

# Gearing Up for Safety

## Safe Work Practices for Commercial Fishing in British Columbia



**WorkSafe**



[www.worksafebc.com](http://www.worksafebc.com)



# About the WCB

Preventing on-the-job injury and disease is the first priority of the Workers' Compensation Board (WCB) of British Columbia. WCB officers inspect worksites — including fishing vessels — in B.C. to make sure they comply with the Occupational Health and Safety Regulation, which sets out minimum workplace standards for health and safety. The WCB also investigates serious workplace accidents and consults with vessel owners, masters, and crew members to promote health and safety in the workplace.

Under the requirements of the *Workers Compensation Act*, a crew member must report an injury or a disabling occupational disease as soon as possible to the master. The vessel owner must report work-related injuries, occupational diseases, and work-related deaths to the WCB within three days. A crew member may not make an agreement with the master or owner to give up WCB benefits.

If a crew member suffers a work-related injury or illness, the WCB provides fair compensation that may include medical costs, loss of earnings, physical rehabilitation, and pensions. The WCB also works with masters to help injured crew members return to work. If a crew member is killed on the job, counselling and financial help are made available to the victim's family. For more information on requirements or eligibility for WCB coverage, contact the WCB office nearest you.

## WCB Prevention Information Line

The WCB Prevention Information Line can answer your questions about workplace health and safety, worker and employer responsibilities, and reporting a workplace accident or incident. The Prevention Information Line accepts anonymous calls.

Phone 604 276-3100 in the Lower Mainland, or call 1 888 621-7233 (621-SAFE) toll-free in British Columbia.

To report after-hours and weekend accidents and emergencies, call 604 273-7711 in the Lower Mainland, or call 1 866 922-4357 (WCB-HELP) toll-free in British Columbia.

# GEARING UP FOR SAFETY

**Safe Work Practices for Commercial Fishing  
in British Columbia**



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# Introduction

Commercial fishing is one of the most dangerous occupations in British Columbia. Each year, several people lose their lives and hundreds of others are injured, some seriously.

Death. Paralysis. Amputations. Broken bones. Muscle strains. Back injuries. Cuts and bruises. Burns and scalds. Hearing loss. Most of these can be prevented.

This manual addresses common safety and health hazards in the commercial fishing industry. *It is not meant to replace the Occupational Health and Safety Regulation.* It is a tool to help the industry work safely. Note that when you see the word **must**, it means that a particular safety step is required by the Regulation.

Most of what you will read in *Gearing Up for Safety* is common sense. But even common sense bears repeating. For example, wearing life jackets or PFDs, carrying the right first aid equipment, and making sure all deckhands know how to start and stop the engine are key safety steps that can save lives and prevent injuries.

You may have questions about some of the requirements or about situations specific to your vessel. Answers will be provided by the WCB officers who visit you on board, or by calling our toll-free number: 1 888 621-SAFE (7233).

*Gearing Up for Safety* addresses many issues specific to B.C. waters. It is not meant to replace *Small Fishing Vessel Safety* (publication number TP10038), available from Transport Canada. Together, the two manuals provide a basic overview of health and safety issues.

This manual has been designed to be easy to read and understand. We have tried to make this an item you will keep on hand and use often.

This manual was produced by the WCB in cooperation with members of the Joint Fishing Industry Safety and Health (FISH) Committee and other fishing industry representatives. The safety steps included here are a direct result of industry input, and reflect what are commonly seen in B.C. waters as safe work practices.

Working together, we can help make commercial fishing in B.C. safer for everyone.

# Acknowledgments

The completion of this manual would not have been possible without the generous assistance of the fishing industry. In particular, we would like to thank the following organizations for their help with this manual:

B.C. Packers  
Canadian Fishing Company  
Deep Sea Trawlers Association  
Fishing Vessel Owners Association  
Native Brotherhood of B.C.  
Pacific Gillnetters Association  
Pacific Trollers Association  
United Fishermen and Allied Workers Union (UFAWU)  
Vietnamese Fisherman's Association  
Canadian Coast Guard  
Department of Fisheries and Oceans  
Environment Canada Pacific Weather Office  
Pacific Coast Fishermen's Mutual Marine Insurance Company  
Pacific Marine Training Institute  
BC Seafood Alliance  
Professional Fish Harvesters Association of B.C.

The WCB also gratefully acknowledges the assistance of others in the fishing industry who provided invaluable input and expertise. This includes the many individuals who took part in workshops to identify safe work practices for this manual. To all who participated in this project, our many thanks.

# Contents

<b>Safety for All Vessels and Crew</b> .....	1
Deaths in the Fishing Industry .....	2
General Safety .....	3
Safe Work Procedures .....	15
Equipment Safety .....	28
Engine Room Safety .....	35
Galley Safety .....	37
Safe Boarding .....	39
Sensors & Alarms .....	41
Installations & Ventilation .....	42
First Aid & Injury Reporting .....	44
Emergency Drills .....	48
<b>Safety for Specific Types of Fishing</b> .....	49
Gillnetting Safety .....	51
When gillnetting for salmon or herring .....	51
When gillnetting for salmon .....	52
When gillnetting for herring .....	52
Longlining Safety .....	56
Trawling/Dragging Safety .....	59
Trolling Safety .....	64
Packing Safety .....	67
Trap Fishing Safety .....	70
Seining Safety .....	73
When working on seine skiffs .....	77
Dive Fishing Safety .....	90
Scuba diving .....	93
Surface-supplied diving .....	95





# SAFETY FOR ALL VESSELS AND CREW

These charts are  
issued by the  
Hydrographic Office,  
Washington, D.C.,  
and are available  
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1905 Broadway, New  
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Magnesia Variations

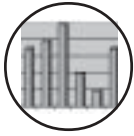
INLET

NANAIMO

ALBERNI INLET

30 Barkley Sound



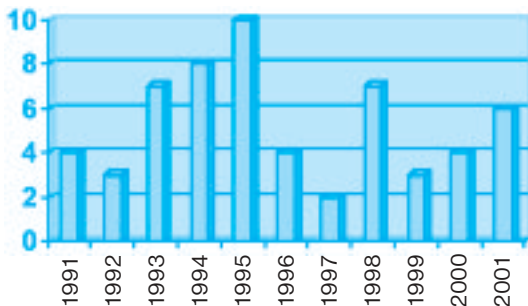


# Deaths in the Fishing Industry

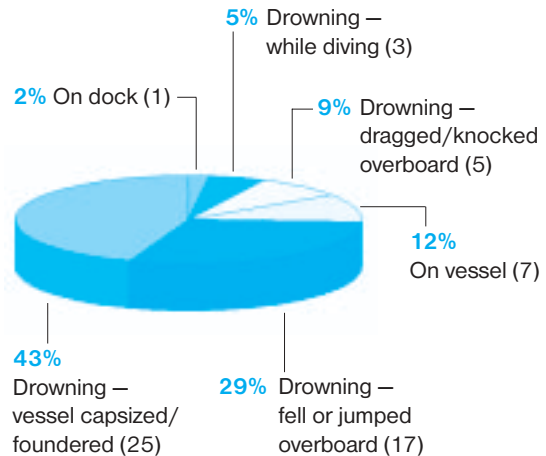
From 1991 to 2001, there were 58 fatalities in the fishing industry, with 86 percent of these from drowning. They resulted from vessels sinking, foundering, or capsizing or from crew members falling or being knocked or dragged overboard. These deaths did not happen by chance or from bad luck. In some incidents, the seaworthiness of the vessel was questionable; in others, training and emergency response procedures were not used. Investigation of each drowning showed some degree of poor judgement.

The following graphs show the number of fatalities in each of those 11 years and the type of incident that resulted in death. The sections on specific types of fishing in this manual contain information on how many deaths occurred in each type of fishery.

**Fatalities by year, 1991–2001**



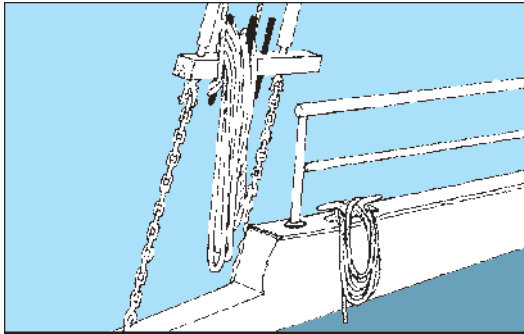
**Type of incident, 1991–2001**



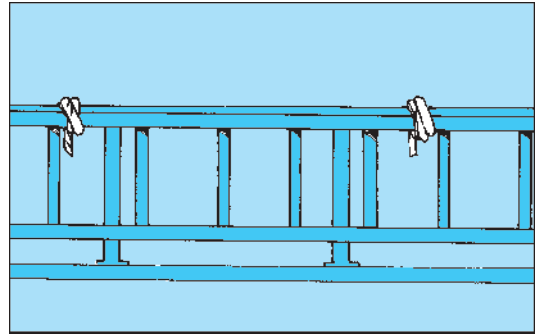


# General Safety

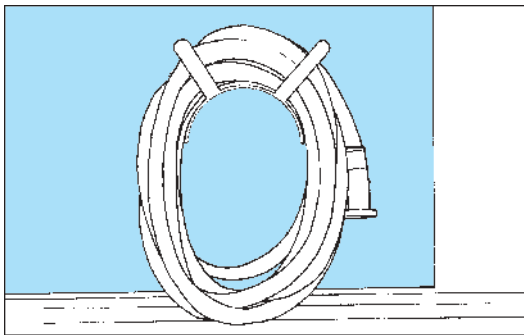
Keeping a general state of safety on your vessel means thinking ahead, staying alert, and being organized. For example, put equipment and tools in their places. Keep your vessel log up-to-date — it's a good place to keep track of equipment maintenance. Also use the log to record the results of the pre-sailing check of your vessel's systems, operations, and equipment. Other safety steps include:



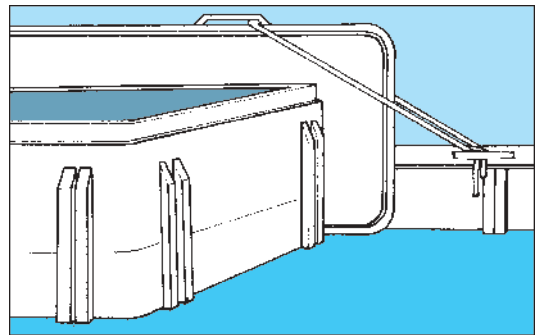
Coil tie-up lines when not in use so crew don't trip over them.



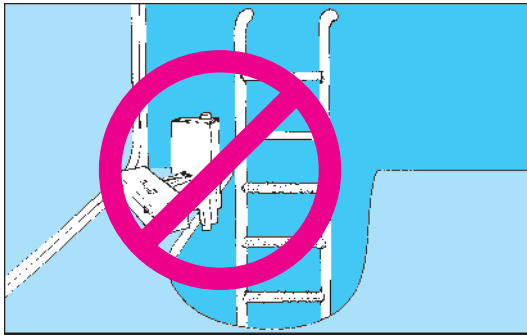
Tie ladders down or store them safely when you are not using them.



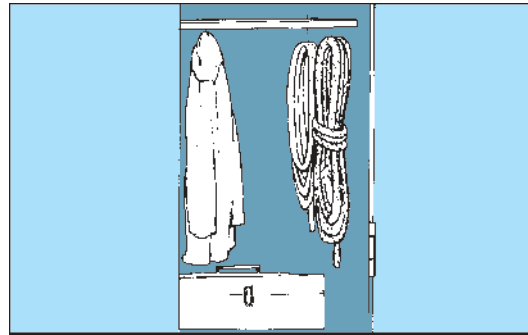
When not using water hoses, coil them on brackets.



After removing hatch covers, secure them so they won't slide or shift.



Keep passageways clear. Don't store gear in them.



Tools and equipment **must** be securely stowed when not in use. For example, properly store gear such as web, hand tools, ropes, and poles. Store gaffs safely, with the hook down or the point covered.

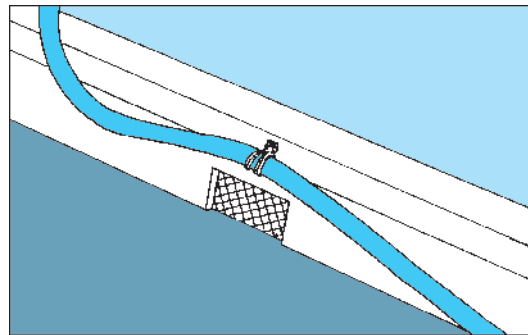
## HAZARD ALERT

### Bait knife cuts hand

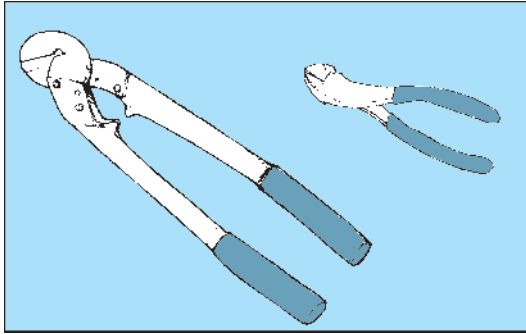
A crew member fishing for halibut severely cut his hand on a splitting knife.

Another crew member had left the knife on a hatch cover under a pile of bait. When the victim scooped up some bait, he sliced open his hand on the razor-sharp blade.

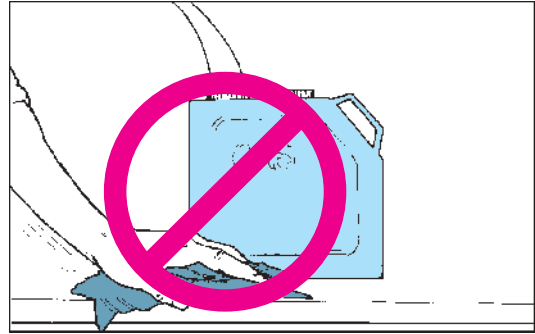
Prevent injuries from cuts by safely storing knives, gaffs, and other sharp objects.



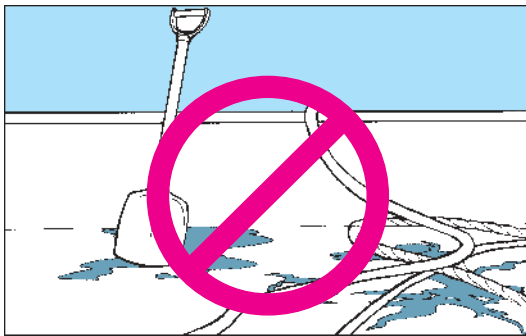
Make sure all scuppers are not blocked by equipment, tools, or debris. Blocked scuppers can pose a serious hazard, especially in rough seas.



Keep a bolt or wire cutter on board to cut lines or gear that is tangled or needs to be cut away quickly.



Don't clean with gasoline or other liquids that can catch fire.



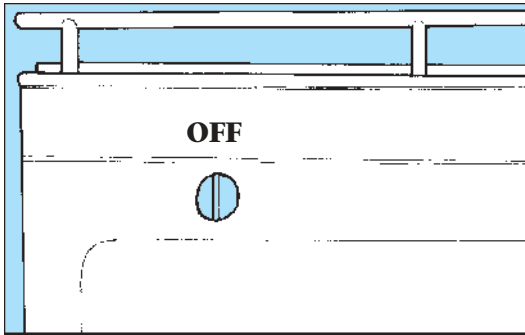
All work areas — including decks, the engine room, the wheelhouse, and the anchor area — **must** be kept free of slipping and tripping hazards.

## HAZARD ALERT

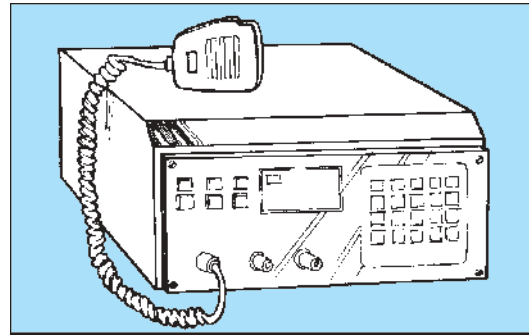
### Deckhand slips on deck

As a fishing boat was coming alongside the dock, a deckhand slipped on deck. He fell overboard between the boat and the dock, seriously bruising his ribs and head. It was found that the deckhand had slipped on some spilled oil.

Regularly hose decks to remove slime, jellyfish, kelp, hydraulic oil, and other slipping hazards. Install non-skid surfaces on the deck, where practical.



Turn off all stoves and cabin heaters when leaving the vessel.

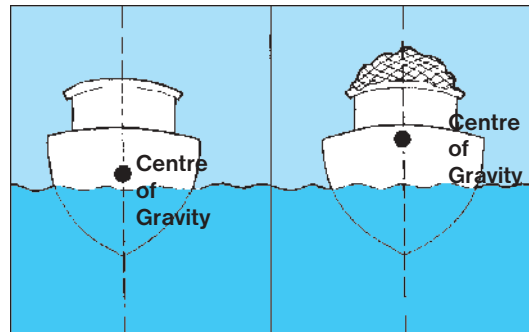


Monitor channels 16 (emergency) and 78A (the fishing channel). Also monitor the vessel traffic system (VTS) for updates on traffic and navigation hazards, and the weather channel.

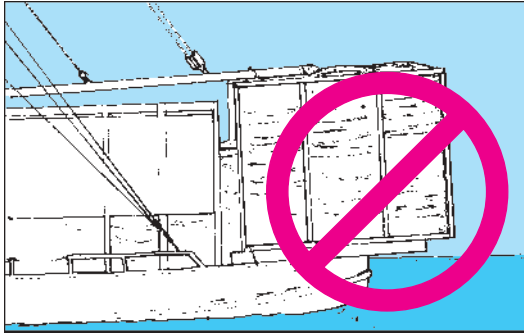
## WCB INJURY REPORTS

### Injuries caused by slips, trips, or falls

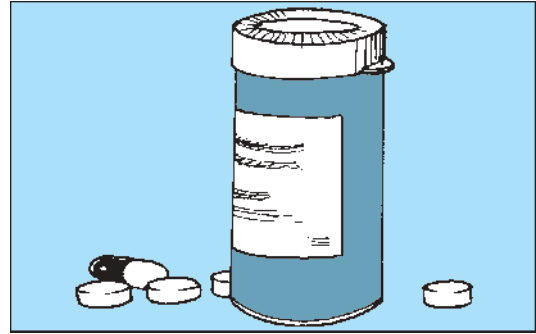
<i>Type of Injury</i>	<i>Cause of Injury</i>
Badly bruised chest	Falling on the corner of a hatch
Broken back, dislocated finger	Falling through a hatch into the hold
Broken upper throat	Falling against a cable
Broken rib	Slipping, then falling on a gunwale
Broken ankle	Slipping while running on deck
Badly sprained ankle	Tripping on a hydraulic hose
Badly bruised back	Slipping on an icy deck
Broken leg	Falling from a ladder



Keep weight in the vessel as low as possible. This makes the vessel more stable and less likely to capsize. Make sure the vessel is not overloaded because overloading can cause the vessel to be unstable.



Major modifications to the vessel — such as trap extensions, wheelhouse alterations, and tank redesigns — **must not** reduce vessel stability.



All crew members should tell the master and other crew members if they are allergic to medication or have special medication requirements.

## SURVIVING COLD WATER IMMERSION

Drowning is the primary cause of death in the fishing industry, usually as the result of cold water immersion. People cannot survive long in the cold waters off the coast of British Columbia.

