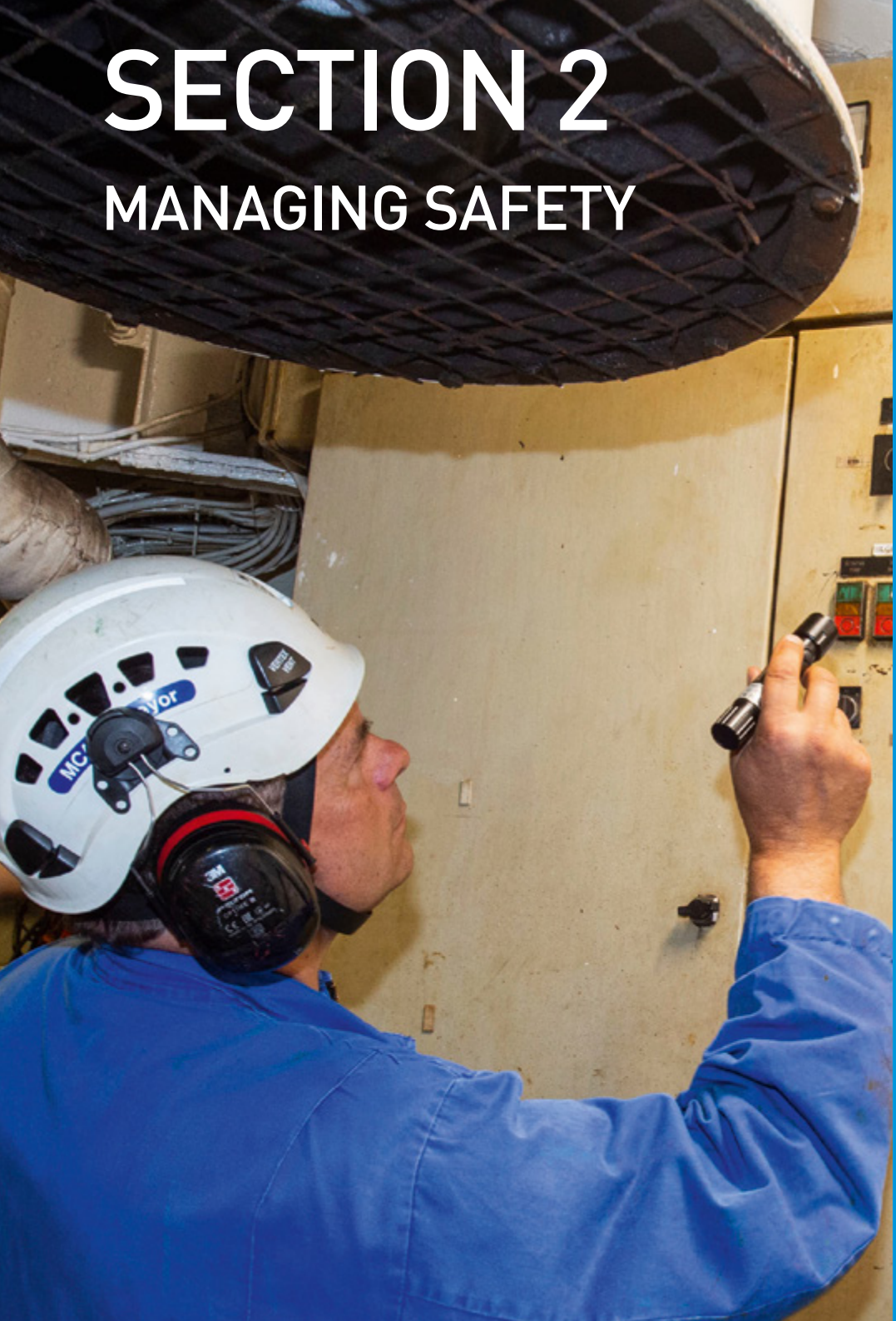
What safeguards are in place? These may include:

- Different working methods
- Training
- Guards
- Protective equipment
- Professional stability check

FURTHER ACTIONS: Things that you intend to do to reduce the remaining risks

Having considered the hazard and the control measures (safeguards) that are in place to reduce or protect from that hazard, you need to consider if a risk still exists and does it justify further action.

SECTION 2
MANAGING SAFETY



Responsibility for safety

The fishing vessel owner has a duty to ensure the health and safety of fishermen and other persons so far as is reasonably practicable.

The fishing vessel owner (which includes the manager if they have assumed responsibility for the operation of the vessel) has overall responsibility to ensure that the skipper is provided with the necessary resources and facilities to comply with the regulations. The fishing vessel owner should set the health and safety policy for the vessel so that the skipper is clear what is expected.

The fishing vessel owner's responsibility extends to all fishermen, whether they are employed or share fishermen.

While the fishing vessel owner always has overall responsibility, it is recognised that if they are not onboard their fishing vessel, they may have limited control of day to day activities. The regulations provide that responsibility for health and safety also rests with any person who is in control of any particular matter. This will most likely be the skipper in respect of day-to-day running of the vessel.

The **skipper** therefore has responsibility for the safety of fishermen on board the vessel and the safe operation of the vessel. In fulfilling their responsibility the MCA expects skippers to:

a. Provide supervision to ensure that fishermen work safely at all times
b. Manage fishermen in a manner which respects safety and health, including prevention of fatigue
c. Arrange regular on-board occupational safety and health awareness training
d. Ensure compliance with safety of navigation, watchkeeping and associated good seamanship standards

The skipper must not be constrained by the fishing vessel owner from taking any decision which, in the professional judgement of the skipper, is necessary for the safety of the vessel, its safe navigation and safe operation and the safety of the fishermen on board.

Obligations on everyone

A vessel is only safe if everyone is responsible for it. Everyone needs to:

- Take care of their own health and safety and that of others
- Familiarise themselves with the risk assessments which should have identified the dangers relevant to the particular vessel and how to reduce or remove them
- Ask the owner or skipper to keep you informed about the risk assessments for the vessel and the provisions for health and safety. Keep a copy of the risk assessments on board and available for all crew members to discuss. It is preferable to have written risk assessments for any size of vessel
- Tell the employer/skipper at once if they notice a situation that poses a serious and immediate danger to health and safety
- Co-operate with the owner and any other responsible person in health and safety matters

Fishing safety management code

Whilst not a mandatory requirement, adopting a safety management code and supporting management system will help ensure you run a safe ship as well as comply with regulations.

What are the benefits of a fishing safety management code?

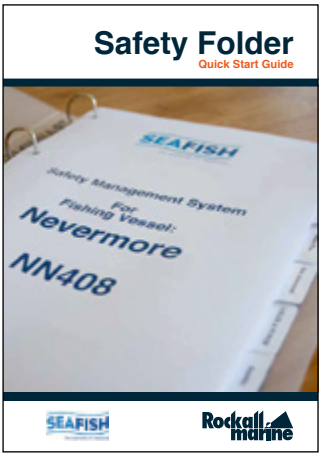
- A safety management code provides the framework for supporting the safe operation of fishing vessels and guidance for establishing a safety management system. It also provides guidance to owners and skippers to improve the safety of their vessels, the maintenance and servicing of safety equipment that relates to the vessel and the operation of the vessel
- Owners and skippers will find that if they implement such a system it will greatly assist in complying with their statutory safety obligations and demonstrating this to a surveyor

What does a safety management system include?

- You may already be familiar with some of the following documents which help to maintain an effective safety management system. The documents assist in complying with the work in fishing convention

- Documentation that should be developed and records maintained include:
  - The safety management manual
  - Company safety and environment policies
  - All crew certification and training records
  - Planned maintenance system
  - Vessel operation (operating procedures and the risk assessment)
  - Testing/certification relating to the lifesaving appliances and fire-fighting equipment
  - Accident and incident reports and any remedial actions taken
  - Evidence of reviews of your safety management system, self-audit reports and close outs
  - Environmental management and pollution prevention
  - Records of drills and safety training

The Safety Folder is a free website that helps you to comply with health and safety requirements. It can be found at www.safetyfolder.co.uk. **It also allows you to manage your equipment and maintenance schedules with monthly reminder emails, manage crew certificates and crew lists, print off crew agreements, and vessel policies, have access to relevant M Notices and print off electronic documents that can be easily stored and shown to surveyors.**



More information can be found in MGN 596 FISHING SAFETY MANAGEMENT CODE: Helping to improve the management of safety on fishing vessels.

Risk assessments and this guide

The importance of risk assessments has increased with the implementation of ILO 188 which requires risk assessments for all vessels whether it is crewed by contracted crew, share fishermen or just yourself. The vessel owner must ensure that suitable and sufficient risk assessments have been carried out and documented for all work activities on the fishing vessel.

All crew should be closely involved with the risk assessment process to take advantage of their practical knowledge and experience and to ensure full awareness of the risks that arise with their work.

Risk assessments must be documented to ensure availability and familiarity for all on board and should be made available during an inspection.

It is important to consider any additional risks which may arise during day to day operations and where appropriate put in place additional or alternative safety measures.

For further information refer to the current fishing vessel safety codes of practice and MGN 587 AMENDMENT NO.1 INTERNATIONAL LABOUR ORGANIZATION WORK IN FISHING CONVENTION (No. 188) Health and safety: responsibilities of fishing vessel owners, managers, skippers and fishermen.

SECTION 3

VESSEL SAFETY

Vessel suitability

As well as complying with the various Codes of Practice and other regulations, vessels should be suitable for their intended operation. There are a number of key areas that need to be addressed to ensure this.

WHAT CAN GO WRONG

Vessels deteriorate rapidly if not well-maintained. A planned maintenance programme is essential.

What can you do about it?

Watertight integrity

- Check that the hull and deck are in sound condition with no potential holes through rust, sprung planks or damaged GRP (Glass Reinforced Plastic)
- All hatches and doors must be capable of being securely closed and vents must have a means of closure. Windows need to be effective at holding out the water

Stability and structural changes

- Over the years, fishing vessels are often altered to suit a different fishing method, or major items such as the main engine or the winch are replaced. The vessel, that originally was considered to be stable, may no longer be so
- A modern high-speed lightweight replacement engine will not offset the weight of a bigger more powerful winch on deck in the same way that the original heavy engine and smaller winch did. Many vessels have a shelter deck added and a stern gantry and perhaps a net drum. Potting vessels try to carry more gear by stacking them up high on stern structures. Adding weight high up on the vessel will dramatically reduce the level of stability and a proper check by a qualified person must be made. Any proposed changes of fishing method or structural modifications should be notified to the MCA for approval prior to the work taking place

Anodic protection

- Check the condition of the anodes to ensure that stern shaft, propeller, rudder shaft and any hull skin valves are protected
- Blocks to be streamlined and have steel welding lugs cast into them
- NB: Sacrificial anodes also fitted in way of sea water inlets if of non-ferrous metal

Steering gear

- Check that it is in good working order and free from leaks

Freeing ports

- If the vessel is decked make sure that the freeing ports are always clear of obstructions. Maintain hinged flaps in an operational condition
- Make sure the catch is secure and will not shift in bad weather

Pumping systems

- Ensure that the bilge pump and other pumping systems are effective and will pump water out of the hull

Propulsion

- Ensure the main engine, gearbox, propeller shaft, stern gland and propeller are in good condition

Seawater systems

- Leaks in the seawater cooling system have sunk many vessels so check that sea inlet valves, hull connections, heat exchangers, discharge valves, pumps and pipework are all in good condition and capable of positive isolation

Bilge level alarms

- Problems with poor electrical connections are often a cause of failure but a working bilge level alarm is essential on all decked vessels. They should be checked before every trip. Many vessels would not have been lost in the past if the bilge alarms were working

Electrics

- Check the condition of the electrics and batteries to avoid fire!
- Ensure power sockets are not overloaded
- Batteries must be well ventilated to vent off explosive gases and no smoking or naked flames are permitted in the vicinity. Look out for loose items or tools left on the battery box, they can cause shorting across the terminals
- Place non-conducting mats in front of switchboards
- Only use qualified people to install and maintain electrical systems. Clearly mark switchboards and check fuses/circuit breakers to ensure they are the correct rating
- Ensure electrical equipment is protected from water leaks

Navigation

- Ensure the navigation equipment on the vessel is adequate for your area of operation. Make sure it is free from defects and you have a back up in the event of failure

Communication

- Ensure the communication equipment on the vessel is in good order and adequate for your area of operation. Have a back up system and an EPIRB

Working single handed

- Ensure you have everything you need on the vessel to provide as much safety as possible, i.e. Lifeline in place, overboard ladder, EPIRB, etc

Fail to prepare, prepare to fail!

Proper planning, preparation and checks before the fishing trip will ensure that you can go fishing with confidence in your vessel.

WHAT CAN GO WRONG

- Machinery breakdown
- Tools and spares not available
- Vessel flooding and loss
- Safety equipment not effective
- Crew not aware of safety procedures
- Severe weather conditions
- Radio communication failure
- Crew not competent or fit

WHAT YOU CAN DO ABOUT IT

Prepare a checklist for your vessel with all the items you consider important, but ensure that you include the following:

- **Engine**: fuel, oil, fresh water. Check for any leaks and signs of developing problems. Check engine alarms
- **Bilge level alarm**: Check it is working
- **Sea water systems**: Check for signs of problems. Can the sea inlet be easily closed? Are pumps in good working order? Check that suction strainers are clear

- **Hydraulics**: Check for leaks – but not with your hand as direct contact with hydraulic fluid can have very serious consequences. Have you checked the reservoir level and do you spare oil?
- **Vessel condition**: Is everything correctly stowed, hatches closed, and that the freeing ports are clear?
- **Safety equipment**: Are lifejackets readily available and liferafts in position with correctly mounted hydrostatic release? Are fire provisions in place and correct? Do crew members understand safety procedures? Are navigation systems working with back up available?
- **Weather**: Check weather forecast for the duration of your expected trip
- **Contacts**: Inform shore-based persons of your intended fishing area and your anticipated date and time of return to port. Give contact details of all persons on board
- **Communications check**: Test the radio with the harbour office or another vessel

Boarding and leaving a vessel

AROUND 20% OF FISHERMEN FATALITIES OCCUR IN HARBOUR WHEN BOARDING OR LEAVING THE VESSEL

Alcohol is a factor in many instances but the arrangements for the boarding of small vessels are often quite dangerous.

WHAT CAN GO WRONG

- Climbing down a ladder
- Obstructions on quay side and on vessels, tripping over gear
- Poor lighting
- Unprotected openings
- Access across other vessels
- Boarding via a dinghy

WHAT YOU CAN DO ABOUT IT

- Do not consume alcohol or drugs and attempt to board the vessel
- Always try to board when other people are around
- Harbour wall ladders are the responsibility of the Harbour Authority and if the ladders are not in good condition (e.g. with hand holds at the top) complaints should be made to the Authority
- Avoid using any ladders in poor condition
- Wear a PFD whilst boarding and leaving a vessel

- Obstructions such as netting, rope, wires, boxes, trawl doors, rubbish, etc both on the quay side and on the vessel can result in trips and falls. Remove any unnecessary obstructions from your vessel and cooperate with the Harbour Authority in keeping the areas adjacent to ladders clear
- Harbour lighting may be poor or non-existent. Requests should be made to the Harbour Authority to improve it but, in the meantime, a torch or headtorch should be used to ensure that trip dangers are seen
- Open hatchways that a person could trip and fall down must be guarded. Similarly, temporary openings must be guarded, for example when maintenance work is being carried out
- Access across vessels: It is usual for vessels to moor alongside each other and crew members, repairers and others will need to be able to cross vessels safely. Ensure that your vessel is safe to cross; the deck is not slippery; handrails are in place and secure and there is an obstruction-free route
- When boarding via a dinghy it can easily be overwhelmed especially if loaded with stores and equipment for a fishing trip
- Suitable flotation devices must be worn by all persons and the dinghy must not be overloaded
- Oars/paddles must be carried in case the engine fails and a light should be available to avoid being run down by another vessel in the dark

Further Information can be found in MGN 591 - Provision of Safe Means of Access to Fishing Vessels and Small Vessels in Ports.

Drills

Emergency drills need to be completed regularly, at least monthly, on all vessels. Being prepared for an emergency with the right equipment and knowledge on its use can save lives and vessels.

WHAT CAN GO WRONG

- Unable to recover a MOB quickly and efficiently
- Crew unaware of procedures and unfamiliar with the equipment
- Unable to fight fire effectively and not having the correct equipment to fight the fire
- Unable to abandon ship quickly and safely and launch liferafts safely
- Have not got the correct equipment to retrieve a liferaft

- Entering into dangerous enclosed spaces without correct procedures and equipment
- Not considering all emergency situations, what can cause them and addressing them with your crew

WHAT YOU CAN DO ABOUT IT

- Practice drills monthly and have a debrief with the crew on what went well and what did not and find solutions
- Make sure crew know their roles, how to use equipment and where to find it
- Have equipment to recover an unconscious person from the sea and know how to use the equipment
- For further Information, please see MGN 570 – Fishing Vessels: Emergency Drills
- Guidance on drills also contained in section six

Stability

Capsizing due to insufficient stability is a major cause of fatalities for fishing vessels 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
- There is insufficient freeboard due to overloading

Every vessel will capsize if the centre of gravity is too high.

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 inform the MCA of any proposed changes before starting them and
  - Check the drafts or freeboards at annual intervals so see if the vessel is 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 is heavier
  - If it is heavier either remove the extra weight or reduce the catch you take on board

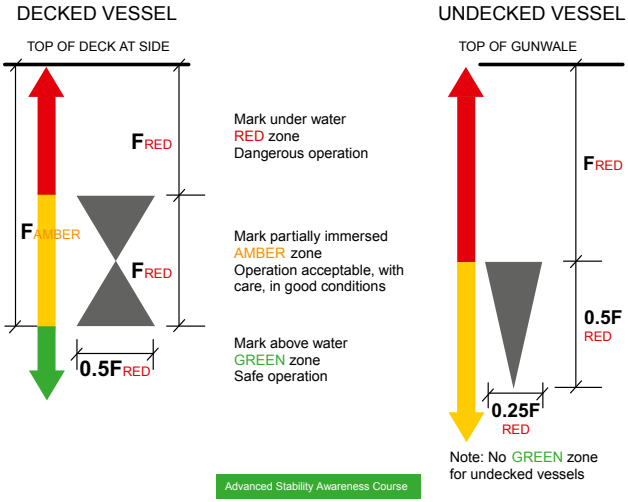
Note: Freeboard is the distance between the water and the working deck of the vessel.

- 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 see MGN 526 Stability Guidance For Fishing Vessels
- 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, the following is available:

- The fishing vessel stability guide at gov.uk
- RNLI commercial fishing at rnli.org
- Attend a stability awareness course, for details visit seafish.org/training
- How to check your freeboard and stability: refer to MGN 503(F) and MGN 526 at gov.uk

Modifications OR change in fishing method

If you modify your vessel or change your type of fishing method, this can have serious effects on the stability of the vessel. It is a requirement that you consult the MCA prior to any changes you make to your vessel and seek professional advice on any changes to intend to make.

WHAT CAN GO WRONG

- Changes to centre of gravity which reduce stability through adding weight at height or removing weight low down
- Additional weight can reduce freeboard
- Differing layout of gear on deck can cause familiarity issues
- Different lifting operations can have differing results on the stability of the vessel

WHAT CAN YOU DO ABOUT IT

- Ensure the vessel modifications have been checked by a surveyor before commencing operations
- Ensure crew are familiar to changes to the vessel and its new operations
- Check effects on freeboard and centre of gravity prior to fishing
- Check sister vessels with modifications before and after showing effect of freeboard and change in centre of gravity

YOU ARE RECOMMENDED TO READ OUR PUBLICATION 'FISHING VESSEL STABILITY GUIDANCE' on gov.uk

Navigation and safe watchkeeping/ communications

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

WHAT CAN GO WRONG

- Collisions or groundings caused by not keeping a proper watch
- Distractions from watchkeeping duties from electronic personal devices, TVs etc
- Fatigue leading to poor judgement and mistakes
- Falling asleep while on watch
- Complacency
- Switched off or broken instruments
- Navigation and communications equipment not suitable for the operation or area

WHAT CAN YOU DO ABOUT IT

- Passage planning and ability to change plans as circumstances change
- Ensuring watchkeeper is trained and competent to keep watch
- Adequate manning or work rota to ensure availability of a look-out
- Distractions are kept to a bare minimum
- Adequate, good quality rest is provided to prevent fatigue
- Be aware of the effects of fatigue over time
- Maintain instruments in working order and have back ups

- Ensure the navigational and communication equipment is suitable for the area
- Carry an EPIRB in case of emergency
- Attend a Seafish navigation course

Marine Guidance Note – MGN 313 (F): 'Keeping a Safe Navigational Watch on Fishing Vessels' at gov.uk gives more information and explains why fishing vessels need to maintain a proper navigational watch at all times.

CO Alarms

- A Carbon Monoxide alarm meeting current safety standards BS EN50291-2 should be installed in every space that contains a fired cooking or heating appliance or where engine exhausts pass through accommodation spaces. Make sure these are regularly tested. CO poisoning will happen quickly and is fatal
- Signs of CO include staining, sooty smears or discolouration on surfaces around an appliance or its flue, possible human signs are headaches and dizziness
- If a fired appliance is difficult to light, keep lit or burns weakly or with a yellow or orange 'floppy' flame then they are a risk and should be serviced or replaced
- Be aware of unfamiliar or burning smells when an LPG or oil appliance is on or smelling engine exhaust fumes regularly inside a space
- Do not use CO alarms as a substitute for proper installation and maintenance of gas equipment by a Gas Safe registered engineer

Accommodation/galley

A SAFE HEALTHY ENVIRONMENT IS THE LEAST YOU SHOULD EXPECT

Ensure that the accommodation, galley and all facilities are adequate for the duration of the fishing trip.

WHAT CAN GO WRONG

- Poor heating and ventilation affecting the health of crew members
- Inadequate cooking, washing and toilet facilities resulting in the crew enduring unhygienic conditions
- Fire fighting provisions are not sufficient
- Gas bottles stored and used incorrectly
- Excessive noise levels

- Escape routes not provided or not usable
- Slips, falls, scalds and burns
- Gas leaks
- Incorrectly installed or unsuitable equipment leading to leaks etc
- Furniture and appliances and personal effects not properly lashed/ secured

WHAT CAN YOU DO ABOUT IT

- Food and water should be sufficient for the trip
- The accommodation areas of the vessel should have a comfortable ambient temperature and adequate ventilation to ensure that it is not damp and unhealthy
- Cooking, washing and toilet facilities should be suitable for the duration of the fishing trips and be in good working order and clean
- Smoke and gas detectors should be installed and tested
- Suitable fire extinguishers readily available
- A fire blanket should be adjacent to the stove. Know how to use fire fighting equipment
- Ensure that there is an escape route out of the accommodation and it is kept clear at all times and has adequate signs and all crew members are capable of using it
- Shoes/boots, gloves help protect against scalds and bruising and make crew less prone to slipping
- Wedge yourself in during rough weather
- Follow set instructions for lighting oil-fired galley stoves, keep clear of burners when lighting them
- Set galley fuel control valve correctly
- Smell for leaks before lighting equipment
- Make sure controls are turned off when gas burning appliances are not in use
- Gas bottles must be stored in an open deck position, never in a closed space
- 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
- Appliances that are purchased should meet the latest standards and be suitable for use on boats, be installed and serviced regularly (at least annually) by Gas Safe registered engineers. Repairs should only be undertaken using proprietary components. Vents, ducts and flues should be checked for damage and blockages

- When cooking, do not overheat or spill fat or oil. Do not put water onto hot oil or fat and take care when frying chips; do not overfill the fryer with oil
- Stop pans sliding with protective rails in place around stoves
- Never leave a hot stove unattended. Grease or oil can easily ignite and cause a major fire
- Have dry, clean sand in the drip tray at all times
- Clean floor as soon as spills happen
- Keep heaters well maintained
- 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
- Excessive noise must be reduced by the installation of sound deadening insulation

Engine room/machinery

Engine room

Effective and regular maintenance is required to ensure reliability and safety of the vessel.

DO NOT IGNORE THE ENGINE

Effective maintenance is essential to ensure reliability. In poor conditions you really need the engine and associated machinery to be totally reliable. The engine room/space needs to be a safe area to move around as you may have to work on the engine at sea.

WHAT CAN GO WRONG

- Engine/machinery failure
- Unguarded machinery
- Danger of falls and injury
- Working alone
- Poor lighting
- Running belt drives
- Hot surfaces
- Dirty
- Fire/explosions
- Unventilated batteries
- Flooding from failed pipes, pumps and valves

WHAT YOU CAN DO ABOUT IT

- Implement preventative maintenance, including regular oil and filter changes
- Maintain the engine and associated equipment in a clean condition to enable you to see leaks of water, fuel and oil before they become a bigger problem
- Identify pinch points and have safety guards and devices on equipment to prevent accidents
- Fit a guard on any hot surfaces that you are likely to accidentally touch
- Check on the condition of sea water systems, install an effective bilge level alarm and check regularly that it is working
- Make sure sea inlet valves can be easily closed, even if under water
- Regularly check all belt drives and ensure all belt drives are properly guarded, even those beneath the floor plates, as having lifted the floor plate up to gain access, protection will be needed from the belt drive
- Ensure that handrails or grab rails are installed where they are needed, and all floor plates are in place to enable safe movement and working around the engine
- If working alone in the engine room, inform someone how long you expect to be
- Ensure that the lighting is good and in positions where you need it to be able to maintain the engine
- Ensure good ventilation to remove heat and fumes
- Ensure that batteries are ventilated to outside and make sure that the batteries are clear of any items that may short across them causing fire or explosion
- Ensure the deck is clear near machinery, especially moving parts
- Avoid wearing loose clothing near moving machinery
- Consider the fire extinguishing system, is it adequate and if a fixed system is installed are all persons aware of the dangers of inert gas?