There are four stages in cold water immersion, and crew members can die at any stage:

1. Initial immersion, or cold shock. Symptoms include a massive increase in heart rate and blood pressure and difficulty breathing. Stage 1 can lead to drowning in a few minutes.
2. Short-term immersion, or swimming failure. Symptoms include a loss of body heat, shutdown of extremities, and loss of coordination. Stage 2 can lead to drowning in 3 to 30 minutes.
3. Long-term immersion, or hypothermia. Symptoms include the body core cooling and semi-consciousness. Stage 3 can lead to drowning or heart failure.
4. Collapse after being rescued from the water. Symptoms include excessive drop in blood pressure. Stage 4 can lead to brain or heart failure.

Here are some safety tips to avoid cold water immersion:

- Avoid immersion in our cold waters. Abandon ship directly into the life raft.
- Wear an immersion suit or PFD.
- If in the water, keep as much of the body afloat as possible.
- Have a means of getting back on board as soon as possible and practise these procedures.



## RESPONSIBILITIES

Preventing on-the-job injuries and disease is up to everyone. To maintain health and safety in fishing operations, vessel owners, masters, and crew have to accept their individual responsibilities.

### **Vessel owners**

Until the vessel is turned over to the master, it's up to vessel owners to make sure that all required equipment and supplies are on board the main vessel and the skiff (if applicable). In particular, vessel owners **must** make sure:

- The vessel is in seaworthy condition, and all machinery and equipment on board the fishing vessel performs safely and meets WCB requirements. This includes making sure that moving parts of power-operated equipment are properly guarded, where practicable.
- Documentation — such as engine room instructions, vessel and equipment characteristics, location and use of firefighting and emergency equipment — is on board and readily accessible to crew.
- The vessel is fitted with required sensors and alarms.
- All first aid equipment and supplies required by Part 33: Occupational First Aid of the Occupational Health and Safety Regulation are on board.
- Any modifications to the vessel do not adversely affect its stability.

### **Masters**

Once the master takes over the vessel, the master is responsible for the safety of everyone on board and for the safe operation of the vessel and its equipment. In particular, masters **must** make sure:

- Machinery and equipment are properly maintained and function safely, and any equipment that's replaced meets WCB requirements.
- The vessel is kept in seaworthy condition.
- All crew are trained in safe work procedures. These include training in the safe use of equipment, techniques for lifting, any unusual or unique characteristics of the vessel, and safe work practices for each fishery.

- All crew are trained and assigned duties for all emergency situations — calling for help, abandoning ship, a crew member falling overboard, flooding, and fire. It's up to the master to conduct drills at the start of the fishing season to make sure all crew know emergency duties and how to call for help. The master is also responsible for making sure suitable equipment is on board to rescue a crew member who falls over the side. (See page 48 for more information on emergency drills.)
- The vessel is capable of making safe passage before leaving port — this means the vessel must be seaworthy; cargo, skiffs, equipment, fuel containers, and supplies must be safely stowed; the vessel must be safely ballasted; and present and forecast weather conditions are considered before heading out to sea.
- All injuries needing medical aid are reported to the owner, and all injuries are recorded in the vessel log book.
- An investigation is carried out into incidents resulting in an injury requiring medical aid or where there was the potential for serious injury.
- Unsafe or harmful situations on board are corrected right away.
- The requirements for a first aid attendant are met, and first aid supplies are replaced as soon as possible after they are used.
- Labels and Material Safety Data Sheets (MSDSs) for any controlled products are kept on board and are accessible to crew.
- Effective procedures are in place for communicating between the bridge and all work areas on the vessel.

### **Crew**

It's up to crew to perform their work safely at all times. In particular, crew **must**:

- Be able to apply the safe work practices and procedures they are taught.
- Take all reasonable steps that are necessary to protect the health and safety of themselves and others on the vessel.
- Report all injuries to the master right away.
- Report unsafe or harmful conditions or situations to the master right away.
- Properly use all required protective equipment and keep such equipment — for example, immersion suits — in good condition.

## CREW TRAINING

Proper crew training is essential to keeping a safe vessel and preventing accidents and injuries. Before the start of each fishing season, the master **must** instruct each crew member in the operational characteristics of the vessel. This includes:

- The location and use of safety equipment such as immersion suits and life rafts.
- The location and use of engine room components and controls. For example, crew should know how to properly use the bilge blower (if one is installed in the vessel), how to correctly read gauges, and how to safely take on fuel.
- The use of deck equipment and rigging such as davits, winches, and master on/off switches.
- The use of navigation equipment and electronic aids. For example, crew should know how to use equipment such as depth sounders, watch alarms, radar, and the automatic pilot.
- Fishing equipment and its proper use. Crew **must** also be taught safe work procedures for each type of fishery the vessel will be engaged in. For example, on packers and other vessels carrying fish or cargo, procedures **must** be put in place for safely loading and unloading fish and cargo (such as stay clear of the brailer when it's being lifted; wear appropriate protective equipment such as boots, hard hats, and gloves, when necessary; when pumping, secure the pump hose so it doesn't swing around).
- Procedures for anchoring. Examples include how to safely operate the anchor winch, how to secure the anchor, and how to operate the hydraulic or electric anchor controls.
- The location and use of emergency equipment such as fire extinguishers, life rafts, and EPIRBs.
- Escape routes in the event of fire. For example, crew should know escape routes from the engine room and crew quarters.

The master **must** make sure – as much as is reasonably practicable – that all crew members can apply the training information to protect their health and safety. All new crew members **must** be given the required training prior to sailing. Training may vary for individual crew members depending on the tasks each is assigned to do.

## Tips for effective training

Most crew training is done on the vessel by the master. Training crew is straightforward and effective when it is well thought-out beforehand. Training crew to do their jobs safely works best by including these five elements in your vessel's training program.

**Prepare** This involves preparing or orienting trainees to receive training by explaining:

- What the trainee is expected to learn
- Why the training is important
- How the training fits into the fishing operation

For example, when training new crew in how to coil rope, explain why it is important to have the coil lay properly, and give examples of what can happen if a line is not properly coiled.

**Pinpoint** Clearly identify the sequence of tasks – or information – needed to safely perform tasks in the fishing operation. For example, in training crew to abandon ship, steps crew would follow include sending a mayday over the radio, knowing and performing their assigned emergency duties, putting on immersion suits, and launching the life raft. Identifying – or “pinpointing” – each step of an operation, and then training crew in each step, helps crew understand the “big picture” and their part in that picture.

**Personalize** This means putting yourself in the shoes of the trainees. Remember, new crew don't have the years of experience to draw on that you do as a trainer. What may be obvious to you, may be completely unknown to them. When training, explain not just *how* to do things, but *why*. By making sure your training suits the knowledge and experience level of new crew members, training will be much easier and more effective for everyone.

**Picturize** When explaining how to perform a task safely, don't just talk about it – *show* how to do it. Most people learn best by *seeing* something being done properly. For example, when teaching safe procedures for using a brailer and related equipment, explain *and demonstrate* the procedures.

**Prescribe** This means clearly outlining what is expected of trainees. At the end of training, sum up the types of actions or behaviours that trainees are expected to follow when they are involved in the fishing operation.

The main things to remember when training are keep it simple and to the point. Present training in the context of how a professional does things. When possible, have trainees actually *do* the tasks or procedures they are learning.

## DOCUMENTATION

Fishing vessel owners have to keep certain documentation on board that is available to all crew. In particular, keep documentation on board covering any unique or unusual features of the vessel that might not be known to a new master or crew. At a minimum, documentation **must** cover:

**Engine room instructions** Examples of useful documentation include procedures for starting the engine, putting out engine room fires, de-energizing equipment, and using the bilge blower (if equipped).

**Vessel characteristics** Examples of useful documentation include the stability booklet for the vessel, cross curves of stability, and stability considerations for any major modifications to the vessel. Other useful documentation on vessel characteristics includes:

- Safe working loads for equipment
- Pumping systems and procedures
- Safe fueling procedures
- Procedures for de-energizing equipment
- Procedures for testing equipment
- Minimum freeboard under loaded conditions
- Procedures for loading fish
- Operating practices such as lowering the boom when travelling, avoiding slack tanks, and keeping weights low
- A Transport Canada – Marine Safety inspection certificate, where applicable

**The location and use of firefighting equipment** Examples of useful documentation include operating instructions, and records of equipment maintenance and testing.

**The location and use of emergency equipment including radios** Examples of useful documentation include instructions on how to use and maintain immersions suits, life rafts, flares, and EPIRBs, and how to use the radio and send a mayday.

## PRE-SAILING CHECKLIST

Before leaving port, your vessel **must** be ready and capable to travel:

- The vessel **must** be seaworthy. The vessel **must** be watertight and equipment **must** be secured. Vessel stability is improved if fuel and water tanks are full, the boom is down, and weights (such as nets) are kept low.
- All cargo, fuel containers, other supplies and the skiff — if your vessel has one — **must** be safely stored and **secured**.
- The vessel **must** be safely ballasted.
- Consideration **must** be given to current and forecast weather conditions.



Many safety concerns can be identified by completing a checklist of your vessel's systems, equipment, and supplies. The following is a sample checklist that you can use or modify to suit your vessel:



### Sample Vessel Checklist

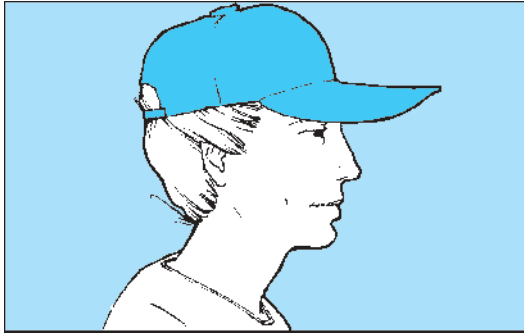
Vessel \_\_\_\_\_ Date \_\_\_\_\_ Voyage \_\_\_\_\_ Time \_\_\_\_\_

Item	Safe/ Complete	Comments	Date Corrected
Established safe work procedures			
Established emergency procedures/duties			
Emergency drills (conducted)			
Crew training (complete)			
Vessel documentation (available)			
WHMIS documentation			
• Material Safety Data Sheets (MSDSs)			
First aid supplies			
Emergency signals and flares			
Firefighting equipment			
Safety equipment			
• life raft(s)			
• life jackets or PFDs			
• immersion suits			
Alarms and sensors			
Engine condition			
Bilge pumps and bilge condition			
Electrical systems			
Fuel and fuel systems			
Fishing equipment			
Electronic equipment			
• radar/sonar/plotter			
Radio equipment			
Navigation lights, shapes			
Charts, instruments			
Compass and deviation card			
Log book			
Sailing or trip plan			
Notification of trip changes			

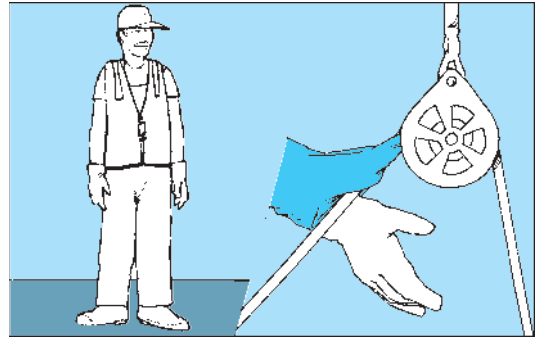


# Safe Work Procedures

Because so much work on a fishing vessel is repeated over and over, it's easy to become careless about safety. That's when accidents or injuries are likely to happen. Always stay alert and keep an eye out for trouble. Include these safety steps as part of your work and inspection procedures:



Keep long hair tucked under a hat. That way, hair is less likely to get caught in pulleys, winches, and other equipment.



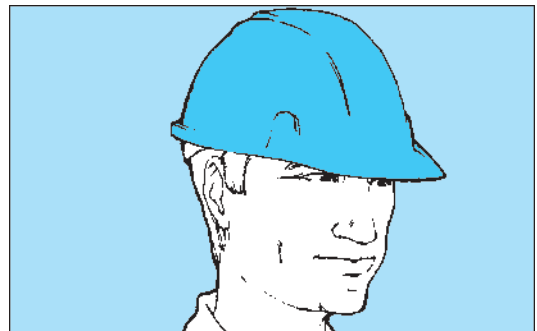
Wear close-fitting clothing, which is less likely to get caught in nets, lines or machinery. Avoid wearing clothing with exposed buttons – they can get caught in nets and other gear – or cover them with tape to reduce the risk.

## HAZARD ALERT

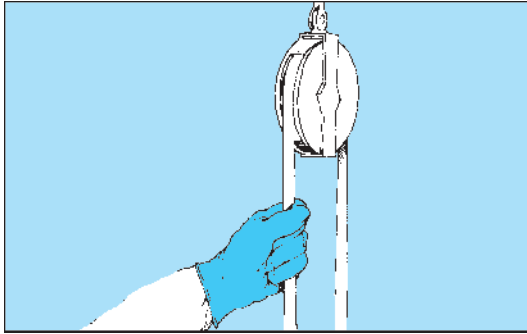
### Fish spine stabs head

A dogfish fell about 3.7 metres (12 ft.) from a seine net, striking a crew member on his unprotected head. A fish spine pierced his skull.

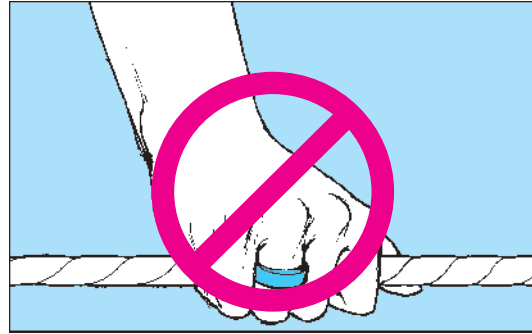
The accident happened while the net was being piled from a powerblock. Always wear a hard hat if falling objects could strike your head.



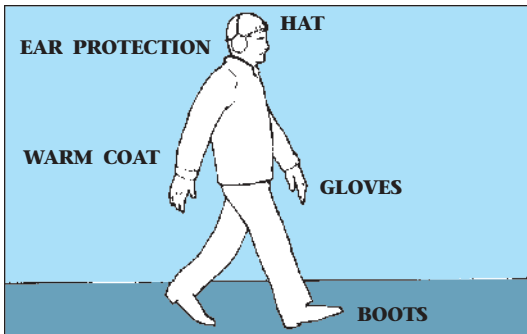
Wear a hard hat when working under moving equipment or when working under objects that could fall.



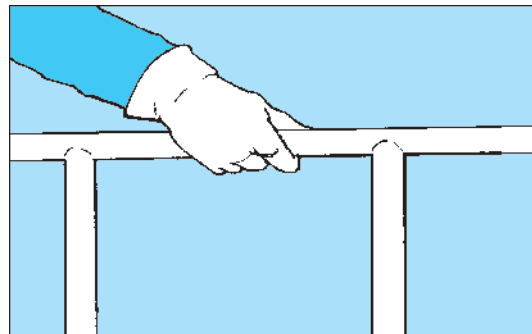
Protect your hands by wearing the right gloves for the job. Wear gloves when handling rope. Wire rope may have “jaggers” – broken wires that poke out – which can cause cuts or lodge in the skin. All types of rope can cause skin burns.



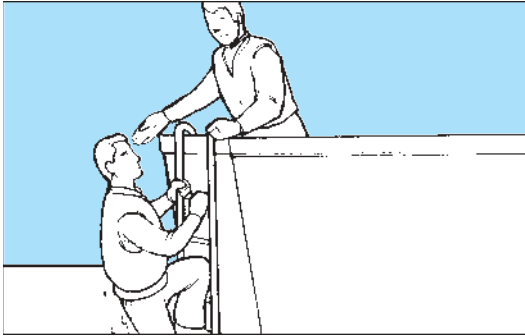
Avoid wearing rings. They can get caught in lines, nets, and other gear and equipment.



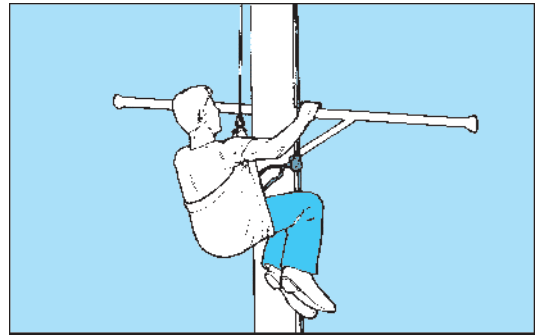
When working in freezers, crew **must** wear warm clothing that includes a hat, boots, and gloves.



Grabrails, handrails, or guardrails **must** be installed, where practical, to keep crew from falling overboard.



Provide a means of getting back on board in case a crew member falls into the water.



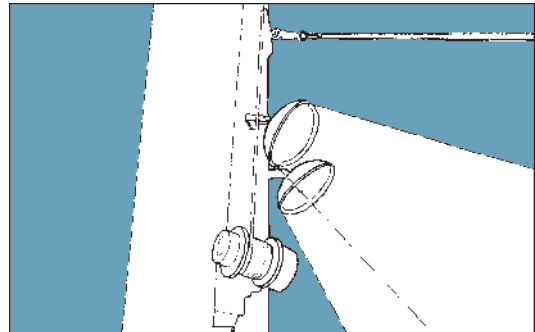
When working aloft, wear a lifeline.

## HAZARD ALERT

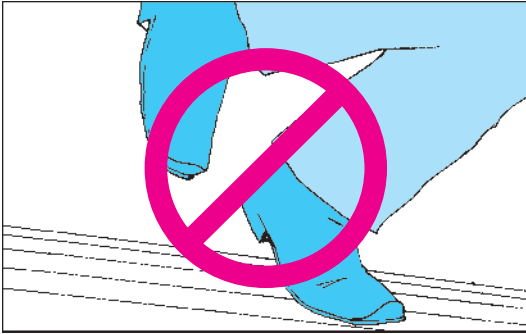
### Eye hurt by metal chip

A worker was injured while making repairs in the engine room. He was grinding a head cover when a piece of metal flew into his eye.

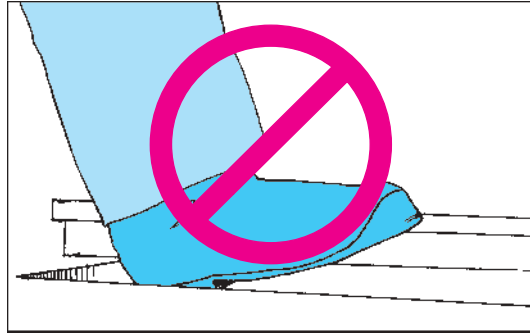
Always wear approved safety glasses when grinding. Also wear eye protection when loose or pointed objects could cause eye injury. In trolling, for example, several crew members have had hooks lodge in their eyes. In seafood harvesting, divers have had their eyes poked by sea urchin spines.



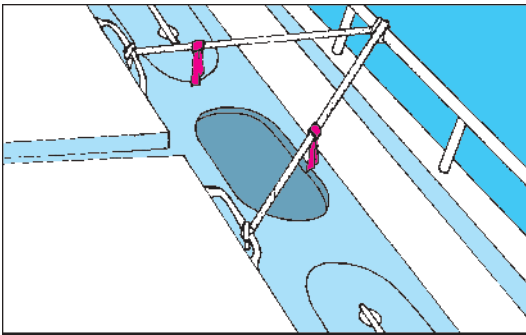
All work areas **must** have enough lighting so work can be done safely. Make sure there is enough lighting in stairways, companion ways, and near ladders. Make sure deck lights do not interfere with the night navigation of other vessels. (As an added safety step, consider attaching a safety line to large floodlights – a light fixture that falls from its mounting could seriously injure crew.)