Electronics

Many vessels now rely on electronics to navigate, locate fish, and monitor the vessel's condition. These can be excellent supplements, however they should not replace the current and required means to operate safely. Ensure all equipment is maintained and used in accordance with the manufacturer's guidance.

Safety critical systems should be regularly tested to prevent unforeseen incidents.

Maintenance

Maintenance work can be dangerous when not approached in a considered manner. Many fishermen will undertake their own maintenance to keep costs down, when this is the case it is important to not cut further costs or corners and ensure the work is completed to a safe and satisfactory standard.

WEAR PROTECTIVE EQUIPMENT – KEEP IT SAFE!

WHAT CAN GO WRONG

- All the risks associated with chipping, grinding, wire brushing and similar work
- The dangers of using electrical tools in a marine environment
- Dangers of falls
- Fumes from chemicals used for cleaning or treatments
- Enclosed spaces
- Lifting operations

WHAT YOU CAN DO ABOUT IT

- Conduct a risk assessment and follow the recommendations
- Stop any machinery before working on it, make sure it cannot accidentally restart, turn off isolator switches, remove fuses, attach a warning notice, and tell others what you are going to do
- Personal protective equipment must be worn, see the table on Page 39, for example:
  - Gloves for hands, goggles for eyes, and suitable masks for dust.
  - Safety boots need to be worn to protect the toes and hard hats where there is any danger of items falling from above or hitting your head on obstructions
- Electrical tools must only be used if they are in safe condition with effective controls, guards and other safety features correctly in place. Safety circuit breakers must be used to give protection and extension cables must be in good condition
- If working at height or over the side of the vessel, a safety harness should be worn
- Read carefully and follow all safety precautions supplied with chemicals and other materials. This information is provided on the

product label and on a Safety Data Sheet which must be provided with all chemicals

- Be aware of the danger of fumes from paints and adhesives. Ensure good ventilation and wear suitable respirators
- Take fire precautions when welding or burning operations are taking place and have fire fighting equipment nearby
- Be aware of the dangers of enclosed spaces. Even painting out the accommodation can result in a dangerous atmosphere. Ensure good ventilation and wear respirators. Wait a sufficient time after painting for thorough ventilation of fumes before allowing free access. In spaces that have held fuel or oil do not enter until checks have been made that it is free of explosive gas and has a safe atmosphere. Do not enter any space that has been sealed without first checking that it is safe
- Relieve the pressure when working with pressurised systems and ensure equipment using hydraulic rams cannot fail
- Assess the weight of items being lifted and use suitable certified slings
- Ensure that the structure of the vessel is strong enough before attaching lifting equipment to it and the lifting equipment is strong enough for the job and it cannot slip
- When you have finished, do a test run, check the guards are back in place, nuts and bolts are tight

Single handed operations awareness

Single handed operations are not recommended due to the high level of risk involved.

WHAT CAN GO WRONG

- No help available if injured
- If you fall overboard, there is no one to raise the alarm or stop the vessel, or help recover you to the vessel
- In the event of a sudden vessel loss then there is no one to raise the alarm

WHAT YOU CAN DO ABOUT IT

LET PEOPLE KNOW YOUR INTENTIONS

- Make sure someone knows where you are going and when you intend to come back

REMOVE AS MUCH RISK AS POSSIBLE

- Consider how you can eliminate or reduce the risk, for example, non-slip decks, separate yourself from ropes and wires, bulwark heights, etc. Remember, if you cannot eliminate the risk you MUST wear a PFD or a safety harness. Keep a good look out

PERSONAL FLOTATION DEVICE

- Always wear your PFD and ensure that it has sufficient buoyancy to turn you on your back keeping your mouth clear of the water even if you become unconscious. Buoyant waistcoats or work vests will not be acceptable as they have limited buoyancy. A 150N automatic inflatable lifejacket, either as a separate item, or integral with your oilskins should be worn. Regularly check that the PFD has not been damaged and that the gas cylinder is secure. Inflatable lifejackets are available with a safety harness incorporated and this will allow you to quickly clip in a safety line

SAFETY LINE

- Wear a safety line perhaps attached with a sliding ring to an overhead wire running the length of the deck. If it can be arranged, have an overhead wire connected to an engine cut-out so that a high load on the wire stops the engine

OVERBOARD LADDER

- A fixed ladder at the stern or a rope ladder that can be pulled down from the bulwark by a lanyard from the water will enable you to get back on board if you do fall overboard

EPIRB AND PERSONAL LOCATOR BEACON (PLB)

- Equipping your vessel with an emergency position indicating radio beacon (EPIRB) will ensure that should the vessel capsize or sink an automatic distress call will be made and the location transmitted. A personal locator beacon that you can wear on your PFD will assist search and rescue to locate you in the water

MAKE SURE THAT YOUR EPIRB OR PLB IS REGISTERED
Visit www.gov.uk/406beacon

VESSEL CONTROLS

- Have additional vessel controls in a position where you can properly control the vessel from the deck. Ensure that you can easily reach the controls for the winch/ hauler and consider if an additional

emergency stop would be desirable. Consider ways to stop the engine if you go overboard

SAFETY EQUIPMENT

- Make sure that all safety equipment is in good order and easily accessible

WORKING AREA

- Keep your working area clear of anything that may cause you to trip or fall

KNIFE

- Carry a knife that you can easily reach to cut yourself free if necessary

WEATHER

- Check weather forecasts before leaving and check on a regular basis throughout the trip

RADIO COMMUNICATIONS

- Test your radio before leaving harbour and inform the local coastal radio station of your intentions: where you will be fishing and your anticipated time of return to harbour
- Maintain regular communication with the coastal radio station and local vessels during your trip

MAINTENANCE

- Maintain the vessel well, you cannot afford breakdowns. Your life depends on it!

SECTION 4

PERSONAL SAFETY

Personal flotation devices (PFDs)

STAY AFLOAT LONG ENOUGH TO BE RESCUED

In March 2019, Reegan Green went overboard from the fishing vessel EMILIA JAYNE. The winds were 60 knots, and the sea temperature 9°C. However, Reegan was wearing a PFD and the crew had practiced drills. As a result, Reegan was still alive when he was winched to a SAR Helicopter an hour later.

According to MAIB data between 2008 and 2018 the three biggest causes of deaths on fishing vessels are Man Overboard, with 48% of all fatalities, Flooding at 18%, Capsize at 14% and accidents to persons, such as from machinery accidents or due to carbon monoxide or other poisonous fumes at 13%.

In all cases where fishermen drowned, unlike Reegan, if suitable personal flotation devices had been worn, many of the lives could have been saved. Without some means of buoyancy to give support the person rapidly becomes too cold and tired and will die.

A PFD can be a lifejacket or a buoyancy aid of at least 150N or a wearable buoyancy device of at least 50N that provides buoyancy in the water. Many different types are available depending to suit different fishing methods.

WHAT CAN GO WRONG

- There are many ways that a person can end up in the sea:
  - Falling overboard while reaching out board
  - Slipping or tripping and falling overboard
  - Being knocked or thrown by wires/ropes coming tight
  - Being dragged overboard by the fishing gear
  - The vessel capsizing or foundering
  - Being swept overboard by the sea

WHAT CAN YOU DO ABOUT IT

- It is now the law that you must wear a PFD or a lifeline unless you have eliminated the risk of going overboard and documented this in a written risk assessment
- Regardless of this new requirement, we recommend wearing a PFD when on the open deck of a vessel at all times, even if you think you have eliminated the risk of going overboard

- Wearing a PFD will increase the chance of survival when falling overboard
- Make sure they are serviced in accordance with manufacturers recommendations
- Conduct your own checks to ensure the CO bottle is not corroded and is screwed in properly, inspect for outer skin and stitching damage, mildew, leaks, insecure straps and hardened stuffing
- Test inflate every other month, when repacking make sure valve cap is not left in deflate position and auto head is correct
- Put up signs to remind people they are entering an area where PFDs must be worn
- Make sure everyone is aware of the requirements in the risk assessment
- Wear them over the top of any other clothing
- When dry, store in cool well ventilated area, do not dry in front of heat source

Immersion suits

Immersion suits provide the best protection from cold and exposure in the water. You should be able to put it on unaided in under two minutes and should wear this in an abandon ship scenario. Practice donning the suit rather than wait for an emergency. Only use Kite marked suits. Take it out of storage occasionally to air it and lubricate the zipper.

Personal protective equipment (PPE)

PPE IS COMMON SENSE

HAVE THE RIGHT 'SEA GEAR' AND THE APPROPRIATE PROTECTIVE EQUIPMENT

Crew members need to be equipped with clothing suitable for the conditions and to be provided with personal protective equipment (PPE) where the risks cannot be reduced to a tolerable level by other measures and parts of the body are exposed to the risks. The table on page 39 provides guidance on the right PPE for each job.

WHAT CAN GO WRONG

- Injuries and accidents from:
  - Sea spray and water from the fishing gear
  - Cold and heat

- Injuries to:
  - Hands, feet, head, eyes, indeed the whole body
- Man overboard
- Damage to hearing

WHAT YOU CAN DO ABOUT IT

- Oilskin clothing is essential to keep dry, as even in calm conditions water drips off the fishing gear
- In very cold conditions buoyant thermal suits are ideal. They will keep the wearer afloat and will combat both cold water shock and hypothermia if they should end up in the sea
- Rubber boots are normal for fishermen and these should incorporate steel toe caps to protect the toes if items are dropped
- Waterproof gloves need to be worn for handling fish and fishing gear. Tough leather gloves are needed for wire splicing and similar operations
- Hard hats are to be worn if there is a risk of being struck on the head
- Goggles or visors to be worn, if there is a risk of injury to the eyes
- Ear protectors
- Ensure that PPE fits properly and is suitably maintained and serviced in accordance with manufacturer's instructions

Activity	Location	Working Gear			Protective Gear							Specialist	
		Oil Skins	Boiler Suit	Work boots	Gloves	Hard hat	Ear Protection	Safety line, harness	PFD, Buoyancy equipment	Safety goggles	Rubber gloves, apron	Insulated jacket and trousers	Breathing apparatus	Oxygen meter
Fishing Watch	Working on 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			✓	✓	✓			✓	✓				

Stress and fatigue

HAVE BREAKS

FATIGUE IS A HEALTH RISK AND ACCIDENT RISK!

Fatigue increases the risk of personal injury for those working on the deck and fatigue is a major cause of accidents and navigation errors.

WHAT CAN GO WRONG

Fatigue is the result of:

- Time pressure
- Excessive stress
- Work overload and understaffing
- Not enough sleep without being woken up
- Not enough good quality sleep due to the watch schemes and engine noise
- Prolonged mental or physical work extended around the clock for many days
- Insufficient break time between shifts
- Inadequate rest

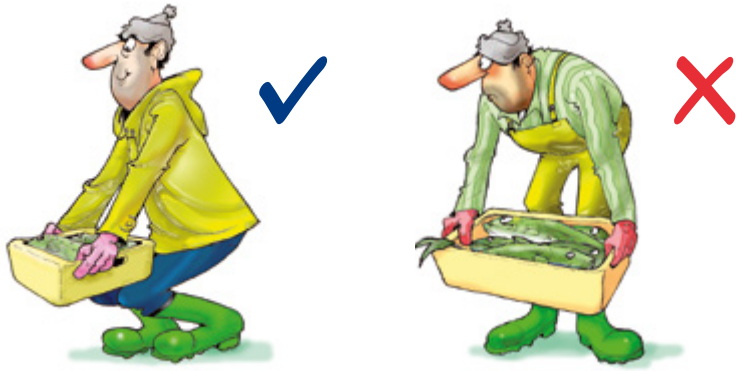
WHAT YOU CAN DO ABOUT IT

- Be aware of the effects of fatigue on you and your crew and ensure that adequate rest is taken

The consequences of fatigue could be much worse than lost fishing time!

Further information on combatting fatigue can be found in MSN 1884 INTERNATIONAL LABOUR ORGANIZATION WORK IN FISHING CONVENTION (No. 188): WORKING TIME: Application of the Fishing Vessels (Working Time: Sea-fishermen) Regulations 2004 as amended

Avoiding injury: listen to your body



TAKE CARE OF YOUR BACK, NECK, ARMS, LEGS AND KNEES

After hearing loss, lower back disorder has been reported as a major occupational disease in fishing. Knee and neck pain, as well as problems with the legs and arms are also common in fishing.

The consequences can be long term pain, reduced ability to do daily activities and the fisherman may have to leave the job.

A number of working positions or actions, when repeated throughout the day and accumulated over the years, may affect your bones and muscles.