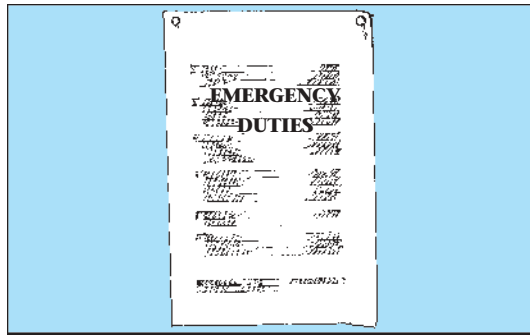
Don't run on deck — you're more likely to slip, trip, or fall.



Never walk over a partially open hatch or manhole. If the hatch or manhole cover shifts, you could fall down the opening.

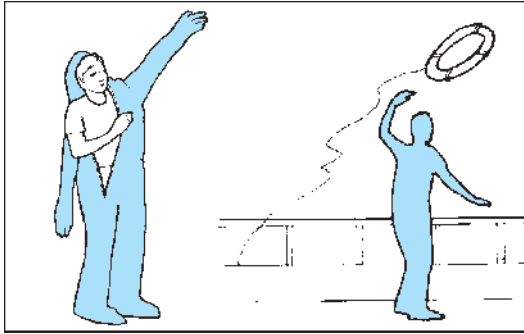


Deck openings and hatches that are not being used **must** be closed and secured to prevent down-flooding and crew accidentally falling into them. Make sure manhole covers seal properly. Deck openings and hatches that need to be open for ventilation **must** be marked and guarded.

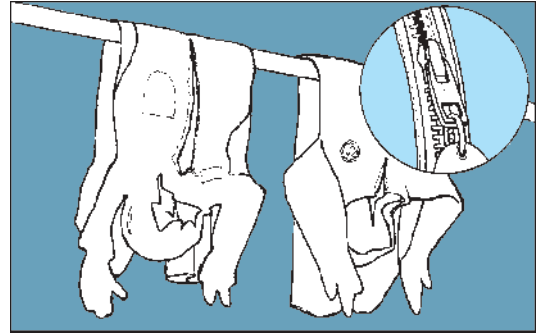


Steps for crew to follow in the case of an emergency **must** be in place. For example, crew **must** know what to do and what their duties are in emergency situations such as:

- There is a fire
- A crew member falls overboard
- The vessel floods
- Crew need to call for help
- The crew must abandon the vessel



Drills to test crew on emergency procedures **must** be done at the start of the fishing season – and on a regular, ongoing basis. Drills **must** be done whenever there is a change of crew. For more information on emergency drills, see page 48.



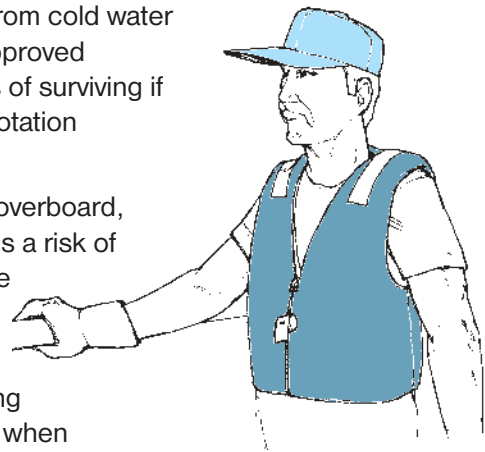
Fishing vessels **must** carry an immersion suit for *each* crew member. (This does not apply to skiffs or punts that are working near the main vessel.) Check the zipper's condition. Lubricate it with a *non-petroleum* product such as beeswax or soap. Put a toggle on the zipper tab. Practise putting on the suit. Do not dry immersion suits in direct sunlight, which can damage the fabric.

## WEAR FLOTATION AT ALL TIMES

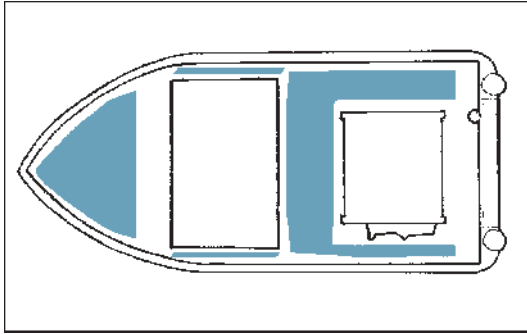
Drowning is the leading cause of death in the fishing industry. From 1991 to 2001, 50 crew members died from cold water immersion leading to drowning. Wearing an approved flotation device greatly improves your chances of surviving if you fall overboard. Life jackets and personal flotation devices (PFDs) are approved.

Because you never know when you could fall overboard, you **must** wear a flotation device when there is a risk of drowning. At the very least, wear it when you're working on deck. It's also a good idea to tie a whistle and a light to your flotation device.

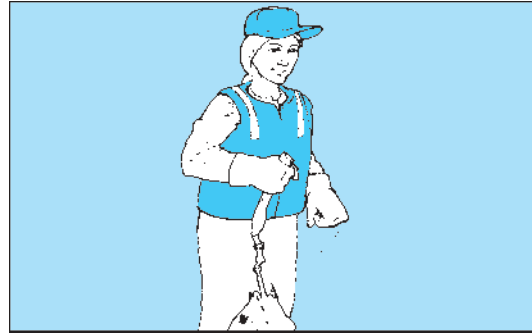
Many crew have fallen overboard while urinating over the rail, or while drawing water with a pail when the vessel was under way. When doing either of these activities, hold onto the vessel with one hand at all times.



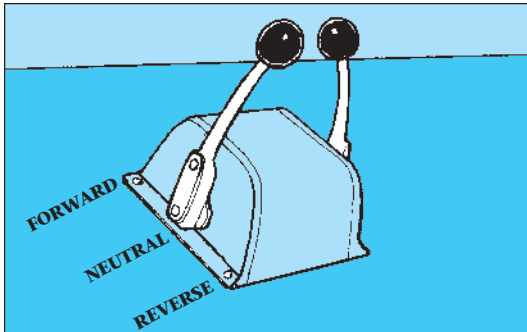




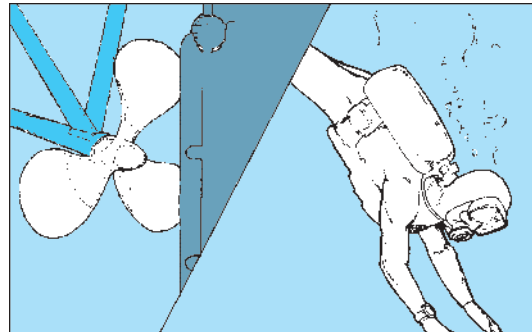
Decks **must** have non-skid surfaces except where a smooth surface is needed for handling fish.



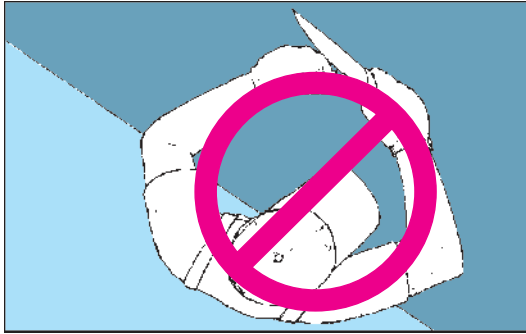
When handling — jigging for fish — crew **must** wear gloves that will adequately protect their hands.



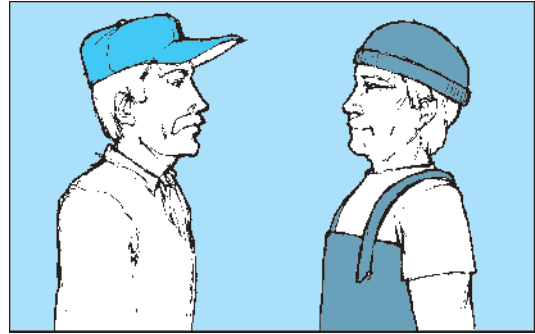
Take the engine out of gear if you need to go out on deck when travelling alone. That way, if you fall overboard, the vessel is less likely to travel away from you. Also follow this procedure if you're in the wheelhouse while the rest of the crew are sleeping or down below.



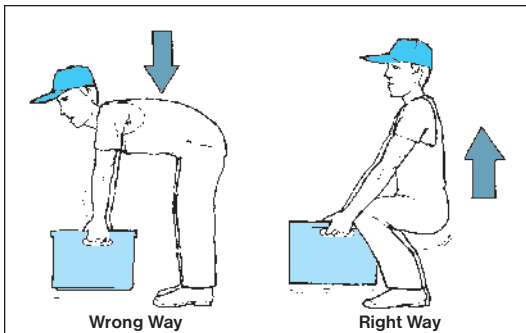
The main engine **must** be turned off if a diver is working underwater near the vessel. Remove engine keys to ensure the engine is locked out. This prevents the diver getting caught in the propeller. Correct diving flags **must** be displayed when diving is taking place.



Never cut bait towards yourself — always cut away from your body. And don't cut frozen bait.



Crew **must** report all unsafe conditions to the master. It is up to the skipper to correct unsafe conditions right away.



All crew **must** be taught — and use — safe lifting techniques. When lifting, bend your knees and lift with your legs — not your back. Keep the weight close to your body. Use a hoist or winch, or ask for help if something is too heavy to lift by yourself. Don't take chances. Back injuries can end your career.

## WCB INJURY REPORTS

### Lifting and pulling injuries

<i>Type of Injury</i>	<i>Cause of Injury</i>
Badly cut finger	Lifting a battery charger that slipped and cut a finger
Lower back strain	Lifting a 18 kg (40 lb.) block
Back strain	Pulling fish over the stern
Back strain	Lifting 36 kg (80 lb.) bag of salt
Hernia	Slipping while lifting a 22 kg (50 lb.) fish
Upper back strain	Lifting 135 kg (300 lb.) of rope
Back strain	Lifting a 40 kg (90 lb.) box of baited hooks
Badly swollen shoulder	Pulling on nets

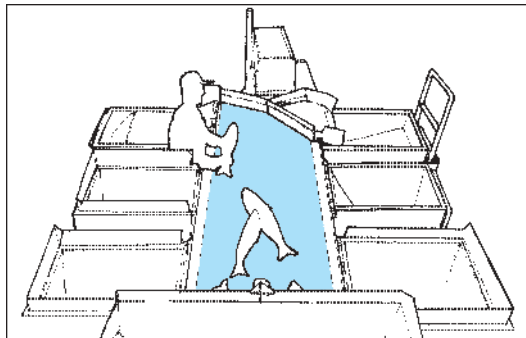
## SAFELY ARRANGE FISH HANDLING OPERATIONS

Doing the same task over and over for long periods of time – such as cleaning fish or baiting hooks – can cause serious injury, most often to hands, arms, and shoulders.

Joints can swell and get sore. Hands can get stiff and painful. In some cases, repeating the same task can cause lasting damage to muscles, joints, and nerves. This damage – called “repetitive strain injury” – can stop you from working. An injury such as a strain or sprain is called a musculoskeletal injury (MSI).

To prevent MSI, all work areas – including sorting, baiting, and dressing stations – must be arranged to reduce the chances of injury to crew.

One way to reduce the chances of injury – especially strains and sprains – is to avoid pitching or throwing fish whenever possible. Instead, use a hoist or a brailer. Rotating crew among jobs can also help reduce injuries caused by repetitive movements.



When inspecting fish handling operations on your vessel, consider the following ways to reduce injury to muscles, joints and nerves:

- Make sure tables are the right height so crew don't have to bend.
- Keep fish within easy reach so crew don't have to over-stretch.
- Work in front of the body to prevent twisting.
- Keep knives sharp to allow easy cutting.
- Change position or work tasks to avoid repetition.
- Keep hands warm by wearing gloves.
- Change tools or use a different knife to change the pressure points on your body.
- Try to keep your wrists straight while working – it's easier on your tendons and muscles.
- Keep decks clean and clear of slipping and tripping hazards.

## SAFETY FOR CONFINED AND ENCLOSED SPACES

Deaths due to unsafe air in confined spaces do occur. Crew members on fishing vessels **must** be aware of the potential danger.

A confined space is one that has limited access, poor or no ventilation, and is not intended for continuous human occupancy. Examples include ballast tanks, fuel tanks, fresh water tanks, and void spaces.

Air in a confined space can be dangerous to breathe if there is not enough oxygen in the air, or if a buildup of other gases such as carbon monoxide occurs. The WCB considers air to be oxygen-deficient when the oxygen content in the air falls below 19.5% by volume. Breathing air with oxygen levels between 14% and 17% is likely to cause impaired judgment, fatigue or cause you to collapse. At levels of oxygen below 6%, unconsciousness or death can occur in minutes.

Oxygen in air can get used up when rust forms on the inside of tanks, or by the growth of bacteria in slime, which consume oxygen to live.

Crew members **must not** enter a confined space on a fishing vessel unless entry procedures meet the requirements of the WCB. A confined space program on your vessel will include:

- **Written work procedures for entering confined spaces:** These procedures **must** be developed and made available to all crew members.
- **Testing:** Air testing **must** be carried out by a trained person.
- **Ventilation:** Natural or artificial ventilation **must** be provided to supply safe air to breathe.
- **Personal protective equipment:** Equipment – such as supplied-air or air-purifying respirators – that meets acceptable standards **must** be provided and worn.
- **Emergency procedures (for rescue and firefighting):** Emergency procedures, appropriate equipment, and standby personnel **must** be in place.
- **Training:** Crew members **must** be trained and retrained as necessary in confined space work and emergency response procedures.

An enclosed space is similar to a confined space except that an enclosed space has adequate and reliable ventilation. Examples of enclosed spaces include fish holds and freezers. Enclosed spaces do not have adequate ventilation for work such as fibreglassing or welding. In such cases, develop safe work procedures that provide for additional ventilation and wear appropriate respiratory protection.

Contact the WCB for more information about hazards and requirements concerning confined and enclosed spaces.

## SAFETY FOR HAZARDOUS MATERIALS

Some materials used on fishing vessels can cause injury or damage crew members' health. Some common hazardous materials include:

- Cleaning agents (such as bleach and bilge cleaners)
- Paints and solvents
- Scale, rust, and corrosion removers
- Welding fumes
- Fuel vapours and engine exhaust
- Ozone
- Asbestos (found in some older vessels)
- Refrigerant gases (freon, for example)
- Fiberglass (especially dust from sanding and grinding)
- Resins and antifouling paints

Being exposed to hazardous materials can cause a host of health problems ranging from skin rashes to kidney or lung damage.

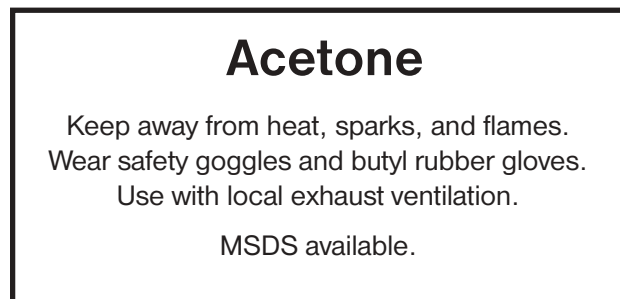
Everyone who uses hazardous materials **must** be trained to use them properly. Crew **must** also use the correct protective clothing and equipment such as gloves, eye protection, and respiratory equipment, whatever is required for the specific substance.

Some hazardous materials used on fishing vessels are “controlled products” under WHMIS, the Workplace Hazardous Materials Information System. Federal and provincial regulations for WHMIS require suppliers to provide proper labelling and Material Safety Data Sheets (MSDSs) for their products. In turn, the master **must** ensure that the crew is educated and trained in the safe use of controlled products on board. Controlled products must be properly labelled, and the crew must have access to a Material Safety Data Sheet (MSDS) for each controlled product in the workplace.

For all controlled products, containers **must** have the original supplier label. If the material is put in another container, a new label, a workplace label – which you can draw yourself – **must** be applied. This label **must** include the following information:

- Name of product
- Information for safe use including any personal protective clothing and equipment required
- A statement telling that an MSDS is available

The following is an example of a correct workplace label for acetone, a common solvent:



Information on labels must be easily understood by crew. For example, write in plain language, or in the languages that crew use on the job.

An MSDS – Material Safety Data Sheet – for each controlled product **must** be on board. An MSDS is a bulletin that gives detailed information about the product. An MSDS – available from suppliers of controlled products – contains the following information:

- General product information (the product name, the supplier, etc.)
- Hazardous ingredients
- Physical characteristics (the boiling point, whether it's a gas, liquid or vapour, etc.)
- Fire or explosion hazards
- Any substances that the product reacts with
- Health effects

- Preventive measures (how to safely handle and store materials and recommended protective equipment such as gloves, respirators, boots, or eyewear)
- First aid
- The date the MSDS was prepared, and contact names and numbers for more information about the product

All crew who use controlled products **must** be trained how to use them properly. Crew members **must** know:

- The hazards of the product
- Required personal protective equipment and other controls to eliminate hazards
- Procedures to follow in an emergency such as a spill
- Where to locate the MSDS for more information about the product

For more information about controlled products, WHMIS, and MSDSs, contact the WCB.

Some marine products containing hazardous ingredients from the retail market may be used on vessels. These consumer products do not require MSDSs and supplier labels. The master must use the information from the consumer label to educate and train the crew. However, this information is limited to acute health effects. Industrial and professional controlled products intended for the workplace have more detailed information available through MSDSs and supplier labels.

## CREW MEMBER OVERBOARD

A crew member falling overboard is a serious situation. In the frigid waters of the Pacific, a crew member can die in a matter of minutes as a result of cold water immersion.

That's why the master of a fishing vessel **must** put in place procedures for recovering an overboard crew member and must ensure that the crew practises these procedures. Suitable equipment for recovering an overboard crew member – for example, a life ring or a sling – **must** also be kept on board.

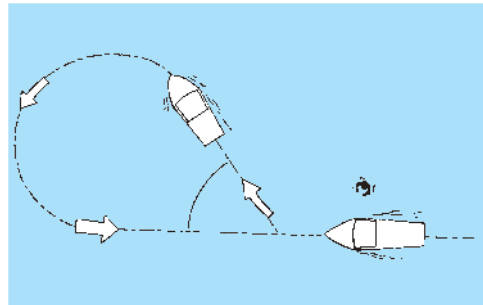
The following are examples of procedures for a crew member overboard situation:

- Throw a life jacket, life ring, or a brightly coloured floating object into the water to help the person, and to help you return to the spot where the crew member fell over.
- Tell the wheelhouse what's happened (for example, from which side of the vessel the crew member fell). Have someone continue to verbally direct the vessel operator to the overboard crew member.
- Have one person keep sight of the person in the water *at all times*.
- Carefully manoeuvre the vessel to pick the person up. When pulling in the overboard crew member, be careful not to get pulled in the water yourself.
- Have a means for getting back on board the vessel, such as a ladder or tires.

### The Williamson Turn

A common manoeuvre used to retrieve a crew member overboard is the Williamson Turn. It is especially useful at night or when visibility is poor, such as in fog or heavy rain:

1. Pull the rudder hard over to the side from which the person fell overboard.
2. Keep the rudder held hard over, and maintain engine speed until the vessel is about 60 degrees from the original heading.
3. Ease the rudder and pull it hard over to about 210 degrees in the opposite direction.
4. Bring the vessel upwind of the person. Put the engine in neutral. Let the vessel drift dead ahead to the crew member. Position the vessel so that the person is alongside, well forward of the propellers.

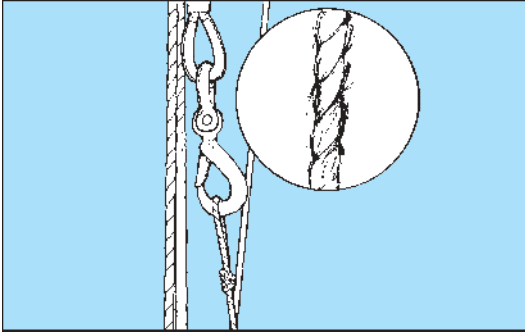




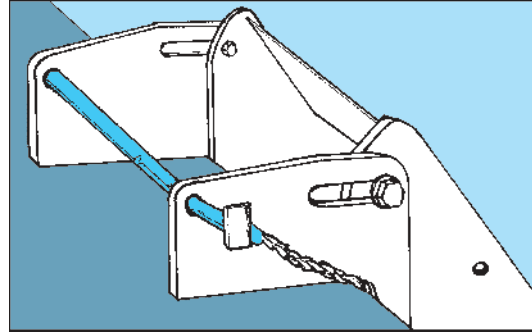


# Equipment Safety

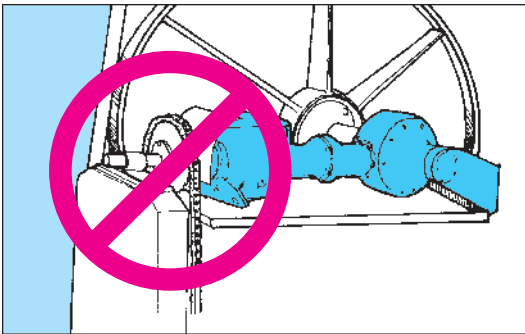
Equipment is only as good as the people who operate it. Never use a machine if you don't know how to operate it properly. If you see machinery that needs repair, report it to the master or fix it right away. Other steps to improve safety around equipment include:



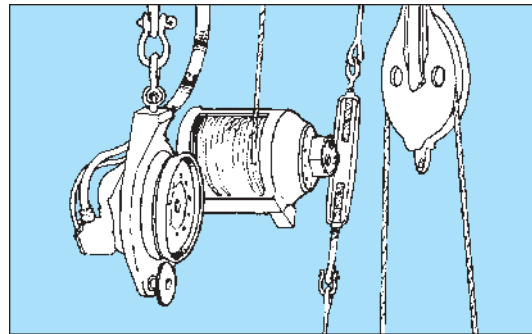
Inspect winches, booms, and related equipment regularly. Check the hardware, lines, and cables closely for signs of wear or stress.



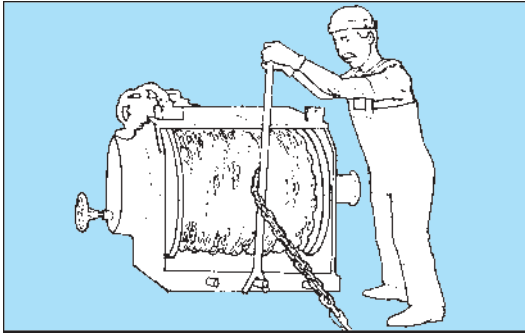
All movable davits **must** have a device to lock them in place so the davit does not jerk back and strike crew. Don't use a bolt in place of a locking pin.



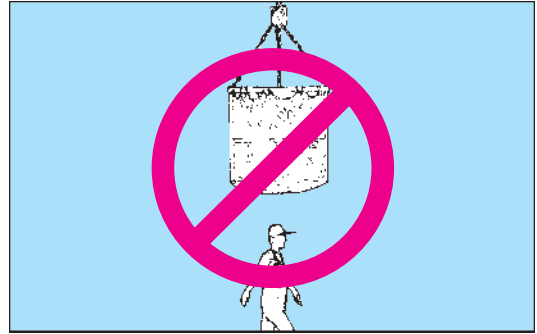
Moving parts of power-operated equipment – such as chain and belt drives, gearing, and shafting – **must** be guarded. Otherwise, hands, hair, or clothing could get caught. (Equipment such as a capstan can't be guarded because of the way it operates.)



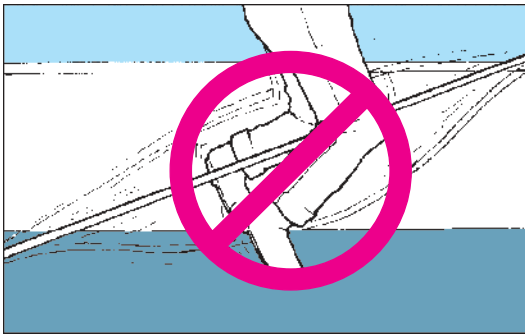
All rigging – chains, slings, hoists, turnbuckles, derricks, blocks, anchor gear, and the mast – **must** be inspected regularly and kept in safe working order. Since chains have different uses, make sure the chain is rated for its intended use.



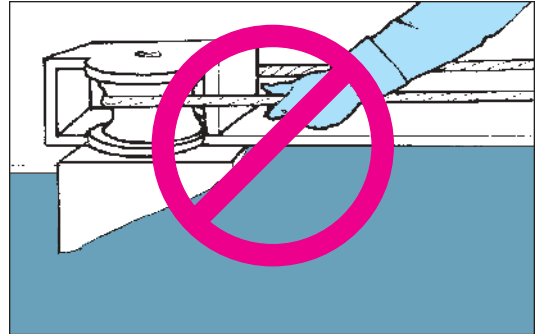
Whenever possible, use a tool — not your hands or feet — to guide lines. Otherwise, you may get caught in the line and dragged into moving equipment.



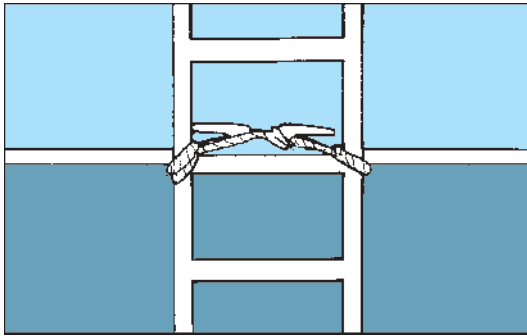
Never stand under a suspended load. Never pass a loaded boom over a crew member. A number of people have been injured — or killed — by booms or loads that fell on them.



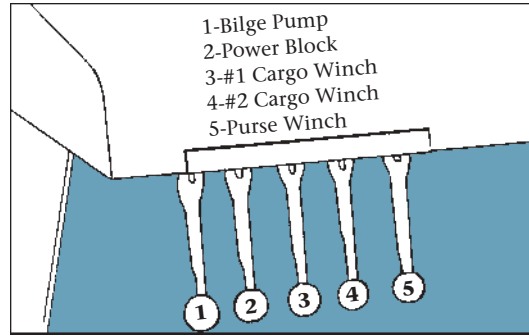
Avoid stepping over lines under tension. Sudden strains can cause them to bounce wildly up and down.



Never use moving lines as a handhold.



Ladders **must** be of sound design and in good condition. When using portable ladders, they **must** be secured.



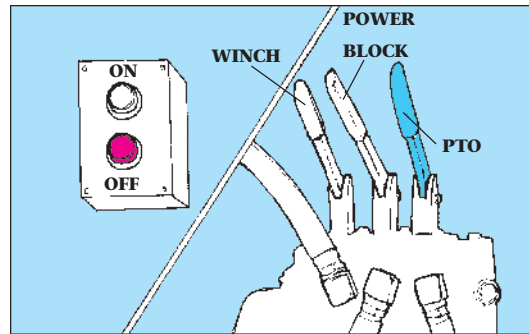
Make sure all equipment controls are clearly marked.

## HAZARD ALERT

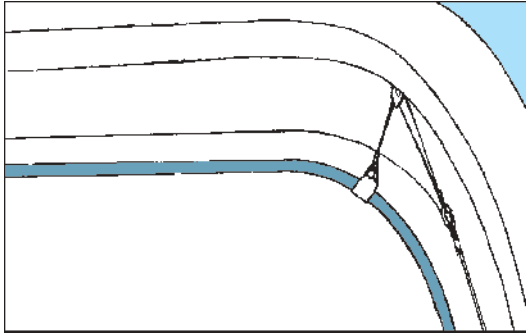
### Winch cable catches jacket

A deckhand working on a dragger was pulled into the winch when his jacket got caught in the winch cable. He was badly bruised and received many cuts.

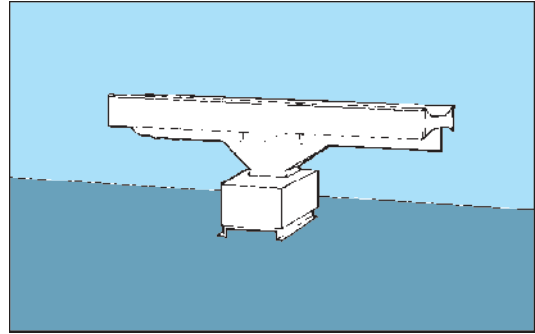
Workers getting caught in lines and other equipment causes many injuries each year. Wear close-fitting clothing and gloves when working around moving lines. Keep long hair tucked under a hat. As much as possible, keep fingers and hands clear of moving lines. Many crew members have suffered cut, bruised, or sprained hands. A few have lost fingers to moving lines.



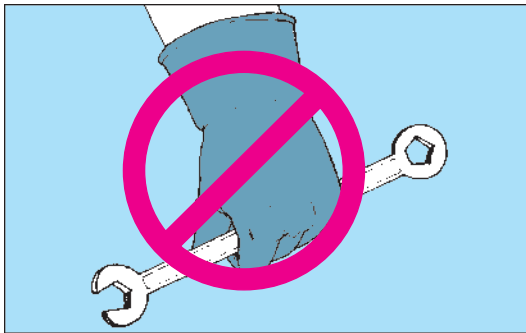
Winches, drums, capstans, and similar equipment **must** have a master on/off switch on deck that is easy to reach. This ensures equipment can be stopped quickly if someone gets caught in it. Make sure the switch is clearly marked and that crew know where to find it.



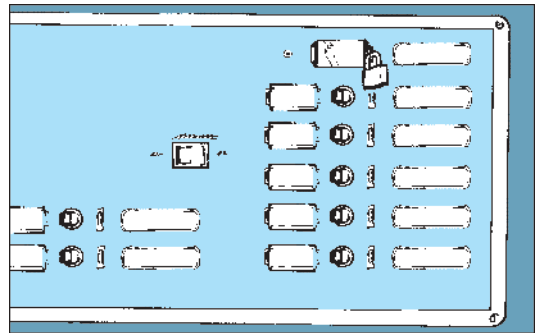
Drum pedals and other types of hold-to-run controls **must not** be bypassed.



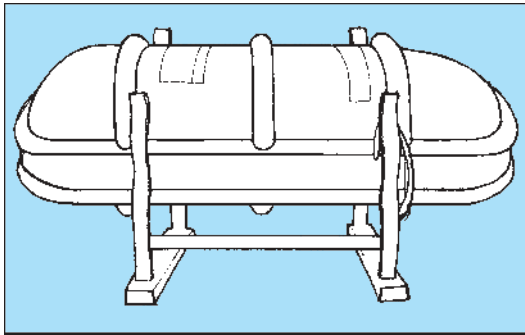
Stay clear of the radar scanner. It can cause serious injuries when rotating. Put a “Do Not Operate Radar” sign on the wheelhouse radar when someone is working aloft.



Don't adjust, oil, or clean equipment while it is operating unless safe work procedures are in place that will protect you from injury.

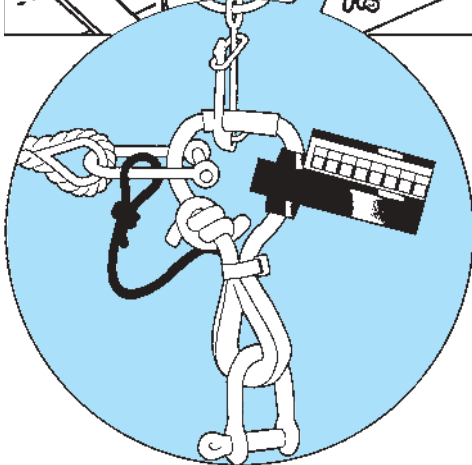
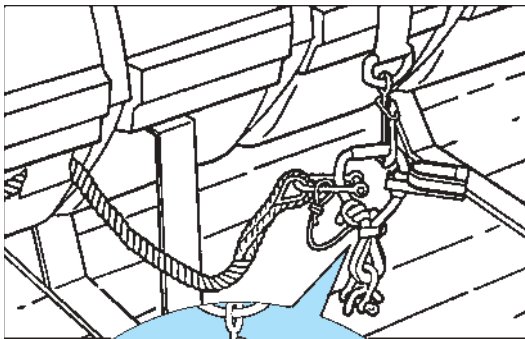


Before machinery is repaired, the power **must** be disconnected. For repair, machinery **must** also be secured — for example, by locking out the power source — to prevent accidental start-up. (In some situations, as in heavy weather, shutting down equipment may be unsafe. Only in such cases can these safety steps be bypassed.) If equipment or machinery has to be kept operating during maintenance, procedures **must** be put in place to prevent injury from moving or energized parts.



Transport Canada requires life rafts to be stowed in one of the following ways:

- The life raft is placed in deep chocks, without lashing (see above).
- The life raft is secured by a lashing fitted with a hydrostatic release unit, which will automatically release the life raft from a sinking vessel (see below).



## WCB INJURY REPORTS

### Injuries from fishing vessel equipment

<i>Type of Injury</i>	<i>Cause of Injury</i>
Crushed chest	Boom collapsing, causing a cable to strike a crew member, who was thrown overboard
Cut-off finger tip	Catching a finger between a davit and a moving line
Multiple bruises	Crew member catching his arm in a line and getting pulled over the drum
Multiple bruises and cuts	Crew member being pulled into the winch after his coat got caught in the winch cable
Broken hand	Catching a hand in a hydraulic net drum
Badly cut finger	Catching a finger in the anchor winch
Broken leg	Crew member getting caught in the line and pulled around the drum

## DIRECTING WINCH OR CRANE OPERATIONS



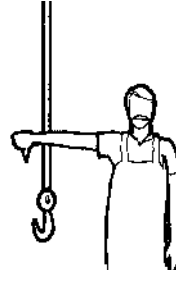
Hoist



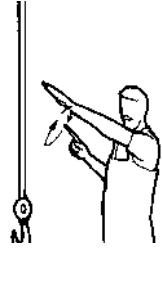
Lower



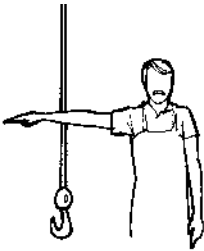
Raise boom



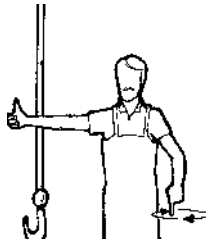
Lower boom



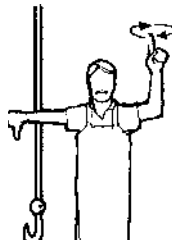
Move slowly



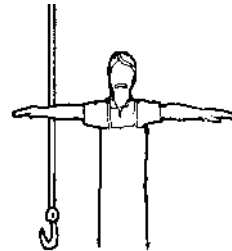
Swing



Raise the boom and lower the load



Lower the boom and raise the load



Stop



Dog everything

## EQUIPMENT AND RIGGING CHECKLIST

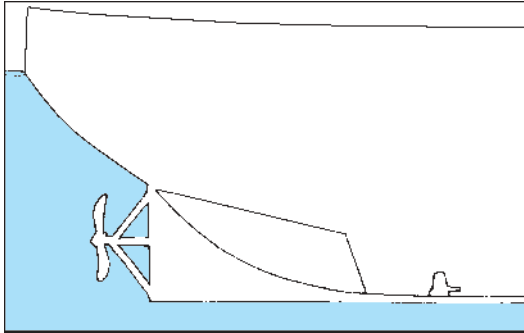
Rigging and equipment vary from vessel to vessel. Periodically inspect the condition of rigging and equipment to make sure it is safe and well maintained. Here's a checklist you can modify to suit your vessel.

Item	Comments
Chains, lines, ropes (worn? deterioration?)	
Wire rope (jaggers?)	
Chain links (worn?)	
Shackles, hooks (worn? twisted? moused?)	
Chain plates (rusted? corroded?)	
Cable clips (worn? properly mounted?)	
Blocks (greased? safety lines?)	
Turnbuckles (turn freely?)	
Blocks (lead to centre of the drum?)	
Anchor winch (safety line for securing the anchor?)	
Drums (hold-to-run controls working? brake adjusted?)	
Power block (safety line installed?)	
Davits (locking device in good repair?)	
Safe load ratings (written on the boom, shackles, hooks?)	
Equipment controls (clearly marked?)	
Hydraulic power systems (no leaks in lines and fittings?)	
Machinery (properly maintained, guarded?)	
Decks (non-skid where applicable?)	
Wire rope and chain (rated for intended use?)	
Booms (working load limit indicated?)	

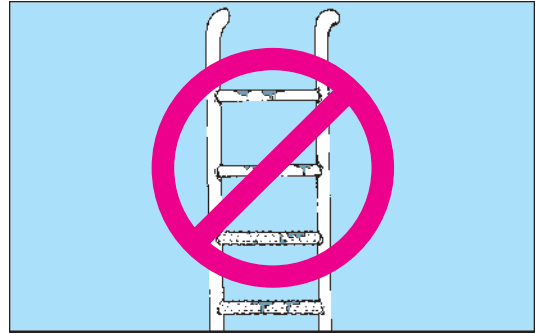


# Engine Room Safety

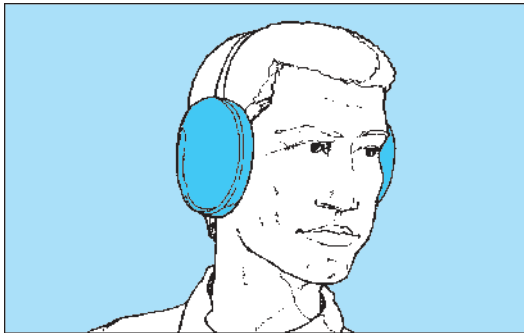
Fuel leaks can cause fires or explosions. Carbon monoxide buildup can suffocate crew. Although unusual, these accidents do happen. Provide good ventilation in the engine room, and inspect equipment regularly. Keep records of filter changes and other scheduled maintenance. Other safety steps include:



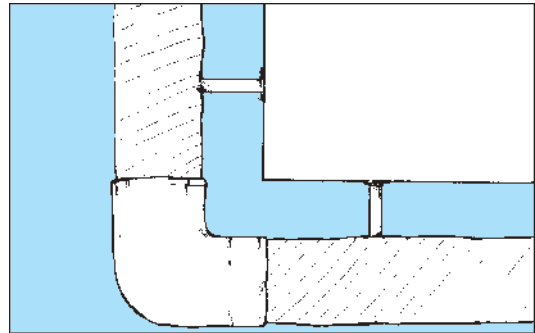
Keep as little water in the bilge as possible. Clean bilge strainers regularly and test the bilge alarm.



Don't let oil and grease build up on engine room ladders or in the engine room itself. Clean ladders regularly to prevent crew from slipping and falling.

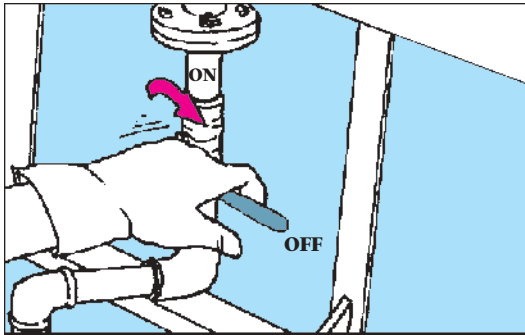


Wear hearing protection when working in the engine room. Many people in the industry have damaged their hearing by not wearing ear muffs or ear plugs.