WHAT CAN GO WRONG

- Repeated handling of heavy loads, or bent back working positions, generates back pains
- Sorting the catch in a kneeled position affects your knees, bending the back affects your spine
- Repeatedly removing the fish from the meshes or hooks, or baiting lines, may generate pains in the hand muscles or tendons
- Standing for hours at the wheel, standing on vibrating floors can generate blood circulation problems

WHAT YOU CAN DO ABOUT IT

- Assess the work and reduce manual handling of loads to the minimum
- Seek advice from a safety and health expert
- Avoid twisting and turning when lifting
- Eliminate kneeled or bent-back working positions: Install tables for fish sorting or gutting

- If kneeled positions cannot be avoided, use knee supports (foam inserted in pockets in the oilskin legs is better than elastic fastened knee supports)
- Rotate staff working positions in order to prevent excessive repeated actions
- Equip the wheelhouse with a seat for the helmsman

Slips and trips

A fishing vessel is often a congested and busy place to work which is constantly moving with wet, slippery and occasionally icy surfaces. It should be possible to move easily around the working areas of the vessel without the risk of slips, trips and falls. For safe working, everything needs to be stowed to leave walkways and working areas clear

WHAT CAN GO WRONG

- Tripping over obstructions
- Slipping on fish, oil etc left on floors
- Falling into open hatches or onto machinery
- Falling overboard the vessel
- Lack of handrails
- Poor lighting
- Low head obstructions

WHAT YOU CAN DO ABOUT IT

- Keep decks clear as much as possible
- Regularly clean the deck after processing catches
- Use appropriate footwear
- Apply a non-slip coating to the deck, use raised slotted walk boards (duckboards) in areas with ice and fish guts. Use rubber mats where appropriate. Clean up and repair any oil leaks
- Keep hatchways closed when not in use
- Install handrails where they are necessary or where they will be beneficial
- Ensure that the lighting is good enough to see all hazards
- Clearly mark any low obstructions and protect any sharp edges with padding
- Keep clear access to vital safety equipment and controls
- Ensure that freeing ports and emergency escapes are not blocked
- Ensure waste systems are in place at fish processing points

Retrieving gear

TAKE CARE: THINK BEFORE YOU ACT, YOU CAN REPLACE FISHING GEAR BUT NOT A LIFE

When things go wrong and the gear becomes fouled, fishermen want to clear it quickly and may not think about possible consequences when reaching out over the rail or standing on the trawl repairing the netting.

WHAT CAN GO WRONG

- Falling overboard
- Falling from a height
- Being dragged overboard by the gear pulling back out
- Struck by items swinging, rolling or sliding
- Injured crew because they were not wearing appropriate gloves, safety goggles, head protection etc.
- Vessel capsizes

WHAT YOU CAN DO ABOUT IT

- Firstly, assess the situation and decide on the best way to resolve it. Tell all involved what you intend to do
- Wear a safety harness if leaning outboard to reach or you are going to step up from the deck
- Ensure that the gear cannot pull back out before working on it
- Ensure that items cannot swing, roll or slide injuring someone
- Have a tool kit readily available with the right tools and equipment for the repairs you can expect
- Ensure that the correct safety equipment is available with the tools and is used

Enclosed spaces

Any enclosed space, if deprived of regular or constant ventilation is potentially a dangerous space. Reduced oxygen levels or a toxic atmosphere may be life threatening and every precaution should be taken both prior to entry and while inside. There have been a high number of fatalities due to not respecting the dangers of an enclosed space.

WHAT CAN GO WRONG

- Suffocation due to low oxygen or poisonous fumes. Low oxygen levels can result from rusting or absorption of oxygen by organic

matter including fish and toxic fumes can be from fuel, engines, batteries, escaped refrigerant gases or rotting fish

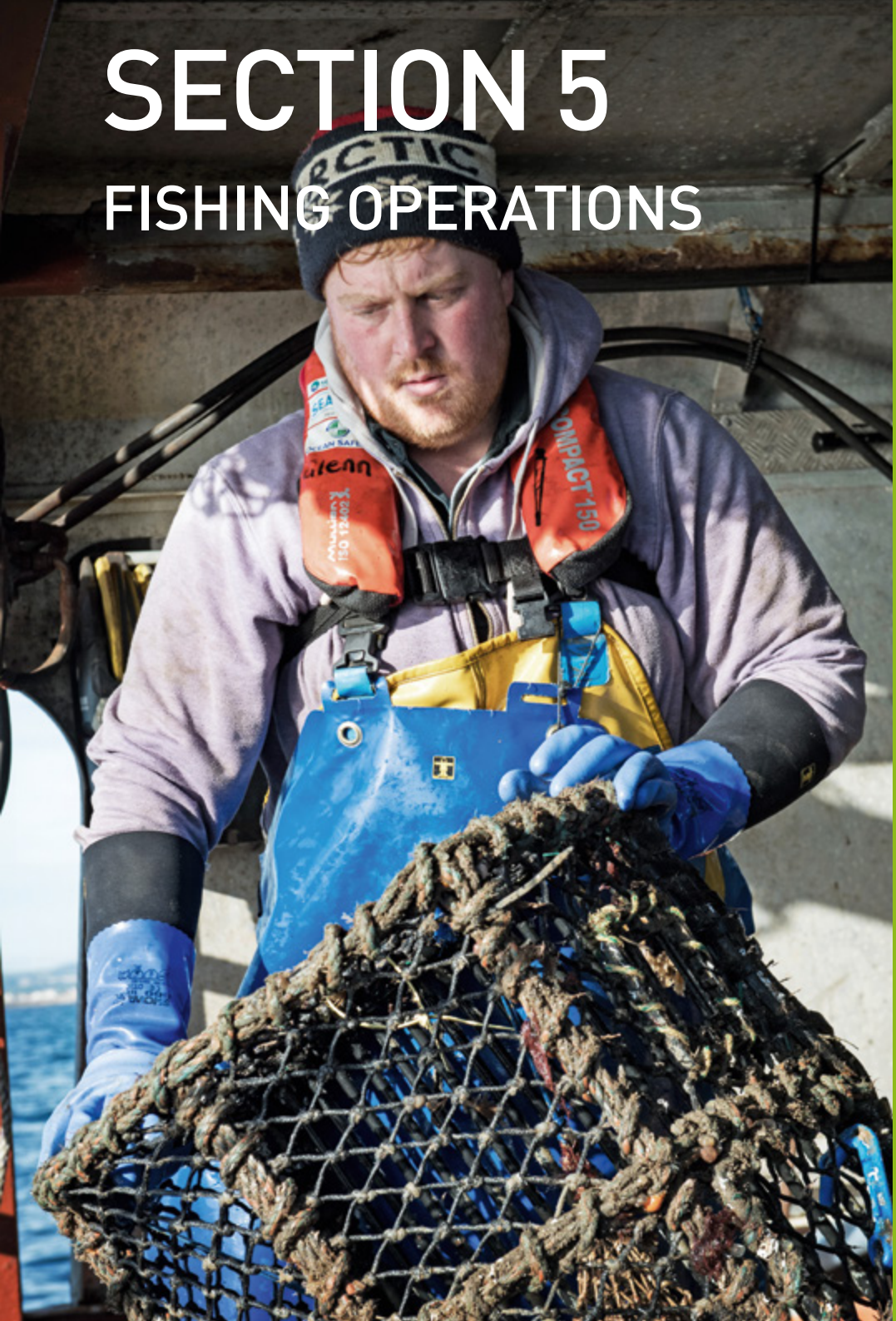
- Recovery of casualties in enclosed spaces often leads to additional casualties, this is often due to rescuers not taking time to don breathing apparatus and ending up in difficulty themselves

WHAT YOU CAN DO ABOUT IT

- Identify potentially dangerous spaces on the vessel and put signs at the entrances to remind crew members to be aware of the risks
- Carry atmosphere testing equipment and train crew to use it
- Crew should have the appropriate breathing apparatus and training to enter the space
- Have a regularly reviewed risk assessment for entering enclosed spaces
- Practice recovery drills
- **Before entering** vent the space, if possible
- Carry out checks before entering space, such as atmosphere testing, permits to enter, gas certificates, safety gear on standby etc. If in doubt, DO NOT ENTER
- Isolate the space, i.e. closing valves on pipework so that harmful gases cannot re-enter during entry into the space
- Ensure the space is well lit
- Have a rescue plan prepared
- Put someone at the entrance to the space with rescue equipment. Wear a safety harness with a safety line attached to help recover crew members in the space or tank (but be aware of the risks of snagging and take appropriate measures). Make sure the person outside knows how to resuscitate people
- Always request permission from the skipper and notify others before entering an enclosed space or tank
- If anyone feels unwell, leave the space immediately
- **NEVER enter without the correct gear and back up from other crew members**

SECTION 5

FISHING OPERATIONS



Catch handling

MAKE IT EASIER: MIND YOUR BACK AND BE AWARE OF OTHER DANGERS

Many fishermen suffer from back problems as a result of not using correct lifting techniques and/or trying to lift too much.

Other problems are working in areas with low head room, working with machinery, such as conveyors and elevators, or using chemicals in the treatment of prawns and general safety in the fish hold.

WHAT CAN GO WRONG

- Repeated manual handling
- Lifting heavy loads
- Insufficient mechanisation
- Poor working area
- Conveyors and elevators without adequate guards or emergency stop
- Allergic reaction to the antioxidant used to dip prawns
- Hazards in the fish room

WHAT YOU CAN DO ABOUT IT

- All persons to be instructed in correct manual handling techniques
- Provide mechanised handling if appropriate, such as a conveyor or elevator
- Assess the catch handling area and remove any unnecessary obstructions
- Ensure that the catch is gutted or sorted at a good working height and that the crew have a secure backrest or rail to steady them against vessel motion
- Use baskets and boxes that will not be too heavy when full
- Ensure that conveyors or elevators are adequately guarded, and that clothing will not catch in them. Consider an emergency stop in a suitable position
- Ensure that the safety precautions are followed with any chemicals used
- Ensure that the fish room is safe with a secure access ladder
- There are no obstructions on the floor or missing gratings
- The lighting is adequate and there is proper provision to retain fish boxes in place

General considerations for working and lifting equipment

Only experienced people should use the deck machinery. Make sure everyone is trained and aware of dangers before using any 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?
- The hauling and hoisting gear should have appropriate safety devices for emergencies, including emergency stop facilities. A duplicate set of emergency stop facilities is to be provided in the wheelhouse
- The gear operator must have a clear view of the gear and any crew member working near it
- If hauling gear is controlled from the wheelhouse, the operator must also have a clear view of the crew working near the gear, either directly or via any other suitable medium. All operators, in the

wheelhouse or on deck shall give exclusive attention to that task and must not carry out other tasks while operating the equipment. Do not get in their way or distract them

- A reliable communications system must be used between the wheelhouse and the working deck and the crew shall be trained in the use of hand signals
- A sharp look out must always be maintained and the crew warned of the imminent danger of heavy oncoming seas during fishing operations or when other work is being undertaken on deck
- Contact with bare ropes and warps and with moving parts of the equipment shall be minimized by installing protective devices or barriers
- Always complete the task, secure equipment and close down machinery before you leave
- Always inspect ropes and lines for damage as suitable for the job. Know its safe working load. Synthetic ropes are stronger than natural fibre ropes but not suitable for some jobs, use them with caution, especially on a winch drum
- Synthetic ropes give no warning of failure and recoil violently when they break
- Do not expose ropes to oil, petrol, paint or other chemicals, wash them in clean water and dry natural fibres before storage
- Ensure you comply with the Merchant Shipping and Fishing Vessels (Provision and Use of Work Equipment Regulations 2006) and the Merchant Shipping and Fishing Vessels (Lifting Operations and Lifting Equipment Regulations 2006) and the associated Marine Guidance Notes, MGN 331 Amendment 1 and MGN 332 Amendment 1

Handling trawl doors

HEAVY TRAWL DOORS, VESSEL ROLLING AND PITCHING: ARMS AND HANDS NEED TO BE CLEAR!

The arrangements for chaining up the doors (also known as 'dogging up') at the gantry need to be well thought out and the winch operator needs to ensure that the men at the doors are clear before operating the winch.

WHAT CAN GO WRONG

- Hand or arm trapped between the door and the vessel
- Hand or arm trapped when passing chain through opening
- Trawl door swings inboard striking the man

- The winch is operated before the man handling the 'dog-chain' is clear

WHAT YOU CAN DO ABOUT IT

TRAWL DOOR HANDLING

- Ensure that it is easy to reach to chain up the doors at the gantry by fitting a step if necessary. Install an additional handrail, higher up, to ensure that the person standing up high to reach cannot fall overboard

CHAINING UP

- Do not place hand or arm through any openings, throw the chain through when securing the door

DOOR SWINGING INBOARD

- Are the doors liable to be lifted too high and swing inboard striking a crew member and can a safety rail or barrier prevent this?

LOCATION OF WINCH CONTROLS

- The winch operator must be in a good position to clearly see that crew members, handling the trawl doors and other operations, are stood clear before operating the winch. If the operator cannot see all persons involved, a clear system of signals needs to be established

Winches, warps, towing chains

UN-GUARDED WINCHES AND WARPS ARE JUST WAITING FOR YOU TO SLIP AND FALL

Just a simple guard, barrier or a handrail can prevent you from falling onto the moving winch or warps.

WHAT CAN GO WRONG

- Falling on to the rotating winch
- Clothing snagged by splinters in the warp and being dragged into a sheave or winch
- Worn components breaking causing injury or death
- Towing point or towing chains failing causing injury or death
- Injuries from transferring warps during pair trawling operations

WHAT YOU CAN DO ABOUT IT

UNGUARDED WINCH

- Make sure that the winch is adequately guarded such that a person falling against the rotating winch would be safe. A simple handrail in front of the winch could be sufficient to prevent someone being seriously injured or killed

WARP RUNS

- They are dangerous if unguarded, as a splintered wire can snag in a crewman's oilskins and drag a hand or a foot into a sheave. A guard or a barrier that prevents contact with the moving warp will remove the risk

WORN COMPONENTS AND GEAR

- Maintain the winch in good order with emergency stops, effective controls, brakes, clutches and guiding on gear
- Ensure that the winch rollers, deck sheaves and hanging blocks and shackles are in good condition
- Worn components and fittings can suddenly fail, resulting in accidents
- All items used for lifting must be tested and rated with a safe working load and inspected annually by a competent person

TOWING CHAINS

- Ensure that the towing point, the towing chains/wires and the 'stopper' chains are in good condition and that all crew members are aware of the dangers of transferring the load and that they stand clear

SLACK WARP

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

PAIR TRAWLING – WARP TRANSFER

- Ensure that the weighted end of the throwing line is padded to lessen the chance of injury when it is thrown to the crew on the partner vessel
- Ensure the crew member releasing the slip hook is aware of the danger of the slip hook springing back
- Use a long bar to knock the slip hook open

Bag lifting, net drums and more

PREVENT INJURIES: DON'T TAKE RISKS GETTING THE CATCH ON BOARD

Reaching to hook in the bag lift wire and lifting the bag aboard does pose risks, especially lifting heavy bags on vessels which will also reduce the vessel's stability.

WHAT CAN GO WRONG

- Falling overboard when reaching out board
- Struck by the swinging bag
- Vessel in danger of capsize by heavy lift
- Crew member carried around the net drum
- Structural changes to the vessel affecting stability

WHAT YOU CAN DO ABOUT IT

HOOKING IN THE LIFTING BECKET

- Ensure that the crew member is not at risk when reaching over the rail to hook into the lifting becket. Can changes be made to make this operation safer?
- A safety harness should be worn if it is not possible to avoid the need to lean a long way over the rail

BAG LIFTING

- Ensure that there is an effective means to prevent the bag from swinging dangerously and that the winch operator can see the crew members handling the bag

HEAVY LIFTS

- Lifting large catches on board can put the vessel at risk through loss of stability especially if a heavy bag is lifted when the vessel is heavily loaded with fish on deck
- Fish on deck must be contained in boxes or pounds to prevent it from moving and causing the vessel to list
- Unexpectedly heavy loads in the cod end such as stones or mud can place excessive strains on the lifting derrick and rigging causing it to suddenly break, injuring crew members. Trying to lift a heavy weight on board may result in vessel capsize and if in doubt, the net should be cut open to release the load

NET DRUM

- The person at the controls of the net drum must be able to see crew members handling the net to be able to stop the drum immediately if necessary. If this is not the case, an additional control or an emergency stop near the net drum is necessary

STABILITY

- If items such as a net drum and a powerblock are installed after the vessel was commissioned, checks should be made to ensure that the stability of the vessel has not been compromised

Potting

Layout and system

KEEP CLEAR: DON'T GO DOWN WITH THE POTS!

Potting has become a very popular fishing method for small vessels but the risk of being entangled in the rope or struck by a pot means it is also a dangerous method for crew members

LAYOUT AND SYSTEM: MAKE IT SAFE – THE SAFEST LAYOUT IS USUALLY THE MOST EFFICIENT

Consider how to arrange to work pots on your vessel such that the crew can work safely and efficiently

WHAT CAN GO WRONG

- Crewman becoming entangled in the rope and dragged overboard
- Being struck by a pot
- Several pots are dragged out of sequence endangering the crew
- The vessel is overloaded and founders or capsizes
- Working single handed

WHAT YOU CAN DO ABOUT IT

VESSEL LAYOUT

- Ensure that the layout of the vessel allows safe and efficient working of pots/creels. Look for possible snag points that the rope or pots may snag on when shooting
- To lessen the danger of crew members becoming entangled with the rope, consider if it is possible to install a barrier to contain the rope clear of the area where the crew are handling the pots

- Consider if an improved layout may be possible to enable the pots to be shot directly off the deck via a transom gate or a shooting ramp whilst the crew are safely stood clear in a forward position

NUMBER OF POTS

- Is the number of pots in each 'string' limited by the number of pots that can be easily and safely worked in the available deck space on the vessel? Would it be significantly safer to reduce the number of pots per string and to work extra strings?

POT STACKING

- Make sure that the pots are securely stacked ready for shooting so they will not fall over with severe vessel motion and impact their shooting sequence
- Do you have a clear system of marking any out of sequence pot that has been left aside for repair prior to shooting?

STABILITY

- Consider the stability of your vessel especially when taking pots to and from a new area when it is very tempting to carry as many pots as possible
- Stacking pots high and carrying a significant weight of rope on the deck will have a serious effect on the vessel's stability and freeboard
- A heavily loaded vessel may appear to be safe in calm conditions, but conditions can rapidly change; the vessel ships a little water or the gear shifts resulting in capsize.

WORKING SINGLE-HANDED

- Consider your safety before thinking about the number of pots that you can work. See pages 32 to 34

Shooting

KEEP CLEAR; SHOOTING POTS CAN BE VERY DANGEROUS; GREAT CARE IS NEEDED

Try to separate the crew from the ropes; ideally, use a self-shooting system.

WHAT CAN GO WRONG

- Being dragged overboard and drowning
- Leg crushed by rope tight around it
- Being struck by a pot

WHAT YOU CAN DO ABOUT IT

PLAN OF ACTION

- Have a clear plan of action of who is doing each task
- Avoid shooting in fairways or harbour approaches

SHOOTING EMERGENCY

- You and your crew should consider possible emergency situations that may occur and the best action to take
- Ensure that all persons wear a personal flotation device and carry a knife to be able to cut themselves free of the rope
- Ensure controls can be easily reached by the operator. Have an emergency stop that is reachable

ALL PREPARED

- Having shot away the dhan and tow, ensure that everyone is prepared before releasing the anchor

KEEP CLEAR

- Keep clear of the back and leg ropes as the pots are handled over the rail
- Keep all unnecessary gear away from the shooting and hauling area

SHOOTING SPEED

- Would a modest reduction in shooting speed ease the pressure on the crew and make shooting much safer?

Hauling

PREVENT INJURIES

HAULING POTS IS REPETITIVE AND IT IS EASY TO LOSE CONCENTRATION AND GET YOUR HAND TRAPPED BY THE ROPE AROUND THE HAULER

WHAT CAN GO WRONG

- Hand trapped in hauler; loss of fingers
- Hauler pulls the vessel over
- Failure to stop hauler results in anchor or pot striking operator

WHAT YOU CAN DO ABOUT IT

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 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

Davit block, emptying, baiting and catch stowage

MIND YOUR BACK

YOU WILL HANDLE TONNES OF POTS EACH WORKING DAY SO GIVE YOUR BODY A CHANCE; HANDLE THEM CORRECTLY

Avoid bending, reaching and twisting when handling pots. Carry them close to your chest with your back straight and bend the knees when placing down.

WHAT CAN GO WRONG

- Back and upper limb injuries from repeated manual handling
- Vessel at risk of capsize if containers fill with water or shift

WHAT YOU CAN DO ABOUT IT

DAVIT BLOCK

- Ensure that it is it in good condition and is mounted so that it enables the pots to be hauled in board with the minimum of manual effort and without the crew member having to excessively bend, reach and lift to bring each pot over the rail
- It must retain the rope effectively even when the vessel is rolling heavily. Recent developments have resulted in a wide, large diameter roller, mounted on the bulwark rail to assist in hauling the pots inboard
- The pots can be hauled aboard without manual lifting making the hauling operation safer and more efficient

EMPTYING AND BAITING

- The pots should be at a comfortable working height for the removal of the catch and re-baiting with the minimum of lifting and bending as the pot moves from the davit block/roller to the stacked position ready for shooting

STOWING CATCH ON DECK

- On small vessels shellfish is often stowed in boxes or bins on the deck. Care must be taken to prevent the containers from shifting in bad weather or blocking the freeing ports
- Covers must be fitted on the containers as in rough sea conditions they may rapidly fill with water and possibly cause the vessel to capsize

Netting/lining/jigging

Prevent injuries

DON'T GET NETTED OR HOOKED!

Netting, lining and jigging are considered together as they have similar risks even though there are particular risks associated with each method.

Stowage of gear and stability

DON'T OVERLOAD – GEAR STOWED ON DECK WILL ADVERSELY AFFECT STABILITY

On small vessels it is easy to overload and make the vessel 'top heavy'. Think about the loading

WHAT CAN GO WRONG

- Fishing gear stowed on the deck may make the vessel 'top heavy' and stability may be insufficient
- Gear stowed on deck may block freeing ports with the result that the vessel cannot quickly shed water

WHAT YOU CAN DO ABOUT IT

NET/LINE STORAGE

- If bins or tubs are used to store the nets/lines, ensure that these are secure on deck and will not slide in heavy seas reducing the stability of the vessel
- The bins or tubs must have adequate drain holes in them, and covers should be fitted to prevent them rapidly filling with water and causing the vessel to capsize

DHAN AND ANCHOR STOWAGE

- Ensure that these are stowed in a position where crew members can easily reach them without the risk of tripping and falling
- Make sure that they do not block the visibility from the wheelhouse

FREEING PORTS

- Ensure that items on deck do not block freeing ports
- Heavy items should be stored below deck

Shooting nets and lines

DON'T GET CAUGHT – SHOOTING BOTH NETS AND HOOKS CAN BE DANGEROUS

The fine monofilament netting easily snags on clothing, watches, rings etc. and you can be dragged overboard. Hooks have obvious dangers and great care is needed.

WHAT CAN GO WRONG

- Netting catches in clothing or other items dragging the crew member overboard
- Crew member stands on netting and is tangled in it carrying him overboard
- Hooks snag a crew member, either ripping the flesh or sticking in the bone, perhaps even dragging him overboard

WHAT YOU CAN DO ABOUT IT

- Remove wrist watches or jewellery and wear suitable gloves
- No snag points: ensure that clothing has no snag points
- PFD: wear a personal flotation device that fits closely with no obvious snag points. Tuck the lanyard bead out of the way
- A sharp knife is readily to hand to cut gear free if anyone is caught in meshes or hooked
- Standing on the net: Shooting nets from bins is preferable to working from a deck pound as the net cannot be stood on
- A shooting chute: will make shooting more snag free from bins as the nets will lift up vertically and not drag across
- Shooting by hand: should be avoided with lines. It is much safer to lay baited hooks on the coils of line and to use a shooting chute or to flick the lines out of the bin with a shooting stick

Hauling

PREVENT INJURIES – EFFECTIVE HAULING EQUIPMENT IS MORE EFFICIENT AND SAFER

Ensure that the hauler is suitable for your operation and is in good condition.