Make sure all exhaust pipes are away from wood and other material that can catch fire; where needed, cover the pipes with lagging.





When seacocks are not required to be open, turn the valve handle to the “off” position.

## WCB INJURY REPORTS

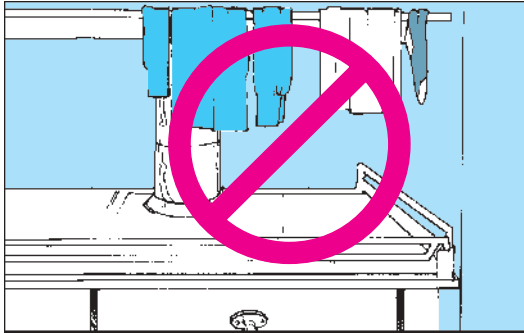
### Engine room injuries

<i>Type of Injury</i>	<i>Cause of Injury</i>
Cut-off finger	Hand catching in the engine V-belt
Burns over body	Overheated engine spraying hot water
Cut chin, bruised chest	Falling through the engine room hatch
Strained back	Lifting the engine head
Strained wrist	Slipping in the engine room
Badly bruised ribs	Falling against the engine room hatch
Infected knee cut	Hitting a knee against the alternator

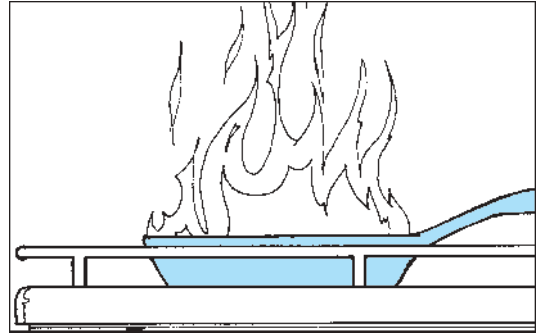


# Galley Safety

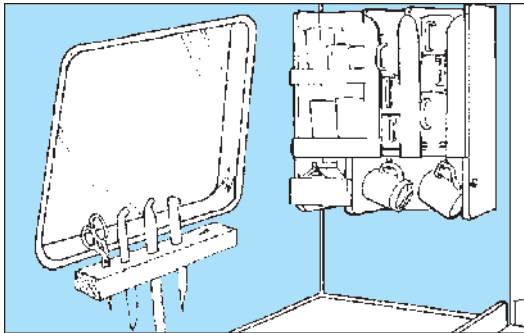
Galleys are a prime spot for accidents. Hot stoves or spills of hot liquids can burn skin. Pots, pans, or knives can fall and hit crew. Stove fuel leaks — or just plain carelessness — can cause fires. In fact, galley stoves are a leading source of boat fires. Use common sense to reduce galley hazards:



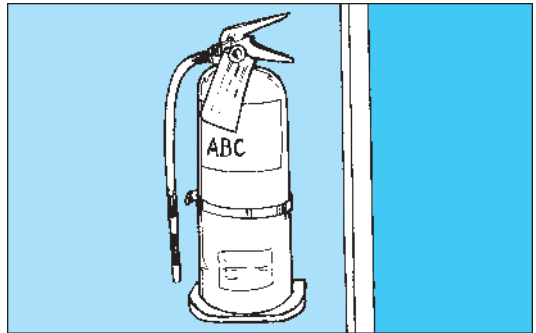
Don't hang washcloths, gloves, hats, or other items over the stove to dry — they could fall onto the stovetop and catch fire.



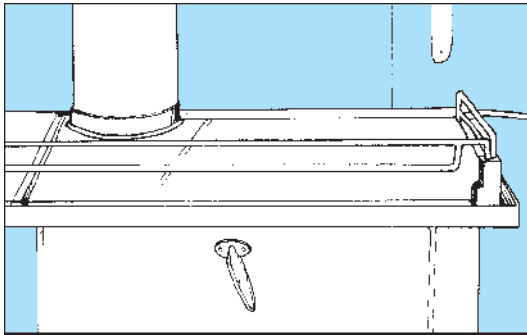
When cooking with grease or oil, do not leave the stove unattended. A fire may start accidentally.



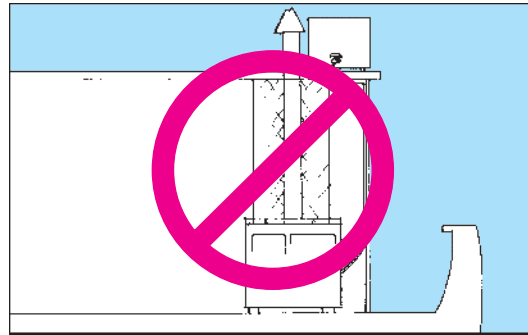
Keep knives and other utensils stored safely in racks or drawers. Store pots and pans safely. Use table covers made of non-slip material.



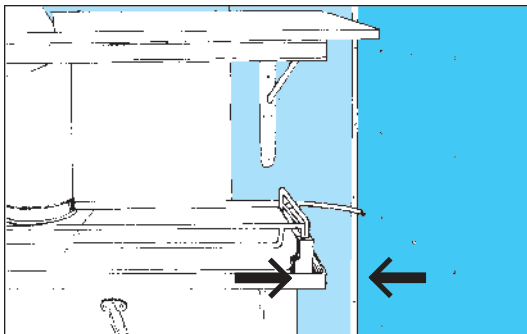
Keep an ABC or AB fire extinguisher in the galley, near the entrance, if possible. Hang the extinguisher in a bracket, where it can be easily seen and reached.



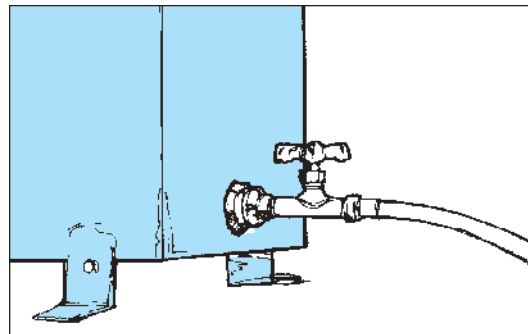
Galley stoves **must** have guards to stop cooking gear from sliding off the stovetop.



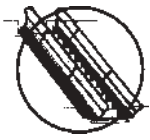
Stove fuel tanks and lines **must not** be located directly above the stove. A leaking tank or line above the stove can easily catch fire.



Galley stoves **must** be bolted down or otherwise secured so they don't slide or move. The space between the stove and the firewalls **must** be large enough to allow you to clean up oil and grease.

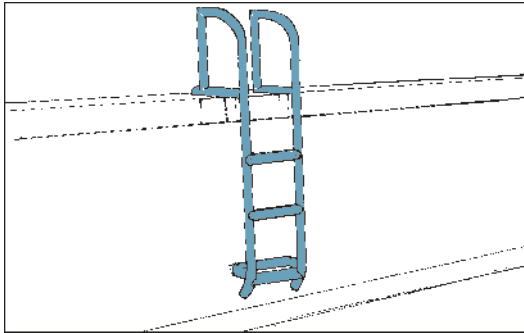


Stove fuel tanks **must** have a shut-off valve at the tank. The valve allows you to turn off the fuel supply if there's a stove fire, if the stove controls break, or if the stove needs repair. Use proper fuel lines.

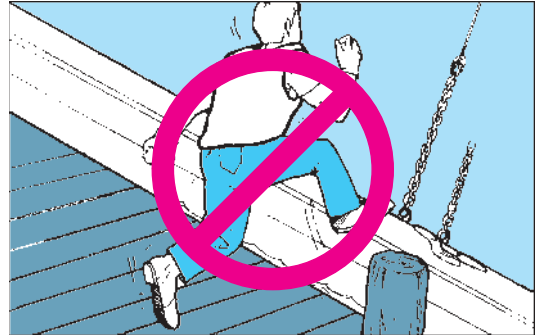


# Safe Boarding

Look before you step. That's the best rule to remember when boarding or exiting vessels. Keep these safety steps in mind when boarding or exiting:



Use a gangway or ladder to board or exit the vessel. Gangways and ladders used for boarding or exiting **must** be secured. When possible, use a ladder or gangway that hooks over the bulwark. Keep gangways and ladders clean. Ice, oil, and slime can make them slippery.



Never run or jump from the dock to the vessel, or between vessels.

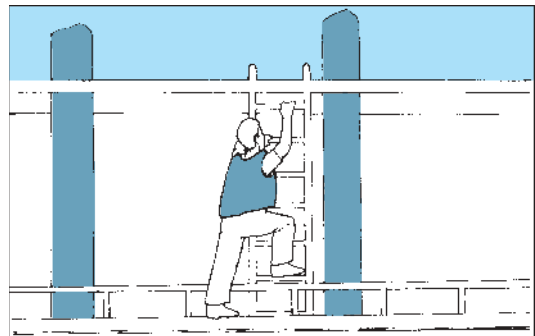
## HAZARD ALERT

### Deckhand falls with tank

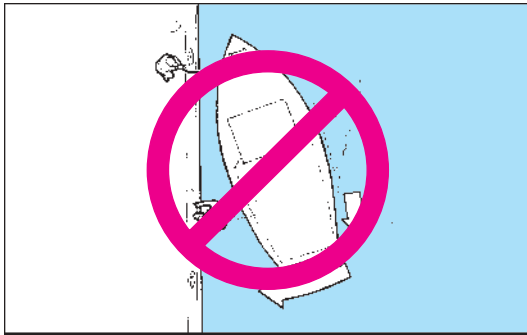
A deckhand was stepping from boat to boat while carrying a propane tank. He slipped and suffered severe back strain.

Injuries caused by slipping or tripping while boarding or exiting vessels are very common. Many result in broken bones and head injuries.

Do not board a vessel while carrying supplies. Instead, pass the load to someone who is on the vessel.



If the vessel deck is lower than the dock, climb down the dock ladder to the deck or bulwarks. Then step over, holding a ladder rung with one hand and the vessel railing with the other hand.

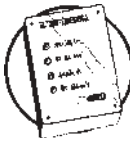


When tying the vessel to the dock, don't exit the vessel until it is safe. If you exit too early, you're more likely to slip between the dock and the vessel.

## WCB INJURY REPORTS

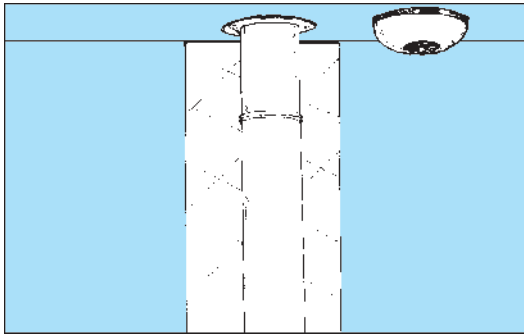
### Injuries from boarding and exiting vessels

<i>Type of Injury</i>	<i>Cause of Injury</i>
Sprained ankle	Jumping from the boat to the dock, landing on a water hose
Broken elbow	Jumping from one vessel to another, tripping on the rail
Broken wrist	Slipping while stepping from one boat to another
Injured knee	Slipping on deck while stepping onto the boat
Broken rib	Slipping while exiting the boat
Torn ligament in knee	Falling while stepping from the vessel into the skiff

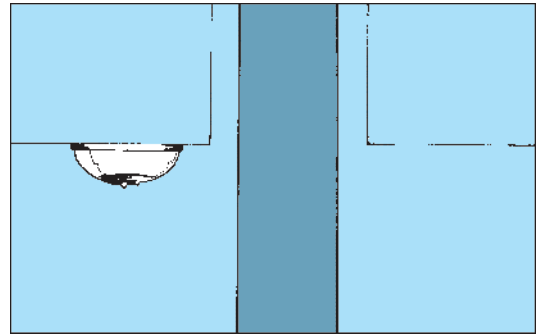


# Sensors & Alarms

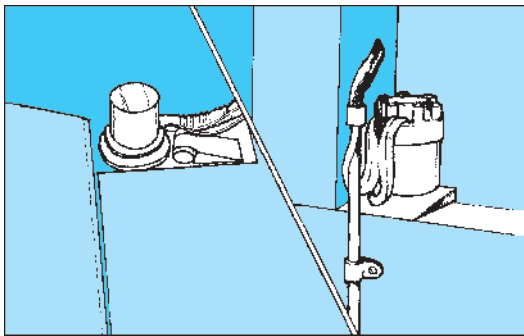
Sensors and alarms are useful only if they work. Do not disconnect them or let them fall into disrepair. Keep your sensors and alarms well maintained, and test them regularly. Don't bypass them. Other safety steps include:



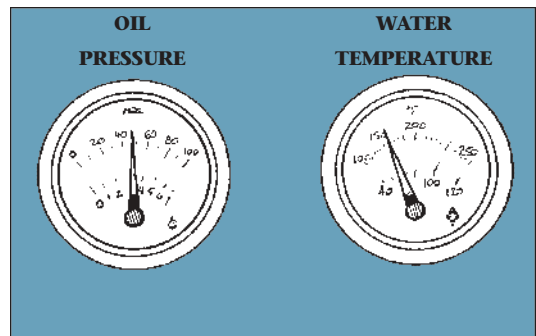
To warn of fire, a heat sensor that sounds an alarm **must** be installed above the stove or near the stove pipe.



To warn of fire, a heat sensor that sounds an alarm **must** be installed near the engine exhaust.



To warn of flooding or high water levels, water level sensors that sound an alarm **must** be installed in the bilges and the shaft log or the lazarette. It's also a good idea to keep a water level sensor in the engine room.

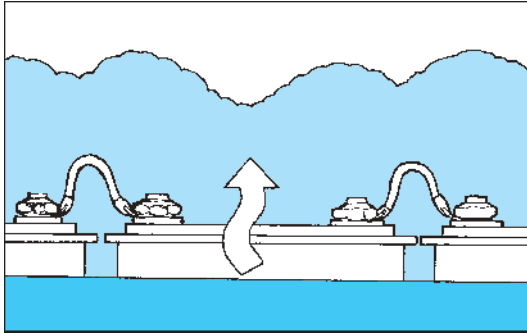


To warn of possible engine failure, engines **must** have sensors for low oil pressure and high water temperature. These sensors **must** sound an alarm.

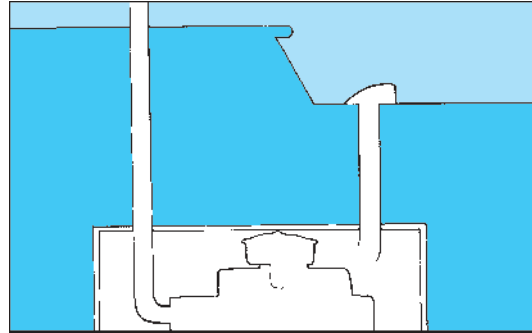


# Installations & Ventilation

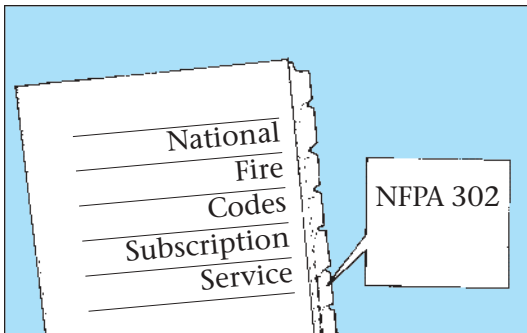
Take a close look at the ventilation system and installations on your vessel. Good venting provides fresh air needed for good health. Properly mounted and maintained installations – such as propane tanks and ozone generators – are less likely to leak. Follow these safety steps:



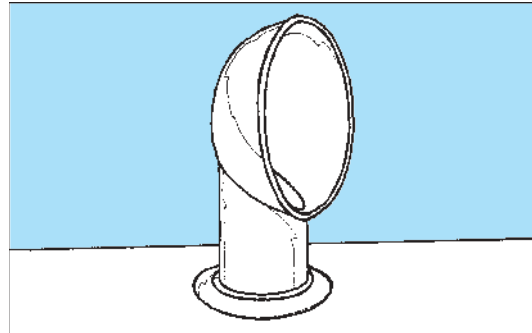
Vent the battery storage area. Batteries give off toxic, explosive gas.



Vent all closed spaces with gasoline engines. Exhaust gases can be deadly if allowed to build up.



Be sure that installations for propane, compressed natural gas, and liquefied petroleum gas used for fishing vessel appliances are safe and in good repair. Such installations **must** conform to the most recent edition of NFPA Standard 302, *Fire Protection Standard for Pleasure and Commercial Motor Craft*.



Crew sleeping quarters **must** have enough fresh air for the crew. Good ventilation helps prevent engine exhaust and other gases from reaching unsafe or unhealthy levels.

## INSTALL AND RUN OZONE GENERATORS SAFELY

Ozone used to treat water in fish holds can pose risks to crew. Being exposed to unsafe levels of ozone gas can, over time, cause lung damage and other health problems. The immediate effects of high levels of ozone include nausea, vomiting, pain or tightening in the chest, lung damage – and even death.

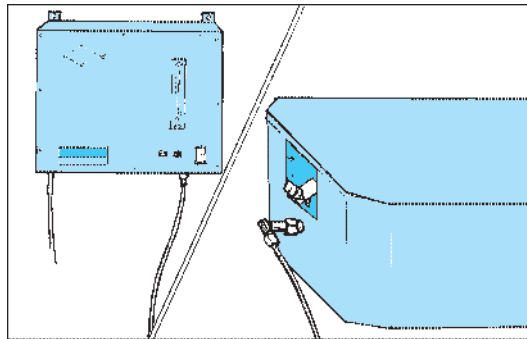
At low levels (about 0.1 ppm), ozone can cause headaches and shortness of breath.

Equipment that produces ozone **must** be safely installed and operated to prevent leaks and other malfunctions. On a fishing vessel, the ozone generator and the concentrator **must** be in their own enclosed areas or a bulkhead that is vented to the outside.

Ozone has a strong smell all its own. However, don't use your nose to warn of high ozone levels – the nose quickly loses its ability to smell the gas. Testing equipment should be used to monitor the air in work areas where ozone-generating equipment is operating. Crew members **must** be trained in emergency procedures to follow if there is an accidental release of ozone.

Because ozone is a controlled product under the Workplace Hazardous Materials Information System (WHMIS), a Material Safety Data Sheet (MSDS) for ozone must be kept on board for the crew to read. An MSDS gives key information about a product including its health effects, first aid treatment, and ways to prevent being exposed to unsafe levels.

Follow the manufacturer's instructions, and check all hoses – they can become hard and cracked, causing leaks of ozone or pure oxygen from the concentrator. Leaks of oxygen can cause a fire or explosion.



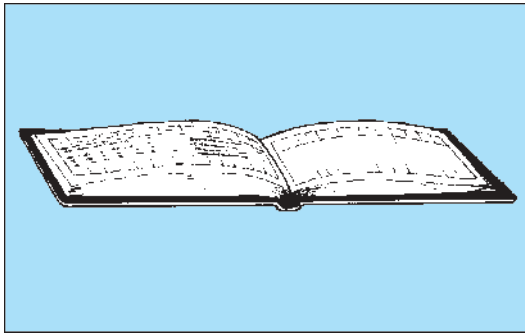
For more information on standards covering ozone and ozone generators, contact the WCB.



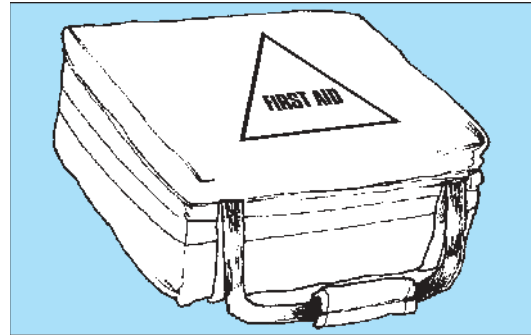


# First Aid & Injury Reporting

Good first aid skills can mean the difference between life and death, or between short-term or life-long injury. Learn as much first aid as you can. At sea, you have only yourself and other crew members to turn to for help. If an injury happens, record it. Report all serious injuries to the Workers' Compensation Board. When assessing first aid and injury reporting procedures, keep these safety steps in mind:



All injuries **must** be recorded. The vessel log book is ideal for this purpose. First aid records must be kept for 10 years.