WHAT CAN GO WRONG

- Hand or arm trapped in the hauler
- Gear pulling back out injuring crew members
- Gear sweeping across the deck
- Controls not effective

WHAT YOU CAN DO ABOUT IT

NET HAULER

- There are various types of net hauler ranging from a simple rotating drum design to complex multi-drum or conveyor types. It is important that guards are retained in place to protect crew members

LINE HAULER

- Typically, a V wheel hauler or a multi wheel hauler will be used. With the V wheel type, it is important that the ejector knife is in place and in good condition otherwise the line will not eject from the sheaves and can wrap around them, pulling the line back at serious risk to the crew

PULLING BACK OUT

- With netting and lining, the consequences of the gear suddenly pulling back out can result in injuries to the crew. It is essential that the hauler is maintained in good condition and the gear is not unintentionally drawn back out

FAIRLEADS

- If a fairlead 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 endangering the crew. If a fairlead is not used, the hauler must be easily able to follow the 'lay' of the gear

CONTROLS

- The control must be in good condition and within easy reach of the hauler operator. Make sure that the control 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

Jigging and mechanised systems

PREVENT INJURIES – MACHINERY CAN BE DANGEROUS; MACHINERY WITH HOOKS, TAKE CARE

WHAT CAN GO WRONG

- Being injured by hooks
- Musculoskeletal injury
- Injured by machinery

WHAT YOU CAN DO ABOUT IT

JIGGING EQUIPMENT

- Ensure that the jigging reels or mackerel gurdies are securely mounted at a height that enables the crew members to operate them comfortably and safely
- Lures and hooks passing across the deck or over the gunwale have obvious dangers for crew members
- 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 people 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 using 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

Dredging and beam trawling

Stability

KEEP STABLE – TAKE GREAT CARE TO MAINTAIN BALANCE AND STABILITY

- Dredging and beam trawling have been linked together here because they both use derricks to lift outboard and then tow heavy fishing gear on each side of the vessel (exceptions are those vessels that work dredges or a beam trawl from a stern gantry)
- A major concern with this type of fishing is the stability of the vessel. The weight of the fishing gear is substantial, and care must be taken to keep the vessel evenly balanced
- Problems occur when the dredges or the net become very heavy with stones or the gear becomes fast on the seabed. It is essential to avoid applying too much load unevenly on the vessel

KEEP STABLE

CHECK STABILITY AND SAFETY RELEASES

- Stability needs to be checked by a qualified naval architect when the vessel is first rigged for dredging or beam trawling
- If stability is not sufficient it may result in capsize

WHAT YOU CAN DO ABOUT IT

STABILITY

- Beam trawling or dredging involves the lifting of heavy gear from derricks which results in large overturning forces on the vessel. It is essential that the stability is properly checked when a vessel is rigged for these fishing methods. All persons who have control of the vessel must be aware of the dangers of uneven loading and the need to avoid light ship conditions when working the fishing gear

SAFETY RELEASE DEVICES

- To reduce the danger in a situation where the gear is fast on the seabed the derricks should be fitted with a release device to transfer the load from the end of the derrick to the side of the vessel. Usually such devices release the derrick towing block down a wire to the bulwark rail and thus the potential capsize lever on the vessel is greatly reduced

GEAR FOULED ON SEABED

- When trying to free fouled gear, ensure that everyone is aware of the danger of uneven loading resulting in vessel capsize
- Lifejackets should be worn, hatches and doors closed, and the Coastguard authorities informed

Winches, warps and controls

FIT GUARDS – MAKE IT SAFE

Fit guards or barriers, replace worn components and make sure that the winch operator can see what is happening

WHAT CAN GO WRONG

- Crew member falling on to the rotating winch or snagged by the warp and a hand or foot dragged into a sheave
- Worn component failing resulting in injuries or death
- The winch is operated before the crew member is clear

WHAT YOU CAN DO ABOUT IT

UNGUARDED WINCH/WARP RUNS

- Make sure that the winch is adequately guarded so that a person falling against the moving winch would be safe. A simple handrail in front of the winch could be sufficient to prevent someone being seriously injured or killed
- Warp runs are dangerous if unguarded, as a splintered wire can snag in a person's oilskins and drag a hand or a foot into a sheave
- A guard or a barrier that prevents contact with the moving warp will remove the risk

WORN COMPONENTS AND GEAR

- Maintain the winch in good order with effective EMERGENCY stops, controls, brakes, clutches and guiding on gear. Ensure that the winch rollers, sheaves, derricks, stays, hanging blocks, shackles and warps are in good condition. Worn components and fittings can suddenly fail resulting in accidents

NB: All items used for lifting must be tested and rated with a Safe Working Load and inspected annually by a competent person. Signage must be displayed indicating the direction of movement.

LOCATION OF WINCH CONTROLS

- The winch operator must be in a good position to clearly see that crew members, handling the beam trawls/dredges and other operations are stood clear before operating the winch. If the operator cannot see all persons involved, a clear system of signals needs to be established
- The winch controls must be guarded and safe from accidental operation, say from a rope/netting or, a person's clothing snagging on them

Handling the gear

KEEP CLEAR – CONTROL HEAVY GEAR AND DON'T REACH TOO FAR

Heavy gear has to be under control at all times for the safety of the crew. Be safe when reaching outboard

WHAT CAN GO WRONG

- Crew member crushed by heavy gear swinging or sliding
- Falling overboard when reaching out board
- Struck by the swinging bag or swinging dredge
- Heavy load risks vessel capsize

WHAT YOU CAN DO ABOUT IT

RESTRAINING

- Ensure that there is an effective means of restraining the beams/dredges to prevent the heavy gear swinging, rolling or sliding across the deck and injuring crew members
- Secure the gear from movement to make sure that crew members can make repairs without risk of injury

HOOKING IN THE LIFTING BECKET

- Ensure that the crew member is not at risk when reaching over the rail to hook into the lifting becket. Can changes be made to make this operation safer?
- A safety harness should be worn if it is not possible to avoid the need to lean a long way over the rail

BAG/DREDGE LIFTING

- Ensure that there is an effective means to prevent the bag/dredge swinging and endangering the crew when being lifted for emptying

EXCESSIVE LOADS

- Will you be aware if the trawls/dredges contain excessive loads (mud or stones etc.)? High loads can cause lifting derricks to fail, possibly injuring crew members. Attempting to lift a heavy weight on board may result in the loss of stability risking capsize
- Extreme care must be taken, and crew members instructed to stand clear when heavy loads are lifted

Purse seine

Auxiliary boats

THINK SAFETY – BIG NETS, BIG CATCHES, BIG RISKS!

Using a purse seine to catch pelagic species brings the risk that the quantity of fish in the net may endanger the vessel. Handling a large net, with large quantities of fish and the loads involved in hauling will pose real risks for crew members.

TAKE CARE: AUXILIARY BOAT OPERATIONS ARE DANGEROUS

Launching and recovering the boat can be dangerous for all involved and the crewmen manning the boat are at risk when transferring to or from it. Also, there are the obvious dangers of the sea conditions for such a small boat.

WHAT CAN GO WRONG

- Wires/ropes breaking, or jamming in blocks, when launching or recovering the auxiliary boat from/on to the vessel leading to crew members being injured
- Falling overboard when transferring to or from the auxiliary boat
- Capsize of auxiliary vessel due to sea conditions

WHAT YOU CAN DO ABOUT IT

- The vessel must be properly equipped to safely perform the launching and recovery of the auxiliary boat. Winches, lifting gantries and all wires, ropes, sheaves, blocks etc. must be maintained in good order
- To assist the safe boarding/leaving of the auxiliary boat, a suitable platform or ladder should be installed to enable crew members to step safely on and off the boat
- A handrail or stanchion at a suitable height on the auxiliary boat that provides a hand hold will enable the person to regain their balance once on the boat

- When a person is boarding or leaving the auxiliary boat, careful watch should be kept from the wheelhouse and by those involved with the auxiliary boat in order that immediate action can be taken if the person should fall
- A personal flotation device must be worn by all persons working on the deck of the vessel and especially those persons involved with the auxiliary boat
- Radio communication must exist between the vessel and the auxiliary boat
- The auxiliary boat should be equipped with buoyancy compartments such that, even if it is swamped it will not sink

Winches, haulers, cranes, ropes and lifting tackle

TAKE GREAT CARE – HAULING AND LIFTING OPERATIONS

Operations with winches, haulers, cranes etc. are generally responsible for serious work accidents. With purse seine operations the quantity of fish handled, both when brailing from the net and in containers when landing, increases the likelihood of such accidents.

WHAT CAN GO WRONG

- Ropes or lifting tackle breaking under load and whipping back injuring crew members
- Ropes breaking when a turn rides up and jams in the winch or hauler
- Clothes or limbs dragged into sheaves, haulers or rollers
- Loads being dropped when lifting, potentially killing or injuring crew members

WHAT YOU CAN DO ABOUT IT

MAINTENANCE

- All the equipment and ropes are to be inspected regularly and maintained in good order
- Ropes that have suffered a lot of abrasion need to be replaced.
- Ropes exposed to sunlight should be regularly inspected and replaced if necessary
- Ensure that all lifting equipment is appropriate for the load being lifted

VESSEL PROVISIONS

- Install handrails or barriers where appropriate to prevent persons falling on to moving ropes/ wires or equipment

- Install a self-tensioning purse line hauler to avoid the risk of a crew member being caught in the hauler
- Lifting the 'drying up' rollers up clear of the bulwark reduces the risk to crew members
- Install an intercom system between the wheelhouse and critical areas on the deck to give good clear communication
- Emergency stop controls on the deck for deck machinery
- Emergency stop controls for deck machinery in the wheelhouse
- Install controls that give smooth speed control, not just stop/start

CREW PROVISIONS

- Wear a PFD when working on deck
- Wear the correct personal protective equipment: oilskins, gloves, boots and hard hat
- Do not wear jewellery, chains, ear rings, watches etc. that may catch in netting
- Stand clear of operations if you are not directly involved
- Do not stand underneath a suspended load
- Do not obstruct the vision of the operator of the winch or crane
- Pay attention to what is happening as a distraction can be fatal
- Ensure that you understand any hand signals that are used

Catch stowage, vessel stability and free movement around the vessel

DON'T OVERLOAD – CHECK STABILITY AND FREEING PORTS

Large quantities of fish can be caught and stowing this can take up all the available space on the vessel. It is essential that you consider the stability of the vessel and the safety of the crew, who have to move around a vessel severely restricted by pounds or containers of fish.

WHAT CAN GO WRONG

- Overloading means vessel freeboard is reduced, and the vessel capsizes
- Free surface effect of fish on deck; vessel capsize
- Containers not correctly positioned and secured; vessel capsize
- Free movement of the crew is restricted; slips trips and falls
- Crew members stood up on the lids of containers are above the protection of the bulwark rail
- Lighting not sufficient in all deck areas

WHAT YOU CAN DO ABOUT IT

- Skippers need to be aware of the carrying capacity of the vessel with respect to the vessel's stability and not overload the vessel. If a past record of safe operation is not available, the stability must be assessed
- If additional carrying capacity is being considered or a new method of stowing, such as containers, a stability assessment should be carried out to verify that the vessel will be stable
- Deck pounds should have divisions to prevent 'free surface effect' in the fish. Similarly, the hold must have divisions
- Containers must be securely positioned to prevent sliding and causing the vessel to capsize
- Safe walk routes should be made to give the crew safe access to the essential areas of the vessel
- If crew are stood above rail height, a safety line should be rigged
- Lighting must be sufficient in all areas

SECTION 6

EMERGENCIES

In an emergency it is vital to ensure you can communicate with the rescue services with the correct equipment.

GMDSS

GMDSS (Global Maritime Distress and Safety Systems) 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 (SART) and Emergency Position Indicating Radio Beacons (EPIRBs).

Owners and skippers should check the codes and regulations 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 A4. The remaining sea areas. The most important of these is the sea around the North Pole (the area around the South Pole is mainly land). Geostationary satellites, which are positioned above the equator, cannot reach this far

Digital Selective Calling (DSC)

DSC is primarily intended 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 coordination 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.

EPIRBs (Emergency position indicating radio beacon)

Every vessel 10m and over must be fitted with an EPIRB.

Every EPIRB shall:

- 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
- Have the float-free arrangement routinely replaced or serviced in accordance with the manufacturer's instructions
- Be maintained in accordance with the manufacturer's instructions
- Be registered, reference shall be made to The Merchant Shipping (EPIRB Registration) Regulations 2000, No. 1850 as amended and MSN 1816 (M&F) – Mandatory Registration of Emergency Position Indicating Radio Beacons (EPIRBs), or any superseding document
- 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 Wheelmark Compliance Certificate shall be A.1/5.6; and
- Transmit the position obtained from a built-in GPS receiver to satellite

PLBs (Personal Locator Beacons)

Every vessel of less than 10m must carry either a PLB for every member of crew or an EPIRB.

PLBs are an additional personal location beacon and are a popular safety device as they can be worn on your person with minimal interference. They provide a GPS signal to track a location. This is very useful in a MOB situation. Make sure you will be able to operate it in cold water.

Wear it on your PFDs, not on a belt, which may be underwater if you go overboard.

PLBs shall:

- Comply with EN 302 152
- Be registered in accordance with 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)

EPIRBs and PLBs that operate within the 406 MHz band must be registered with the MCA. The completed form or any registration queries shall be sent to:

The UK Beacon Registry

The Maritime and Coastguard Agency

Falmouth CGOC

Castle Drive

Pendennis Point

Falmouth

Cornwall TR11 4WZ

Tel: 020 3817 2006

Fax: 01326 319264

Email: UKBeacons@mcga.gov.uk

Online registration: gov.uk/406beacon

Man overboard

THE PRIORITY MUST BE TO PREVENT A PERSON GOING OVERBOARD, THIS SECTION PROVIDES GUIDANCE.