Carry a first aid manual on the vessel at all times. It's best to keep it in the first aid kit, where crew will know to find it in an emergency.

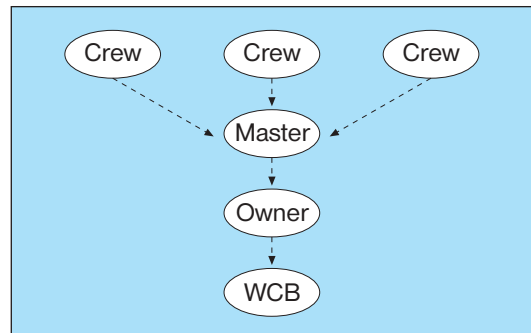
## HAZARD ALERT

### Beware of fish poisoning

Bacteria in fish slime can cause cuts and broken skin to become infected easily. Left untreated, "fish poisoning" can be dangerous.

Always wash your hands with soap after handling fish. Wear clean, dry gloves. Wash wet gloves with soap, and dry them before using them again. Clean skin wounds with soap or an antiseptic.

Signs of fish poisoning include red, itchy, swollen or puss-filled wounds, and sometimes fever. See a doctor right away if a red streak appears from the wound.



Crew **must** report all injuries to the master. In turn, the master **must** report to the vessel owner all injuries that require medical aid. All injuries resulting in death or serious injury **must** be reported to the WCB.

## REPORTING ACCIDENTS TO THE WCB

Any accident that kills or seriously injures a crew member **must** be reported to the WCB's Prevention Division (call 604 276-3100 or 1 888 621-7233 during regular office hours and 604 273-7711 or 1 866 922-4357 after regular hours).

Additionally, an Employer's Report of Injury or Occupational Disease (Form 7) **must** be submitted to the WCB:

- Within 10 days of the injury if the injury occurs at sea
- Within three days of the injury if the injury occurs elsewhere
- Immediately in the case of death
- In the case of an industrial disease, within three days of receiving information of a disabling industrial disease

Besides injuries resulting in death or serious injury, a Form 7 **must** be submitted to the WCB if:

- The crew member loses consciousness following the injury
- The crew member is taken or directed by the first aid attendant to the hospital or other medical treatment centre, or is recommended to go there
- The injury is one that obviously requires medical treatment
- The crew member states an intent to seek medical treatment
- The crew member has received medical treatment for the injury
- The crew member is unable or claims to be unable to return to his or her usual job on any given day subsequent to the day of injury
- The injury or accident resulted or is claimed to have resulted in the breakage of an artificial member, eyeglasses, dentures, or hearing aids
- The worker or the WCB requests that a Form 7 be sent to the WCB

If a first aid attendant treats the injured crew member, be sure to include a completed First Aid Report (Form 7A) along with Form 7.

### **Tips for easier reporting**

Generally, the master will notify the owner of an injury or accident, and the owner will report and/or submit the appropriate forms to the WCB. But the master can contact the WCB on behalf of the owner. The WCB accepts faxes of your reports. The reverse of the Employer's Report lists all fax numbers for the local WCB offices. Just fax the report to the office in the region where you operate from. If you need forms, call 604 279-7448 (for the Lower Mainland) or 1 800 661-2112, local 7448.

## FIRST AID KITS AND TRAINING

### First Aid Kits

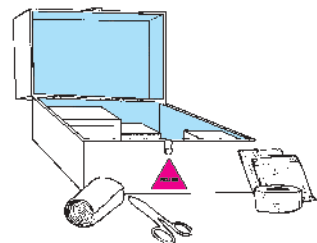
Before the start of the fishing season, check your first aid kit to make sure it's fully stocked. All fishing vessels with 2 to 15 crew **must** carry a Level 1 first aid kit. This kit contains:

- 3 blankets
- 24 14-cm by 19-cm antiseptic towelettes, individually packaged
- 60 hand cleansing towelettes, individually packaged
- 100 sterile adhesive dressings, assorted sizes, individually packaged
- 12 10-cm by 10-cm sterile gauze dressings, individually packaged
- 4 10-cm by 16.5-cm sterile pressure dressings with crepe ties
- 2 7.5-cm by 4.5-m crepe roller bandages
- 1 2.5-cm by 4.5-m adhesive tape
- 4 20-cm by 25-cm sterile abdominal dressings, individually packaged
- 6 cotton triangular bandages – minimum length of base: 1.25 m
- 4 safety pins
- 1 14-cm stainless steel bandage scissors
- 1 11.5-cm stainless steel sliver forceps
- 12 cotton tip applicators
- 1 pocket mask with a one-way valve
- 6 pairs of latex gloves
- 1 first aid record book (use vessel log book) and pencil or pen

If a vessel is run by only one crew member, such vessels **must** have a personal first aid kit, which contains:

- 1 pressure dressing
- 6 sterile adhesive dressings, assorted sizes, individually packaged
- 6 individually packaged towelettes
- 1 wallet-sized instruction card advising the worker to report any injury to the employer for entry in the first aid records, and instructions on how to call for help

Except for blankets, all items in either a Level 1 or a personal first aid kit **must** be kept in a weatherproof container. Kits **must** be restocked after use.



A vessel with 6 to 15 crew must have the following gear for moving injured crew to medical aid:

- A spine board with straps
- A basket stretcher (the spine board must fit in the basket stretcher)
- A set of hard collars
- 6 blankets (you can include the 3 from the Level 1 kit)
- 2 vomit bags

### **Training**

If a vessel has two or more crew, at least one crew member **must** have a Level 1 first aid certificate and the transportation endorsement.

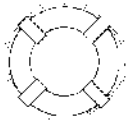
If a vessel has only one crew member, he or she is not required to have first aid qualifications, but having them would be beneficial.

Fishing vessels **must** comply with the Occupational First Aid regulations. For a copy of these regulations, or for more information on first aid supplies, contact your nearest WCB office.

### **First Aid Records**

All injuries that are treated or reported **must** be recorded. Each record of injury **must** contain the following information:

- The full name of the injured crew member
- The date and time of the injury or illness
- The date and time the injury or illness was reported to the master
- Names of witnesses
- How the injury or illness happened
- A description of the injury or illness
- Initial and follow-up treatment, or other arrangements made for the injured crew member
- The signature of the person giving first aid, and when possible, the signature of the person receiving treatment



# Emergency Drills

Accident investigations in the fishing industry in recent years have indicated the need to conduct emergency drills. The master is responsible for conducting emergency drills at the start of the fishing season, when there is a crew change, and at intervals to ensure that crew members are familiar with emergency procedures. The master must establish the emergency procedures and assign responsibilities to crew members. Everyone should know the location and use of safety equipment.

Emergencies often happen in rough seas, in an unstable vessel, or in darkness. Crew members should have enough practice that they could perform these procedures in emergency conditions.

Drills must deal with the following five types of emergencies. Once a drill has been completed, record the date, location, and type of drill in the log book.

## **Flooding of the vessel**

A flood drill might include knowing the vessel's pumping capabilities and how to remove water from a compartment, freeing the scuppers, and checking for items that could be restowed or if necessary thrown overboard to regain stability.

## **Fire on board**

Fires most typically start in the galley or engine room. In a drill make sure crew members know their escape routes and the location and use of firefighting equipment as well as how to inform the master and crew members of a fire.

## **Crew member overboard**

A person in the water must be rescued as quickly as possible before cold water immersion results in death. See page 27 for typical procedures.

## **Abandoning ship**

If crew members must abandon the vessel, they need to know how to sound the alarm, meet at muster stations, put on immersion suits or PFDs, and release life rafts. The drill should use the equipment to the extent practicable and without damaging it or creating a hazard.

## **Calling for help**

Every crew member should know how to call for help. Methods can include VHF, cellphone, radio telephone, flares, and distress flag. If there is an emergency position indicating radiobeacon (EPIRB) on the vessel, crew should know how to activate it.

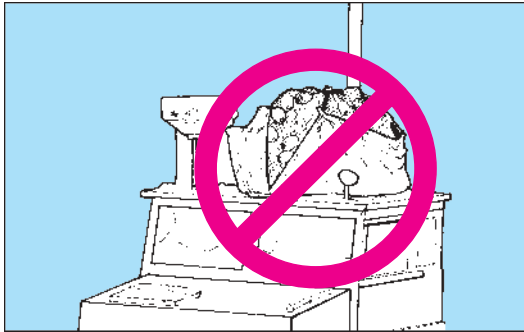
# SAFETY FOR SPECIFIC TYPES OF FISHING



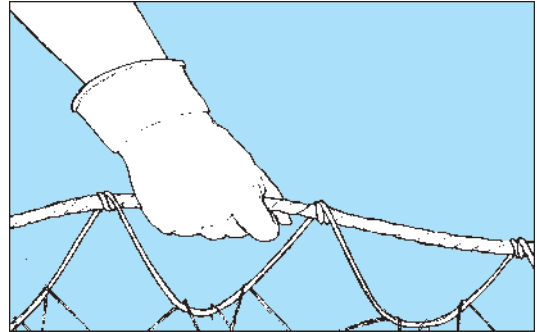
# Gillnetting Safety

Because gillnet vessels have small crews — or just one crew — gillnetters should travel in groups of two vessels or more. That way, help is close by if something goes wrong or someone is hurt.

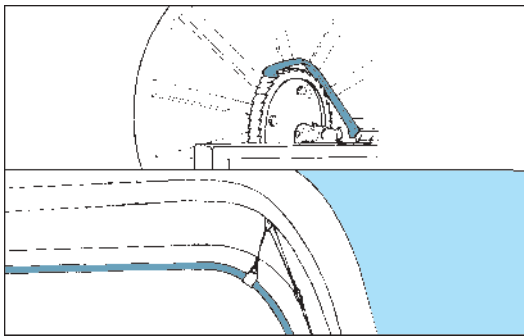
## When gillnetting for salmon or herring:



Don't store nets on top of the wheelhouse — this can cause stability problems.



Use gloves to protect your hands when setting the net or handling fish.



For gillnet vessels, drums **must** have a hold-to-run control, a ratchet for picking up under heavy strain and a brake for keeping control when setting the net. Be sure the hold-to-run control works properly.

## HAZARD ALERT

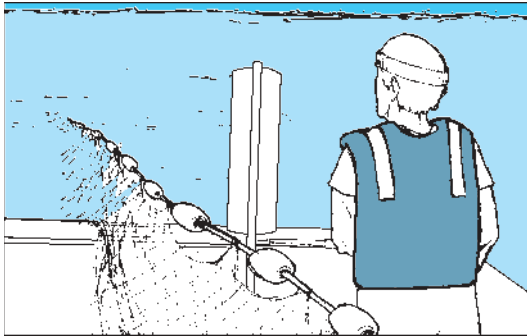
### Fire kills gillnetter

A gillnetter died when his gas-powered vessel exploded into flames while travelling down the Gulf of Georgia.

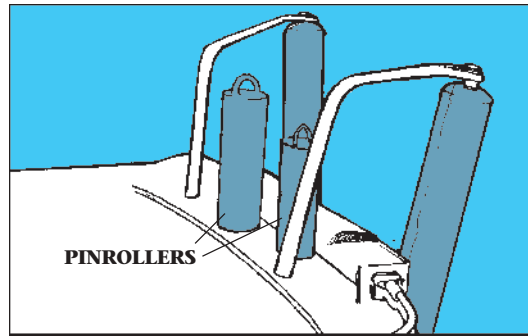
The fire started near the engine. Reduce the chance of gas fires by making sure fuel tanks, filters, and lines are properly installed and maintained. Also install a “sniffer” system for detecting gas, and ensure you have adequate ventilation to remove vapours from the bilge. Follow proper procedures when operating the bilge blower.



## When gillnetting for salmon:

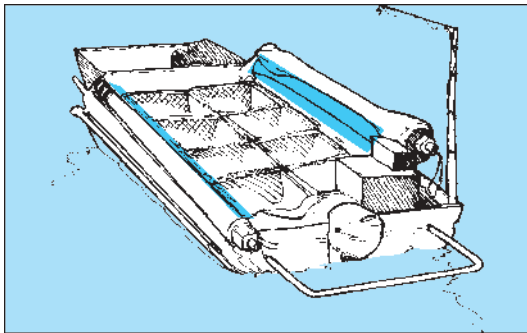


When setting, keep clear of the net. Don't try to clear snags while the vessel is under way. Use caution when working around weedline buckets.

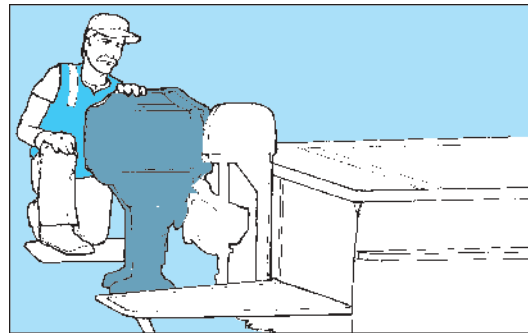


Pinrollers **must** be designed and maintained to prevent them from lifting. If a pinroller lifts, the pin – or the net – can strike the crew.

## When gillnetting for herring:

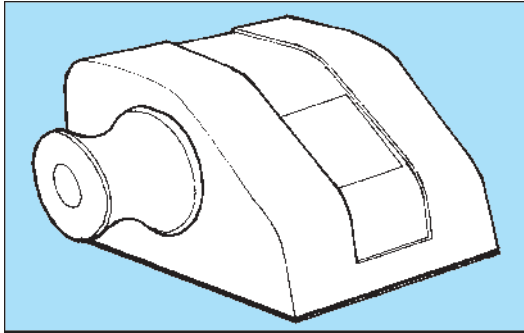


Work areas on herring skiffs and punts **must** be arranged so crew do not contact moving equipment such as beater bars and live rollers.

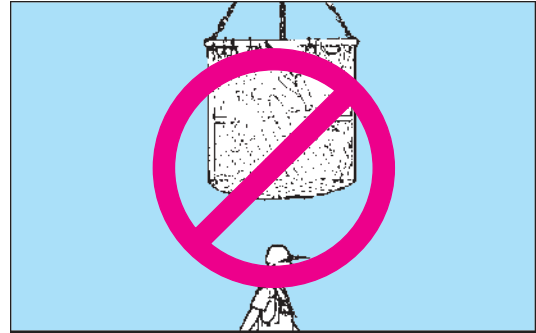


Crew **must** be taught how to *safely* clear fouled propellers on a herring skiff. Many crew have been injured by falling overboard or hanging over the stern. Using standing grids, hoists, or tie-off lines can make clearing propellers safer.

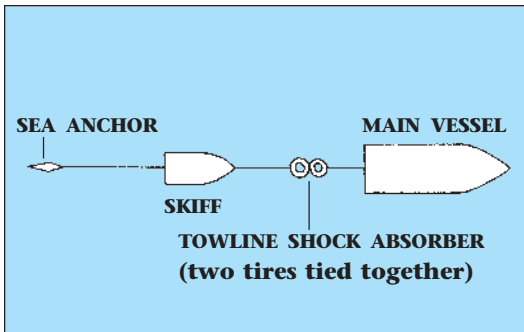




Herring skiffs and punts **must** have a mechanical means — such as a live roller or an anchor winch — for hauling net anchors.



Crew **must not** stand under the brailers when unloading herring.

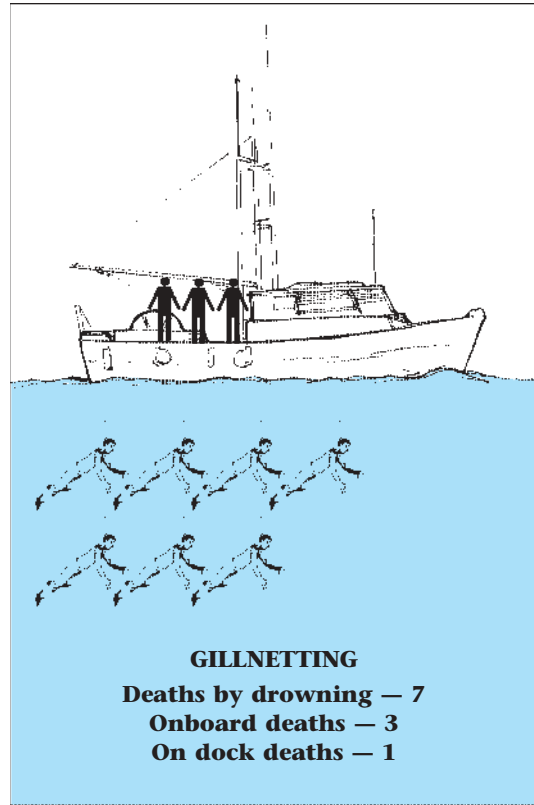


The master of a vessel towing a skiff or punt **must** develop safe towing procedures for all weather conditions. These procedures must cover self-bailing for the skiff or punt; using tow line shock absorbers; and using sea anchors to prevent sheering and overtaking.

## WCB INJURY REPORTS

### Gillnetting injuries

<i>Type of Injury</i>	<i>Cause of Injury</i>
Hearing loss	Being exposed to loud engine noise
Broken ankle	Slipping on deck
Torn tendon in shoulder	Pulling net in rough seas
Broken finger	Part of engine falling on finger during repairs
Cut-off finger	Pinching finger in a live roller
Back strain	Pulling fish over the stern
Multiple injuries	Slipping when stepping from one boat to another



For the 11 years from 1991 to 2001, there were 11 deaths in gillnetting.

## OTHER GILLNETTING SAFETY STEPS

### Salmon Gillnetting

- Depending on the tide and wind, pick from the correct end, so the boat doesn't drift into the net.
- Don't hang onto the scotchman when letting go of the net. If you hang on to the scotchman too long, you could lose your balance and fall overboard. In the event you fall overboard, make sure you have a way to get back aboard — for example, tires tied to the side of the boat can be used to climb up onto the vessel from the water.
- When throwing the scotchman over, be careful it doesn't catch you when going over, or that a loose line doesn't catch in the wheel.
- When pulling or setting the net, beware of jellyfish “burning” your skin and eyes. Always wear gloves and consider wearing eye protection such as goggles or sunglasses.
- Beware of falling overboard when hanging over the side when trying to remove a shark or a log from the net.
- Beware of spiny fish — especially rockfish and ratfish — when picking the net.

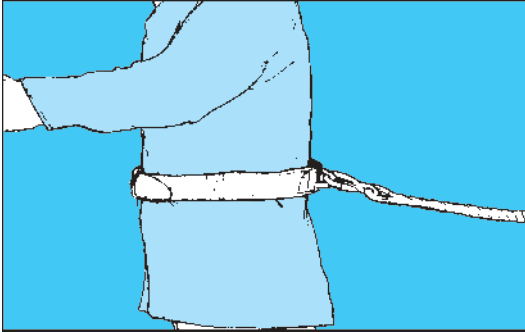
### Herring Gillnetting

- When setting the net, try to make sure you have proper footing on a non-skid surface.
- When picking up the net end prior to shaking, it's best done by at least two or more crew. Use a boat hook, and manoeuvre the skiff carefully to avoid crew going overboard or getting injured.
- Prior to shaking, coordinate team work on the vessel.
- When shaking the net, stay clear of the beater bar, live roller, and hot wheels.
- When hauling the net on board the skiff, use a powered hauling device. This will reduce the chances of back strain or injury.
- When unloading, wear hard hats when working near the scales.
- Be realistic when trying to manually lift skiff motors aboard for repair. Lifting a motor by hand can cause serious back strain or injury. Use lifting equipment whenever possible.
- When towing, always use correct towing lights on both the towing vessel and the skiff to avoid collisions with other vessels.