THIS GUIDANCE IS NOT INTENDED TO BE COMPREHENSIVE. YOU SHOULD ASSESS THE RISKS FOR YOUR OWN VESSEL AND ACT ACCORDINGLY

WHAT CAN GO WRONG

- Deck design or the task means crew need to work near vessel edge and slippery decks lead to increased risk of MOB
- Getting caught in bights of ropes or inside lines under tension
- Failing to spot MOB when it happens

- Falling through gaps in bulwarks etc or over low sides or under guardrails
- Failure to communicate actions
- Poor lighting
- Machinery poorly guarded
- Gear can swing about
- Loose clothing getting caught up

WHAT YOU CAN DO ABOUT IT

- Redesign vessel layout or task to move people away from edges or having to lean over, put anti-skid surfaces down. Can the task be done mechanically? Identify ways to avoid leaning over the side
- Separate crew from lines, have an agreed procedure for entering such areas
- Supervise work and be able to see working area from wheelhouse. If not possible install cameras
- Fit efficient bulwarks or guard rails on all exposed parts of the working deck and on superstructure decks if they are working platforms, at a height of at least 1m. Don't leave gaps or lowpoints except for operational reasons, and then they should only be open for the minimum time possible
- Ensure adequate protection of the crew from water shipped on deck
- Clearance below the lowest course of guard rails shall not exceed 230mm, courses not more than 380mm apart, and the distance between stanchions shall not be more than 1.5m. Guard rail supports of vessels with rounded gunwhales are placed on the flat of the deck. Rails must be free from sharp points, edges and corners and must be of adequate strength
- Stern trawlers should be provided with suitable protection such as doors, gates or nets at the top of the stern ramp at the same height as the adjacent bulwark or guard rails and when not in place a chain or other means of protection is in place
- Where it is not possible to establish proper visual and audible communication between the workplace and the bridge, a suitable and reliable communication system shall be established
- Passageways, working spaces and areas well lit
- Machinery designed, guarded and fenced so that moving parts don't lead to man overboard risks. All protective devices shall have the required strength

- Fairleads shall be provided with protection devices or other equally effective approved safety arrangements capable of offering protection
- Wires separated from crew
- Operating handles should automatically return to the neutral position when released and be provided with a locking device or shielding preventing unintentional activation
- Prevent gear and other equipment from accidentally swinging inboard, e.g. by erecting one or more movable protective bars, pipe clamps or similar at the gallows
- Avoid loose clothing

What to do to prepare for someone going overboard

1. Have a plan for recovering a conscious person
2. Have a plan for recovering an unconscious person
3. Have the ability to locate a person in the water (visual means or otherwise) – ensure you have sufficient search lights and/or rings on board
4. Have a means to get hold of and recover an unconscious person
5. Have a life buoy at the aft end and/or near to the place where the chances of falling overboard are the highest
6. Have equipment practical for the vessel
7. Know how to use the equipment you have on board
8. Practice using the equipment
9. Make sure the retrieval equipment is usable with the levels of manning on board – ensure it can be operated by the crew if one of them has gone overboard
10. Conduct and record man overboard drills to familiarise your crew with the procedures
11. Review the drills with the crew and put in place any improvements identified
12. Have a written down plan and procedures for recovering the casualty for the benefit of the crew
13. Ensure the crew are wearing PFDs, even if you think the risk of going overboard has been eliminated, unless an inflated PFD will make it difficult to escape the space a person is in
14. Make sure anyone involved in the rescue wears a PFD and lifeline, and only as a last resort, if the recovery necessitates one crew member entering the water, ensure the person is suitably protected

15. If working single handed, put in place a means to get yourself back on board

The following provides guidance on the actions of the vessel's skipper and crew. These actions are generic and may vary from vessel to vessel and it is recommended that you identify the requirements particular to your vessel through practice drills.

Primary Action	Secondary Action	Vessel Dependant Action	Skipper/Crew Awareness
Throw a life-ring in to the sea as close as possible to person overboard	• Throw lifebuoy close to MOB if seen going overboard • If not seen consider light/smoke float to mark position for SAR and search vessel • Collect details of missing crewman for skipper • Post lookouts	• Press MOB on Nav Aid	• Know how to maintain awareness of MOB location • Know how to activate light/smoke float • Know why a light/smoke float will assist • Know how to search vessel effectively
Raise the alarm	• Sound main crew alarm • Issue PAN broadcast or DSC "urgency" message – advise Coastguard • Crew to muster stations with warm clothing/lifejackets on		• Be aware of muster station • Understand most suitable place to store lifejackets • Access lifejackets quickly • Know how to don lifejackets
Inform the coastguard via DSC and / or ch16 Mayday	• Keep SAR and vessels aware of situation.		• Be aware of correct procedure
Commence recovery procedure	• Commence Williamson turn (if gear in and navigation allows) • Look to recover from "weather side" of vessel	• Haul gear • Prepare rescue boat/liferaft • Prepare MOB recovery system • Organise dry clothing and first aid equipment	• Know how to release and deploy liferaft/ rescue boat • Recover crew using MOB systems on board • Know the limitations of the MOB systems • Know what first aid requirements to anticipate

If you fall 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 help anyone 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 help in your own rescue will be greatly diminished in minutes

After recovering a person from the water

- 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 appropriate first aid action. 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

Fire prevention

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

WHAT CAN GO WRONG

- Cigarettes, matches and undesignated smoking areas
- Damaged or faulty electrical equipment or wiring
- Flammable items not stored appropriately
- Cooking stoves and oil unattended or not cleaned and looked after

WHAT YOU CAN DO ABOUT IT

- Have designated smoking areas away from flammable liquids, gases and aerosols and places to put out and dispose of cigarette ends and matches
- Regularly check fire detection and alarm systems and ensure these are maintained appropriately
- Ensure flammable items are stored appropriately
- Doors to galleys and engine rooms have self-closing devices, only use electro-magnetic hold backs linked to the fire detection system
- Check for faulty wiring or electrical equipment and report it
- Welding and electrical repairs carried out by qualified persons
- Avoid overloading sockets or circuits
- Rubbish cleared away and leaking oil dealt with
- Store flammable items safely, in appropriate containers away from accommodation

Fire fighting guidance

WHAT CAN GO WRONG

- Out of date or incorrect extinguishers being used
- Can't find the extinguishers
- Delays in raising an alarm
- Lack of oxygen when fire fighting in enclosed or poorly ventilated spaces

WHAT YOU CAN DO ABOUT IT

- Ensure all crew are familiar with fire drills and that these are repeated regularly
- Make sure you and everyone else knows where to find the fire extinguishers, knows what type of fire each one is appropriate for and how to use them
- Always keep the fire fighting equipment in its proper location, maintained in good working order and available for immediate use
- Before you get under way, check the presence of extinguishers and other portable fire fighting equipment
- Visually inspect all extinguishers each month and service them once a year
- Indicate the location of fire fighting equipment by luminescent signs and place in close proximity to areas of high fire risk to allow for safe and quick access
- Ensure all are aware of how to raise the alarm and fight fires
- Closing off ventilation where possible
- Preparing to abandon ship in case the fire is unfightable

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 for example, 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 you are in the engine room and you hear the CO2 (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

The following provides guidance on the actions of the vessel's skipper and crew. These actions are generic and may vary from vessel to vessel and it is recommended that you identify the requirements particular to your vessel through practice drills.

Primary Action	Secondary Action	Vessel Dependant Action	Skipper/Crew Awareness
Raise the alarm on discovery of smoke or fire			
Restrict the fire, if possible, by closing hatches	• Report progress to skipper • Close ventilation • Flaps, fans and doors		• Know how to respond to fuel stops activating • Know how to communicate effectively with each other
Muster crew and call the Coastguard	• Don Warm clothing and lifejackets • Send DSC alert, followed by voice transmission	• Account for crew	• Be aware of correct procedure to alert CG • Be aware of muster station • Understand most suitable place to store lifejackets • Access lifejackets quickly • Know how to don lifejackets
Prepare life saving equipment and fire-fighting equipment		• Consider deploy liferafts/rescue boats • Ensure access of liferafts away from heat and smoke	• Know where LSA is • Know how to deploy LSA • Know how to release and operate liferafts/ rescue boats

Primary Action	Secondary Action	Vessel Dependant Action	Skipper/Crew Awareness
If safe, extinguish the fire with due caution to size of fire etc. or escape via liferaft or abandon to water **(inform Coastguard)**	• Report Progress to skipper • Set up fire party • Monitor vessel stability • Proceed to Abandon Ship	• If Emergency fuel stops activate how will this affect ability to fight fire • Prime emergency fire hoses and pumps in case emergency fuel stops activate • Crew member dons fire-fighting outfit and breathing gear • Check and clear compartments before using CO2 – also clear CO2 firing point • Check water ingress from hoses and FF appliances,	• Know where Firefighting equipment is • Know how to deploy Fire-fighting equipment • Know what fire equipment to use and when • Know how to don firefighting outfit • Know how to use Breathing apparatus • Know how to ensure compartments are clear before CO2 used

Hull damage/taking water/sinking guidance

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

WHAT CAN GO WRONG

- Vessel's watertight integrity is compromised
- Pipework fails letting in water
- Flooding occurs unnoticed
- Unable to control water coming into vessel or able to remove water from vessel
- Vessels stability compromised due to water coming into vessel leading to rapid capsize

WHAT YOU CAN DO ABOUT IT

- Be aware of the impact of water in a compartment or compartments on stability
- Have an action plan to deal with flooding; when to abandon ship should be considered
- Regular hull inspections for damage or wastage
- Check the interior for unnecessary holes or penetrations in bulkheads
- Ensure watertight integrity where drain valves are fitted through watertight bulkheads
- Are bulkheads watertight and undamaged
- All doors and windows are securable and watertight
- Are sea cocks accessible and easily closed, regularly check to ensure they do not seize
- Check unattended spaces regularly
- Are bilge pumps and systems checked and maintained on a regular basis, remove obstructions
- Ensure that all watertight compartments are fitted with a dedicated bilge suction
- 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
- Ensure everyone knows how to use the bilge and seawater pumping system

- Ensure non-return valves are operational and not jammed open, never remove them
- Ensure materials used for pipe work are suitable for marine use, do not mix different types of metals in the pipe run and regularly check for corrosion
- Ensure freeing ports are clear and in appropriate locations
- Ensure all crew are aware of what to do in case of a flooding incident
- Have a rapid and practical means for operating valves fitted below floor plates. Valves in wells should have extended spindles to enable accessibility

MGN 165 (F) Fishing vessels: the risk of flooding provides further guidance on the prevention of flooding.

The following provides guidance to help develop an action plan for the vessel's skipper and crew. These actions are generic and may vary from vessel to vessel and it is recommended that you identify the requirements particular to your vessel through practice drills.

Primary Action	Secondary Action	Vessel Dependent Action	Skipper/Crew Awareness
Sound Alarm	• Crew to muster stations with warm clothing/lifejackets on		• Be aware of muster station • Understand most suitable place to store lifejackets • Access lifejackets quickly • Know how to don lifejackets • Be aware of suitable clothing
Check for Water ingress	• Check location and amount of water ingress • Take tank soundings, it might be a fore peak tank breach rather than a hold	• Monitor bilge pumps and alarms	• Be aware of how to check alarms • Be aware of methods for stopping water ingress • Be aware how to take tank soundings
Inform Coastguard via DSC	• Send DSC Alert and follow up with VHF call		• Be aware of correct procedure

Primary Action	Secondary Action	Vessel Dependent Action	Skipper/Crew Awareness
Prepare to fight flooding	• Keep skipper aware of water levels/ speed of ingress • Collect damage control kit	• Consider if bailer/ bucket will remove water • Consider if pumps will cope • Consider if additional pumps will help • Request portable pumps	• Be aware of bilge pump capabilities • Be aware how to operate bilge pumps • Able to conduct effective communication with skipper • Be aware how to use damage control kit
Prepare LSA		• Secure liferafts/ rescue boats in safe area • Provide safe means of boarding	• Know how to release and deploy liferaft
Consider Abandon Ship	• Close oil and fuel vents • Consider stability of vessel	• Consider evacuation of non-essential crew	

Collision or grounding guidance

The following provides guidance on the actions of the vessel's skipper and crew. These actions are generic and may vary from vessel to vessel and it is recommended that you identify the requirements particular to your vessel through practice drills.

Primary Action	Secondary Action	Vessel Dependent Action	Skipper/Crew Awareness
Sound alarm	• Crew to muster stations with warm clothing/lifejackets on		• Be aware of muster station • Understand most suitable place to store lifejackets • Access lifejackets quickly • Know how to don lifejackets

Primary Action	Secondary Action	Vessel Dependent Action	Skipper/Crew Awareness
Check for damage	• Check location of damage and watertight integrity • Report to skipper • In a collision, check the other vessels situation and render assistance	• Check for injured/ trapped crew • Crew tasked to stop water ingress	• Know how to conduct a check of the vessel • Be aware of methods for stopping water ingress • Be aware of how to check on other vessel's situation
Call Coastguard if assistance required	• Send DSC Alert and follow up with VHF call		• Be aware of correct procedure
Prepare to fight flooding	• Cut off electrical power in area • Shore up area • Report progress to skipper	• Start bilge pumps and monitor bilge alarms • Turn off seacocks	• How to stop electrical power • Know location of seacocks and how to turn off • Be aware of bilge pump capabilities • Be aware how to operate bilge pumps • Able to conduct effective communication with skipper
Prepare LSA		• Consider deploy liferaft/ rescue boat	• Know how to release/ deploy a liferaft for launching
Identify route to safety	• Check that it is safe and possible to proceed to a safe area or refuge		• Know how to use Nav Aids

Primary Action	Secondary Action	Vessel Dependent Action	Skipper/Crew Awareness
Consider anchors to stop going further aground			• Know how to deploy anchors • Wear appropriate PPE for anchor deployment • Know lengths of cable deployed • Know how to deploy anchor safely. • Communication between wheelhouse and anchor party acceptable.
Reduce weight of vessel to decrease draught			• Know what could be taken off vessel to decrease weight
If cannot re-float or damage too great remain grounded	• Decide on abandon ship		

Abandon ship / capsize: Liferafts

Liferafts are essential in an abandon ship scenario, they provide protection to all crew and are easier to spot than individuals in the water.