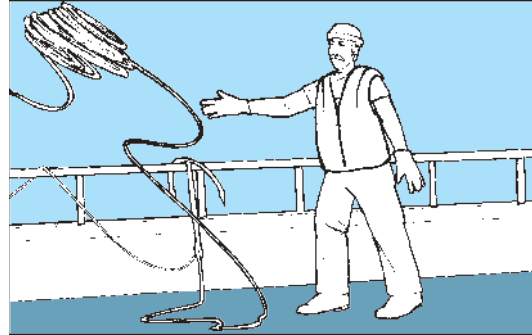


# Longlining Safety

Fishing quotas have made longlining less of a “derby” than in the past, when crew sometimes worked straight for very long hours. Today, less punishing work hours have not lessened the need to keep on top of safety. Take the following safety steps when longlining:



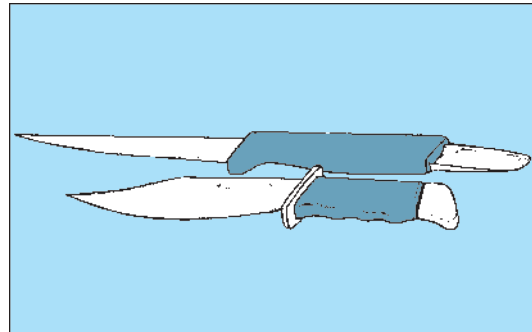
When heavy weather or work conditions require it, crew should wear a safety line to protect themselves from falling overboard.



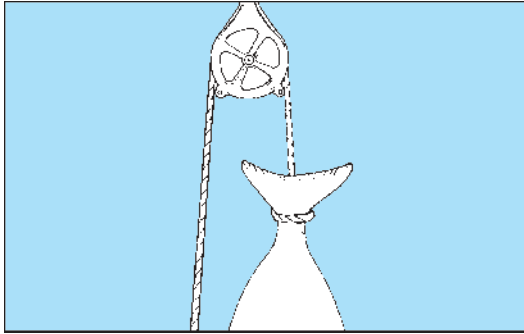
When setting anchors and buoy lines, stay clear of the anchor itself and the bights of all lines.



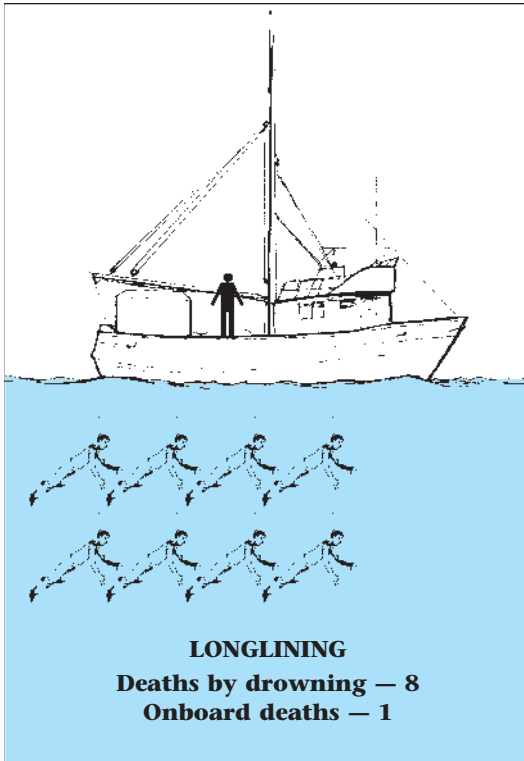
Try to remove all hooks or parts of hooks from fish before dressing them or putting them in the hold. This helps reduce injuries to crew and fish processors.



Each setting and hauling station **must** have a knife to cut gear. Being able to cut gear is crucial if a crew member gets caught in the gear or snagged by a hook.



A hoist **must** be used to lift a large fish from the deck or hold if crew could be injured trying to lift it.



For the 11 years from 1991 to 2001, there were 9 deaths in longlining.

## WCB INJURY REPORTS

### Longlining injuries

<b>Type of Injury</b>	<b>Cause of Injury</b>
Embedded fish hook in hand	The hook came off the baiting machine, striking a hand
Dislocated finger	Fishing line dragging crew member into the drum
Hernia	Slipping while lifting a 27 kg (60 lb.) halibut
Broken big toe	A hatch falling on a foot
Broken hand	Catching a hand in the hydraulic net drum
Broken teeth	Crew member being struck in the face by fishing gear

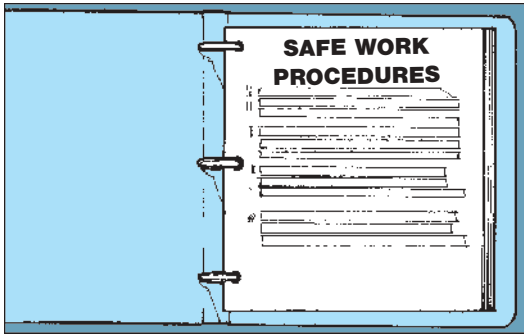
## OTHER LONGLINING SAFETY STEPS

- Whether using conventional or snap-on gear, stay clear of the ground line and hooks to avoid getting snagged. (Drums and automated systems using longlines and hooks **must** be guarded to prevent crew from being snagged by hooks).
- When throwing the anchor over, beware of slipping and falling. Make sure your clothing won't catch in the anchor – if that happens, you could get pulled over the side.
- When setting your anchor at the end of the line, stay clear of the buoy line. If you get caught in the line, you could get pulled over. **Always wear a personal flotation device and carry an easily accessible knife.**
- When gaffing large fish, there's a real danger of getting pulled overboard, or suffering a serious back injury. When gaffing, try to bring the fish up with the roll. For very large fish, ask for help in bringing them over. Hold the gaff properly – so the stem can turn freely without twisting your wrist.
- Use safe lifting techniques when handling and dressing large fish. Keep knives sharp.
- When chopping bait, use a sharp knife. Wear close-fitting gloves that allow good movement. Tilt the blade away from you when cutting. If you do get cut, take time out for first aid treatment.

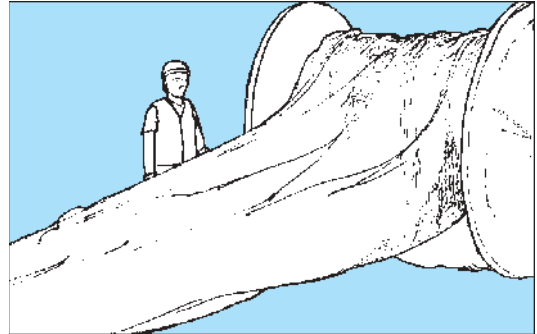


# Trawling/Dragging Safety

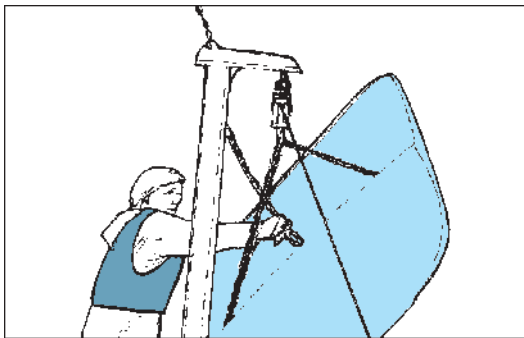
Each type of trawling operation has its own particular hazards. Thoroughly inspect your operation for possible hazards that could injure crew. Safety steps to put in place in your trawling operation include:



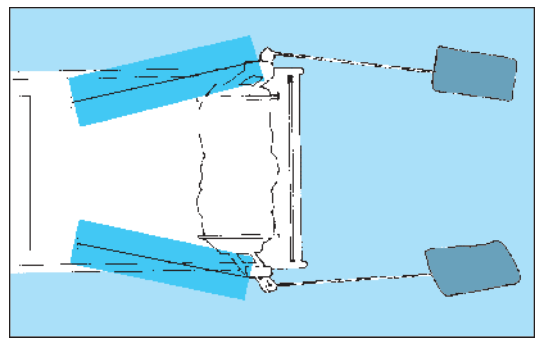
The master **must** put in place safe work procedures for shooting and hauling trawls, and for fleetting the net.



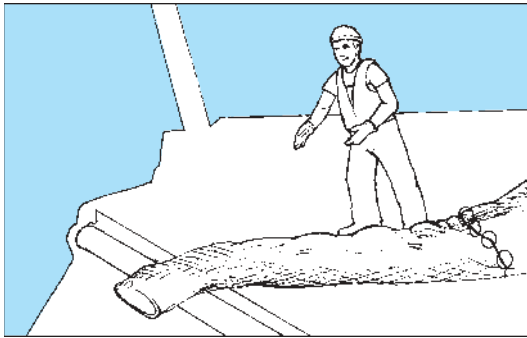
When shooting the trawl, crew **must** stay clear of the net once the cod end is overboard. That way, they are less likely to get caught in the net.



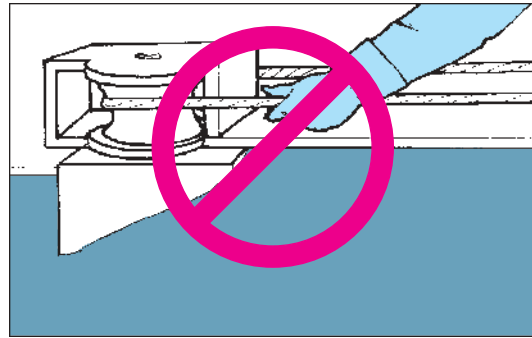
Crew **must** stay clear of the pinch points when hooking and unhooking the trawl doors from the davits. Hands and feet can easily be crushed between the doors and the side of the vessel.



Stay clear of the trawl warps when they are being set out. If a warp snaps, the line could strike a crew member.



Stay clear of the splitting strap when heaving the cod end over the stern. This lessens the chance of being pulled overboard by getting caught in the bight of the splitting strap.



Never sit or lean on the trawl warps when towing the trawl. If the warps snap, you could be injured.

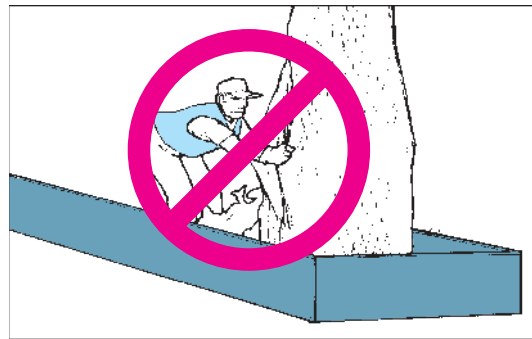
## HAZARD ALERT

### Cod end falls on worker

A crew member on a trawling vessel suffered a badly strained back and leg when the cod end fell on him.

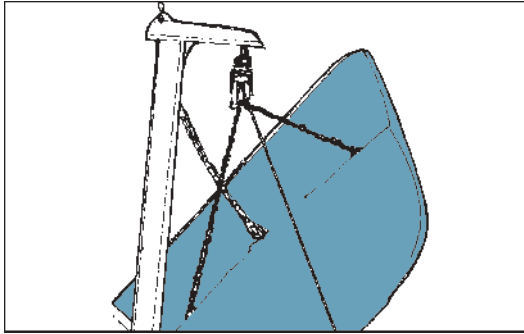
Don't stand forward of the drum when hauling in the net. A cod end pulled over the drum can easily hit a crew member who is standing in the cod end's "strike zone."

Beware of other objects on board that could hit you, and take steps to protect yourself. Make sure all crew are trained in safe work procedures.

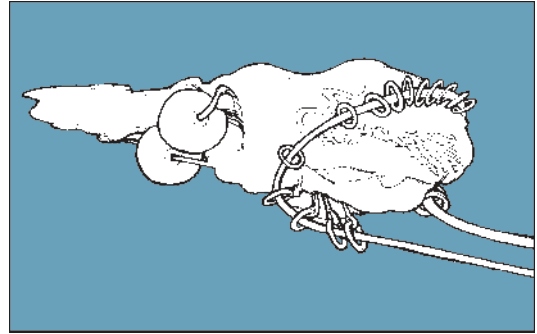


Never stand in the checker when landing the bag of fish. You could be injured by fish spines or hit by the bag if it shifts.

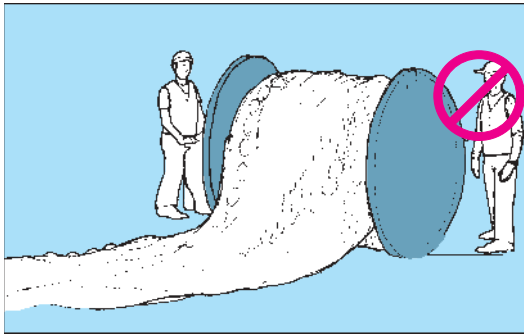




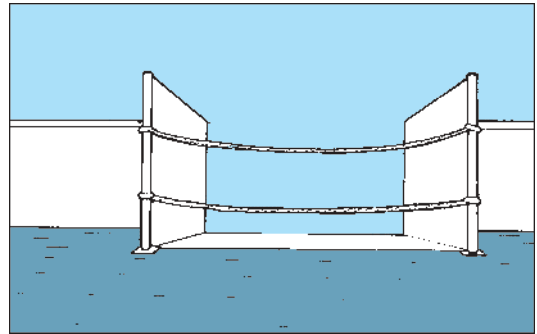
When not being used, trawl doors and otter boards **must** be secured to davits.



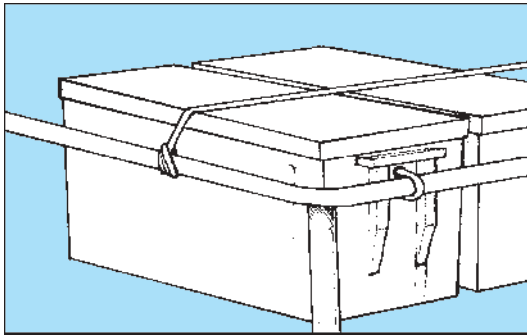
All cod ends **must** have splitting straps so that fish can be dumped safely.



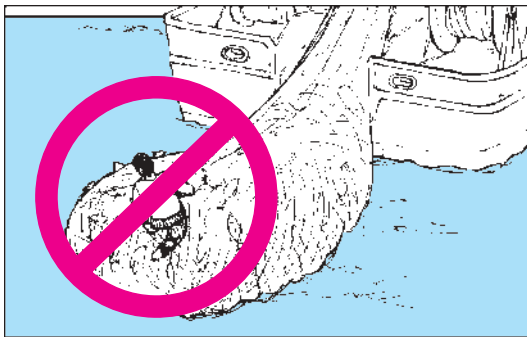
Never stand forward of the drum when rolling the cod end onto the drum. If the cod end goes over the drum, it can land eight feet or more ahead of the drum.



Stern ramps **must** be roped off or guarded when not being used for trawling operations. If the ramps aren't guarded, crew can accidentally fall down them.



Boxes for shrimp and fish **must** be secured with bolts, chains, tie-downs, etc., to prevent them from sliding. If boxes slide, they can hit crew or make the vessel unstable.



Do not walk on the cod end.

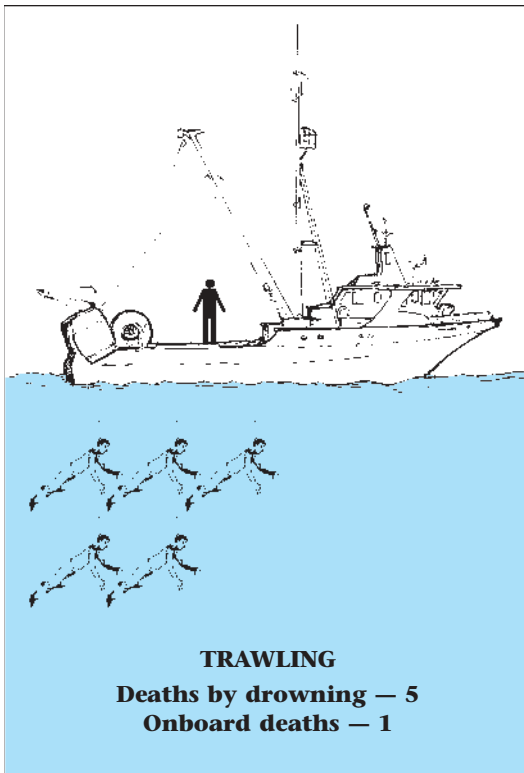
## WCB INJURY REPORTS

### Trawling injuries

<i>Type of Injury</i>	<i>Cause of Injury</i>
Separated shoulder	Cable striking a crew member while he was loading fish, throwing him against a door, then overboard
Multiple cuts and bruises	Jacket catching in a winch cable, pulling a crew member in
Infected finger	Rockfish spine puncturing a finger
Cut finger	Cutting a finger with a knife while repairing the net
Broken thumb	Catching a thumb between the trawl door and the side of the boat

## OTHER TRAWLING/DragGING SAFETY STEPS

- When shooting the gear, stay clear of the cod end and the splitting strap. A number of crew have been pulled over by the cod end and caught by the splitting strap.
- Beware of getting pulled overboard, or suffering a back injury, when leaning overboard to split the lift.
- Stay clear of the lift as much as possible.
- Wear boots that will protect against rockfish spines, and don't kick fish on deck.
- When trawling for shrimp, beams **must** be secured when attaching or detaching plumb staffs. Unsecured beams may strike crew.



For the 11 years from 1991 to 2001, there were 6 deaths in trawling.

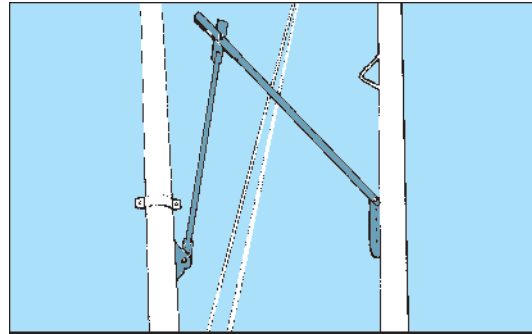


# Trolling Safety

Like most other types of fishing, trolling has become faster-paced due to reduced fishing times. This has increased the need to run a safe fishing operation. Safety steps that can help reduce accidents include:



Protect your eyes from flying fish hooks by wearing sunglasses or safety glasses, when practical. Hats with peaks — such as baseball hats — also offer some protection against flying hooks.



Trolling and stabilizer poles **must** have devices that lock the poles down and limit their downward travel. Unsecured poles that pop out of position can damage the vessel, make the boat unstable, or injure crew.

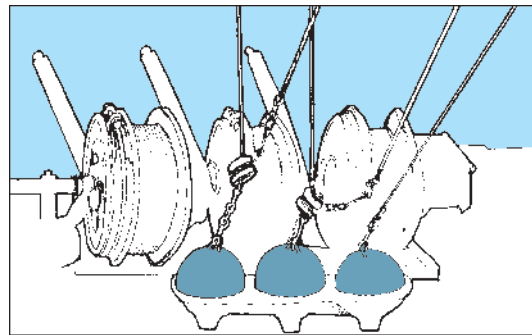
## HAZARD ALERT

### Hatch cover breaks toe

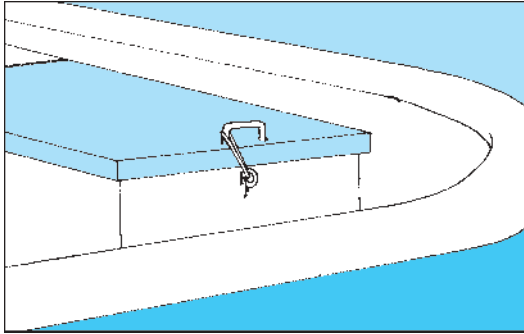
A crew member suffered a broken big toe when a hatch cover fell on his foot.