WHAT CAN GO WRONG

- Liferaft stowed inappropriately to prevent floating free or unable to launch liferaft manually
- Do not put anything on top of a liferaft
- Liferaft does not inflate
- Liferaft capsizes on launch
- Liferaft floats away before being able to board
- Liferaft does not have suitable supplies

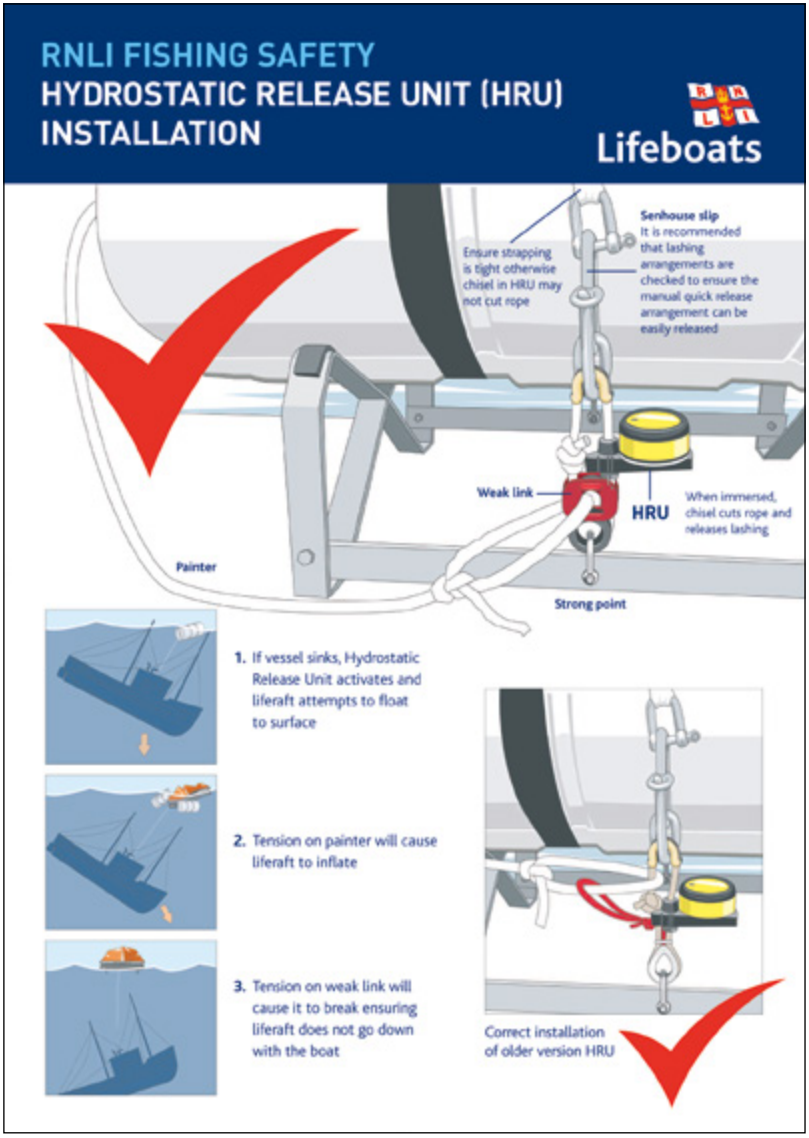
WHAT YOU CAN DO ABOUT IT

- When joining the vessel, learn how to release and operate the liferaft
- Practice Abandon ship scenarios and the correct launch and embarkation of a liferaft
- Make sure liferaft can be easily accessed and, if necessary, carried to the vessel side and put into the water by two people
- Ensure sufficient supplies stored with the raft
- Have a grab bag that can be taken
- Launching area of the raft clear of obstructions and the HSU properly installed and replaced/serviced in accordance with manufacturers recommendations – 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
- Make sure painter is secured
- After launching, pull the painter until it is fully withdrawn, and the raft inflates. If it over-inflates you will hear the sound of air escaping
- All crew know how to right a capsized liferaft – 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.
- Take a PLB/EPIRB on to the liferaft

Further information can be found in:

- 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'

- MGN 553 (M+F) 'Life-Saving Appliances – Inflatable Non-SOLAS Liferafts, Lifejackets, Marine Evacuation Systems, Danbuoys and Lifebuoys – Technical Standards and Servicing Requirements' provide further guidance on the servicing of inflatable liferafts, inflatable lifejackets and hydrostatic release units



Other hazards that may prevent a successful abandon ship

WHAT CAN GO WRONG

- Poor responses to emergency
- Unable to issue distress call
- Exposure to cold water and weather

WHAT YOU CAN DO ABOUT IT

- Drills to ensure crew familiarity with an abandon ship event and how to release the liferaft
- Immersion suits and grab bags are easily accessible
- Flares are in date and crew are aware of use
- Lifejackets are donned in the correct fashion
- Have EPIRB in liferaft and wear PLBs

The following provides guidance on the actions of the vessel's skipper and crew. These actions are generic and may vary from vessel to vessel and it is recommended that you identify the requirements particular to your vessel through practice drills.

Primary Action	Secondary Action	Vessel Dependent Action	Skipper/Crew Awareness
Sound Alarm			
Muster Crew	• Crew to muster stations with warm clothing/lifejackets on • Account for crew		• Be aware of muster station • Understand most suitable place to store lifejackets • Access lifejackets quickly • Know how to don lifejackets • Be aware of suitable clothing
Transmit distress call and message	• DSC alert, voice transmission, state position, crew numbers and any injuries		• Be aware of correct procedure

Primary Action	Secondary Action	Vessel Dependent Action	Skipper/Crew Awareness
Prepare liferafts and secure painter	• Get grab bag, first aid kit, Portable VHF, flares and water • Pay due attention to weather for boarding • Issue Abandon ship order.	• Tether liferafts together if more than 1 • Deploy rescue boat	• Wait for an order before abandoning ship • Know how to release and deploy a liferaft/ rescue boat • Know where to make fast a painter • Know how to pull a painter • Know how to board a liferaft/rescue boat and when, premature boarding can prevent full inflation • Do not jump on the canopy
Abandon vessel			
Cut painter at last Minute	• After cutting, where possible, stay reasonably close to the vessel to increase chances of rescue	• Deploy EPIRB/ SART/ PLB	• Know how to activate EPIRBs/ SARTs/PLBs

Abandon ship

IF YOU GO IN 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 liferaft 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 liferaft 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
- 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 liferaft 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 liferaft

- Once all persons are in the liferaft cut or slip the painter. (Use the safety knife provided, stowed near the entrance, in the liferaft)
- Manoeuvre clear of the vessel's side and any other obstructions. Getting clear of obstructions avoids the risk of damage to the survival craft
- Liferafts 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 liferaft, then bail this out with the bailer provided
- Close the liferaft 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 liferaft. Inflate the floor for insulation against the cold, bail out the water and check for damage or leaks. Ventilate the liferaft by maintaining a small opening
- Take sea sickness tablets as early as possible. Most people, including 'hardened' fishermen suffer from seasickness in liferafts. 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

SECTION 7

CREW HEALTH AND WELFARE

Skipper and 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 themself, 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. In addition, taking a vessel to sea under the influence of alcohol (and possibly drugs) is an offence under the Railways and Transport Safety Act 2003 (Chapter 20) Act

Medical certificates

- Because of the working environment on a fishing vessel medical fitness is important because:
  - Fishermen may work a long way from medical facilities which could put them at risk if they become ill while at sea; even when working relatively close to shore, it will take more time to reach emergency medical treatment, compared to someone working ashore
  - A medical examination may help to prevent a fisherman being taken ill when at sea, by identifying when a fisherman has an increased risk of developing a medical condition or of sudden incapacity so that treatment may obtained

- If a fisherman working alone is taken ill, they may not be able to call for help or reach medical assistance
- Some medical conditions will reduce the fisherman's ability to undertake the strenuous physical activity involved in work in fishing
- If one fisherman is unable to perform their duties properly because they have been taken ill, others working on the vessel or the vessel itself may be put at risk

The requirement to hold a medical fitness certificate will apply to those working on fishing vessels as follows:

	VESSEL AND OPERATING PATTERN	DATE MEDICAL CERTIFICATE REQUIRED	CERTIFICATE REQUIRED
1.	FV of any length Subject to inspection in a foreign port	31 May 2019	ENG1
2.	FV 24m in length or over at sea for more than 7 days	31 May 2019	ENG1
3.	FV 24m in length or over to which 1. does not apply	30 November 2019	ENG1
4.	FV under 24m in length at sea for more than 72 hours[1]	30 November 2019	ENG1
5.	FV under 24m in length operating more than 200 miles from the coastline of the UK or beyond the Continental shelf	30 November 2019	ENG1
6.	FV under 24m in length to which 1., 4. and 5. do not apply	30 November 2023	ENG 1/ML5[1, 2]

More information on medical certificates, how to get one and the standards applied are contained in:

- MSN 1883 WORK IN FISHING CONVENTION (No. 188) Medical examination and certification for fishermen: Application of the Merchant Shipping (Work in Fishing Convention) (Medical Certification) Regulations 2018
- MSN 1886 (M+F) on Medical Standards and Eyesight Standards for Seafarers

1 Those working on vessels operating in categorised waters on any vessel under 24m can use an ML5 as an alternative to an ENG 1

2 Any holder of a CoC for a vessel of 16.5m of more requires an ENG 1

Young persons on board fishing vessels

- The minimum age for working on a UK seagoing fishing vessel is 16 years of age, but provision is made in certain circumstances for those aged 15 to do light work in school holidays
- Additional safety measures are required to protect young persons (those under the age of 18 years), particularly for work which may jeopardise their health and safety
- The fishing vessel owner or employer must carry out a risk assessment with regard to the particular risks to young persons which might arise as a result of their inexperience, lack of awareness of risks, immaturity etc. This applies to all work activities
- Where young persons are required to work at night, the fishing vessel owner must ensure that the vessel's risk assessment records the steps they have taken to minimise the risks of nightwork and to protect the young person
  - 'Night' means a period of at least nine consecutive hours including the hours between midnight and 5am (local time)
- An employer must provide health surveillance for those under the age of 18 years who work at night
- There are specified minimum hours of rest for fishermen under 18 years of age
- Particular attention should be given, but not limited to:
  - the fitting out and layout of working areas
  - the nature, degree and duration of exposure to physical, biological and chemical agents
  - the form, range and use of work equipment and the way in which it is handled
  - the organisation of processes and activities
  - the extent of the health and safety training provided or to be provided to the young persons concerned
  - risks from agents, processes and work listed in the schedule to the regulations
- Having carried out their assessment(s), employers must also ensure that young persons are not engaged in any work:
  - objectively beyond their physical or psychological capacity
  - involving harmful exposure to agents which are toxic, carcinogenic, cause heritable genetic damage or harm to the

unborn child, or which in any other way chronically affect human health
- involving harmful exposure to radiation
- involving the risk of accidents which it may be assumed cannot be recognised or avoided by young workers owing to their insufficient attention to safety or lack of experience or training
- involving a risk to health from extreme cold or heat, noise or vibration; optical radiation or electromagnetic fields.

Exceptions are allowed where the activity in question is indispensable for vocational training and is performed under the supervision of a competent person.

Further information is available in MSN 1882 ILO WORK IN FISHING CONVENTION, 2007 IMPLEMENTATION OF EC DIRECTIVE 94/33 Minimum age and protection for young persons on fishing vessels.

SECTION 8

TRAINING

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 1 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:

- One day basic sea survival

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

- One day basic fire fighting and prevention
- One day basic first aid
- One day basic health and safety (only required of new entrants after 1 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:

- One 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):
T: 01472 252 300 **W:** www.seafish.org/training/seagoing-training

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

Voluntary training courses

Seafish offers 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 offers other voluntary courses for new entrant fishermen. These include:

- Introduction to Commercial Fishing – a three 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 seafish.org/training.

GOV.UK

GET MORE ONLINE

The online version of this guide includes links to MGNs, MSNs and other online resources, for example the Safety Folder, websites and email addresses for other organisations.

To read the regulations listed in the printed copy of this guide, go to gov.uk and use the search box. Type in for example: MGN 587 into the search box and you will get a link to the full guidance.

Maritime &
Coastguard
Agency

Digital version is available at www.gov.uk

MCA/034/1L