Several people in the industry have received broken or badly bruised toes or feet from falling objects including planks, propellers, and steel bobbins.

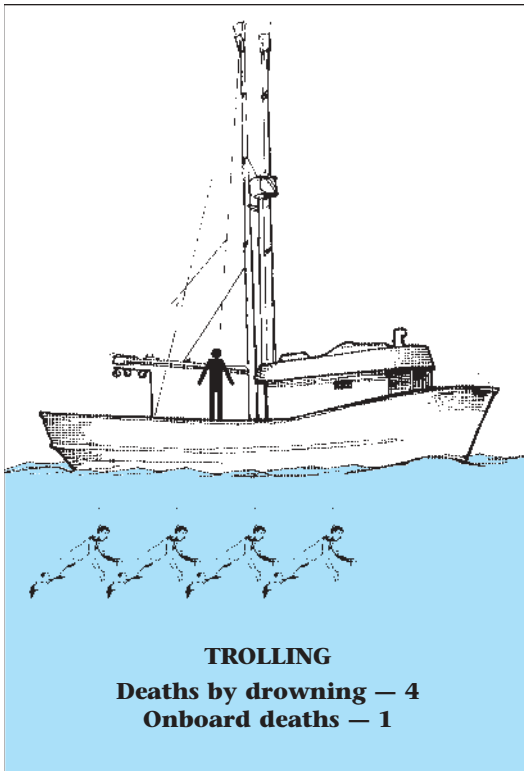
Secure all equipment when not in use. Keep foot protection in mind when choosing boots.



Gurdy brakes **must** be kept in good working order. Crew must be able to stop the lines at all times.



Cockpits **must** have covers that can be secured in bad weather. Without secured covers, water can enter the cockpit, causing stability problems.



For the 11 years from 1991 to 2001, there were 5 deaths in trolling.

## WCB INJURY REPORTS

### Trolling injuries

<i>Type of Injury</i>	<i>Cause of Injury</i>
Broken ankle	Slipping on deck
Infected finger cut	Fish hook gouging a finger
Injured finger	Catching finger in trolling wire
Drowning	Jumping overboard because of an explosion on board
Multiple bruises	Falling into the cockpit

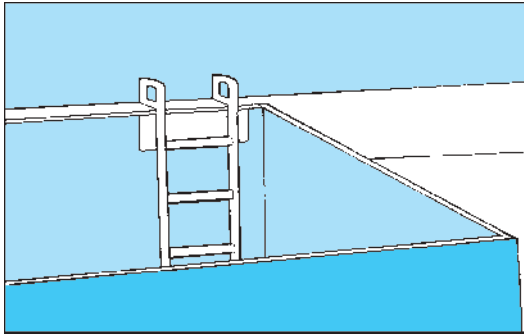
## OTHER TROLLING SAFETY STEPS

- When putting stabilizers out, be careful when lifting them. It's best to have two or more people to lift the stabilizers, if possible. Stand clear of the stabilizer chain so your leg doesn't get caught in it.
- Inspect trolling wire for kinks and broken strands. These can lead to wires snapping, which could injure crew.
- Throw your hooks in the water before snapping on to the trolling wire. This way, you'll avoid getting snagged by hooks on a moving, descending trolling wire.
- When lifting cannon balls, feather the hydraulic lever very carefully so that the ball won't hit the block — or you.
- Don't try to pick a rat's nest loose when the cannon ball is hanging overboard. Secure the troll wire first.
- When fishing is over and the cannonballs are in their holders, make sure the gurdy levers are off and the brake is on. This prevents the gurdies from being engaged accidentally.

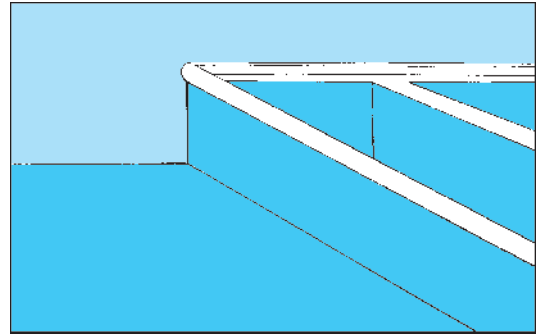


# Packing Safety

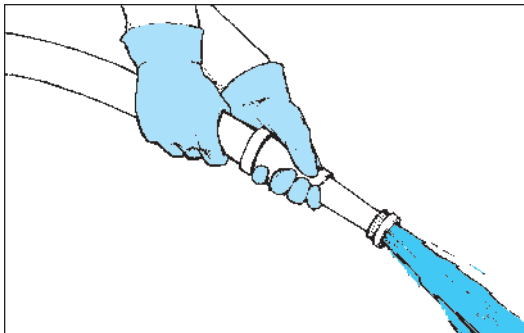
Fatigue is a major hazard for packer crew. Tight delivery schedules mean crew often work long hours with few breaks. Because accidents are more likely when crew are tired, plan crew rotations so everyone gets enough rest. Other safety steps include:



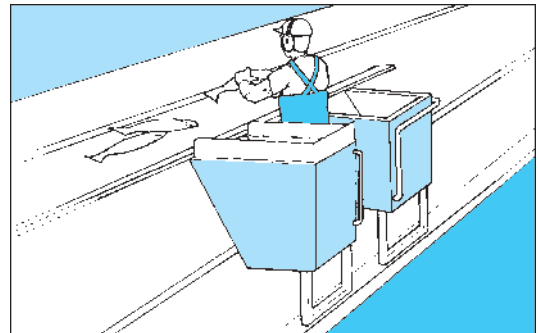
For fish holds, use ladders that attach securely to the hold. Many crew have been injured – some seriously – on poorly built ladders. If you must use portable ladders, ensure they are tied off securely. Home-built ladders **must** comply with Part 13 of the Regulation.



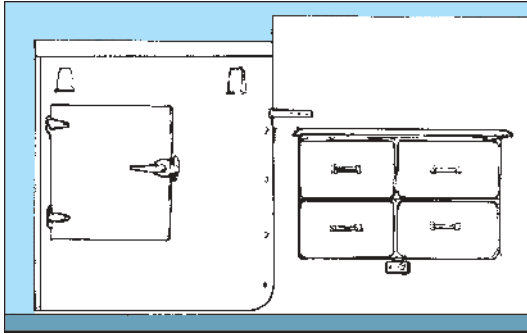
Beware of open tanks. Cover tanks after delivering or unloading fish. Secure them in heavy weather to keep water from sloshing out of the tanks. Water loss from the tanks can lead to the “free surface effect” and related stability problems.



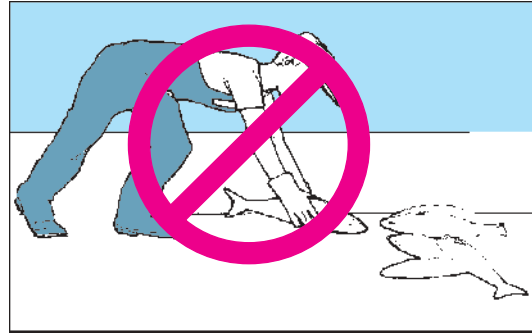
Regularly hose down decks and other areas to remove fish slime. This will help reduce slips, trips and falls.



Make sure all workers know grading table procedures. This is especially important for crew from other vessels who may help in grading.



Beware of possible leaks of refrigerant gases such as freon. Freon displaces oxygen, and high levels can suffocate workers. After inspecting refrigerant levels, shut off sight glass valves to reduce the loss of freon in case the sight glass breaks.



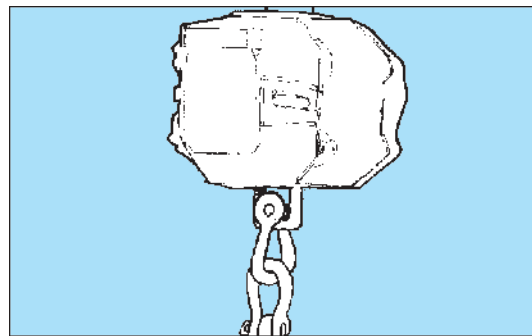
Develop safe work procedures for pitching fish. Good posture and efficient organization of work areas can help prevent back, neck, and arm strains and other injuries caused by throwing and handling fish.

## HAZARD ALERT

### Pitching fish causes injury

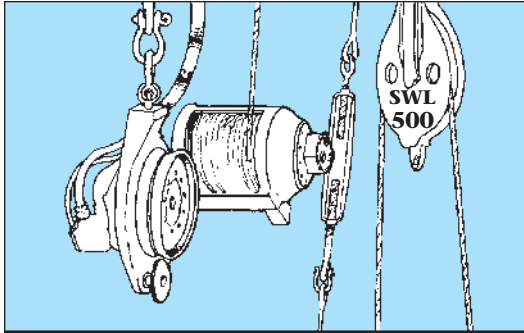
A crew member seriously strained his back when throwing fish from one boat to another.

Twisting your body and throwing fish can lead to serious back injury. Make sure all crew know proper procedures for pitching fish. Whenever possible, avoid pitching fish. Use a hoist or brailer instead.



Use a shackle or a rated safety hook to attach the scale to the brailer. An open hook can slip, especially in heavy swells. When this happens, the hook or the bag can hit crew.





Never exceed your safe working load — the amount of weight that your boom, rigging, shackles, blocks, and other equipment can handle safely. Too much strain can cause equipment failure, which can lead to accidents and injury. (Rigging requirements are set out in Part 15 of the Regulation.)

## WCB INJURY REPORTS

### Packing injuries

<i>Type of Injury</i>	<i>Cause of Injury</i>
Back injury	Throwing fish from one boat to another
Sprained ankle	Slipping on deck
Badly strained shoulder	Slipping while stepping from one boat to another
Bruised stomach	Being struck by a towline
Badly bruised hand	Hatch cover falling on a hand
Badly bruised back and head	Slipping and falling while tying up a boat to the packing vessel

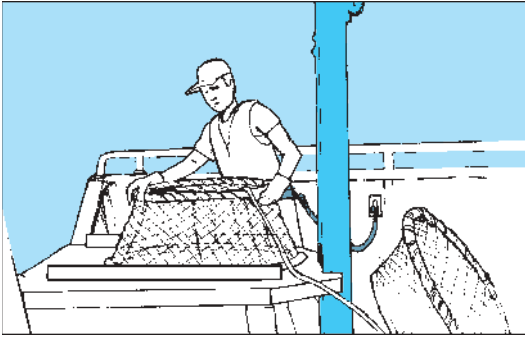
## OTHER PACKING SAFETY STEPS

- When taking fish, load the vessel in such a way as to eliminate list and keep the vessel trimmed.
- After taking fish, secure the deck — securely stow gear, lines, and equipment.
- If fish are loaded on deck, make sure the load is secured.
- Keep available documentation describing the vessel's maximum load in various conditions.
- When travelling, lower the boom to help lower the centre of gravity and to help increase the stability of the vessel.
- When towing barges or other vessels, display the correct lights and signals as required by the collision regulations.

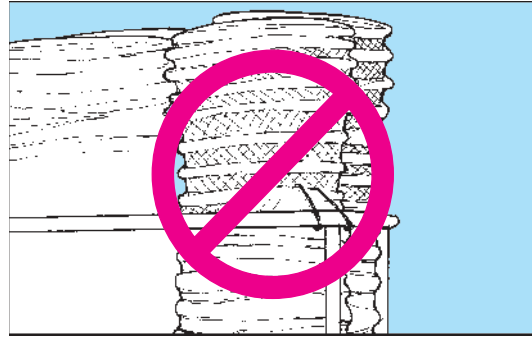


# Trap Fishing Safety

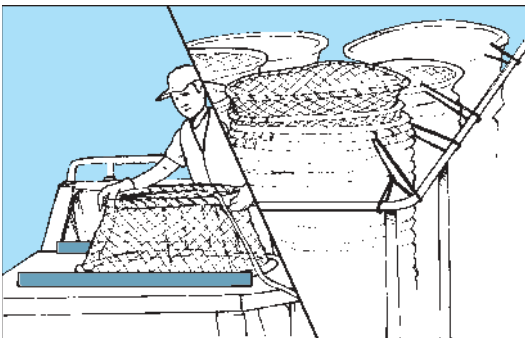
A key concern for trap fishers is overloading the vessel with traps. Several vessels have capsized because of too much weight or shifting weight. Follow these safety steps when trap fishing:



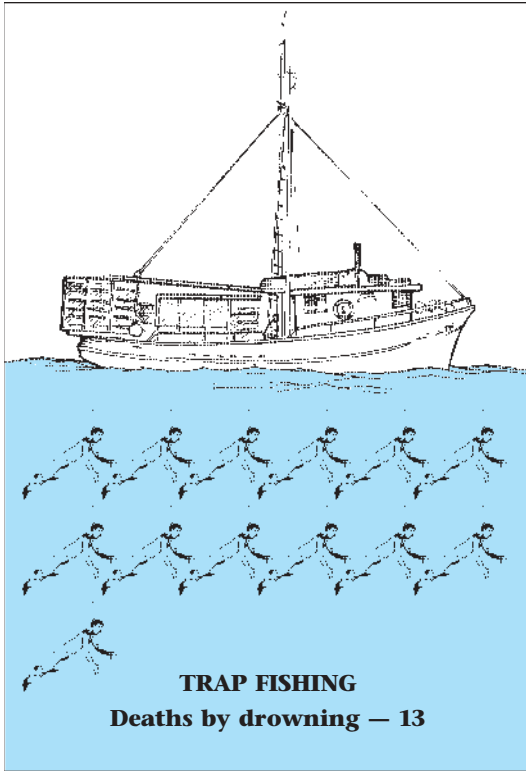
Crew working on the stern, where they are snapping black cod traps to the ground line, **must** be tied to a safety belt or a harness and a lifeline. This prevents crew from falling over the stern and becoming lost at sea.



The vessel **must not** be made unstable by the number of traps or by the way traps are loaded on the boat.



Traps **must** be secured to stop them from swinging or moving during setting and hauling and while the vessel is underway.



For the 11 years from 1991 to 2001, there were 13 deaths in trap fishing.

## WCB INJURY REPORTS

### Trap fishing injuries

<i>Type of Injury</i>	<i>Cause of Injury</i>
Drowning	Deckhand falling overboard
Broken elbow	Deckhand falling against a pulley
Back injury	Prawn traps falling on a worker
Badly bruised hip	Crab trap striking a worker
Broken rib	Slipping and falling on a gunwale
Drowning	Gear catching a deckhand, pulling him overboard

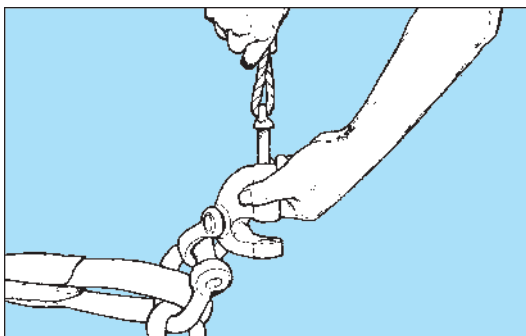
## OTHER TRAP FISHING SAFETY STEPS

- When heading out to fish with a full load of traps, lower the boom – this helps to lower the centre of gravity and to maintain good stability.
- During fishing and while underway, secure traps so they don't shift or slide.
- During setting – when you're using the single fall to transfer bait from the hold to the stern – attach two safety lines to the bait so that crew can guide it, and stop it from swinging.
- When hauling, if the trap line becomes twisted around the ground line, be very careful when untangling. Untangle the lines slowly, keeping enough control so that the snap does not whip free and strike you.
- Always have at least two crew members position full traps for dumping. A trap full of fish can weigh 180–225 kg (400–500 lb.). A crew member who tries to position a full trap alone could suffer serious back or muscle strain or injury.
- After dressing fish, properly store all knives and scrapers. Don't leave them lying on hatch covers or other places where crew could be accidentally injured by them.
- When unloading fish, don't overfill the cargo nets – fish are more likely to fall out and hit crew during lifting.
- Make sure another crew member keeps a regular check on the crew member working in the freezer. Cold temperatures and the possibility of a freon leak may pose hazards to crew working in the freezer.
- Wear reflective tape on your clothing and PFD. That way, you are easier to spot if you fall overboard, especially at night.
- Try to make sure the deck has a smooth, level surface that is not obstructed by angle irons and other tripping hazards.
- Always wear a life jacket or PFD and carry a sharp knife.

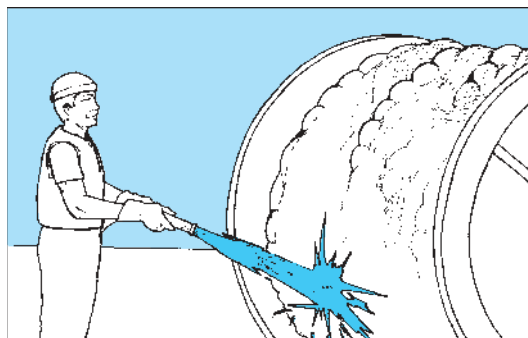


# Seining Safety

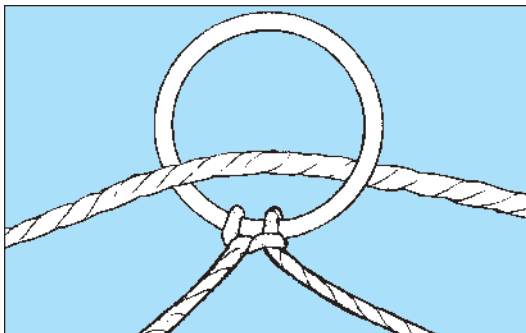
Seine crew suffer more injuries than workers in any other type of fishery. Skiff work and beach operations create added safety hazards. All seine crew should know their jobs and how to protect themselves from hazards. Safety steps include:



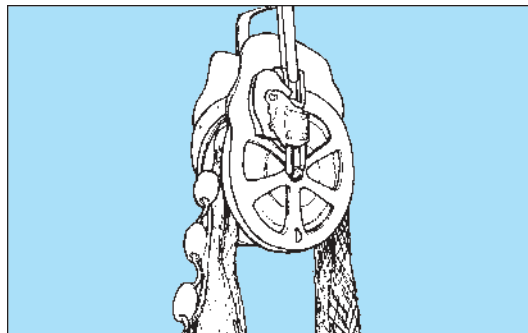
Inspect all end-of-net hardware for sticking blondies, worn straps, loose shackle pins, and other defects. Broken hardware can create unexpected hazards such as lines whipping or equipment striking crew.



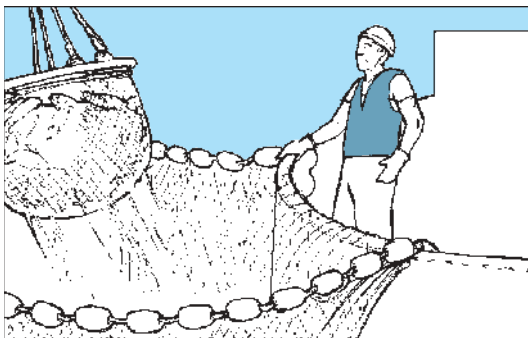
Watch for backlashes when setting the net. When possible, clear backlashes with a deck hose instead of a broom handle or a deck brush. Using a hose keeps you well clear of the net.



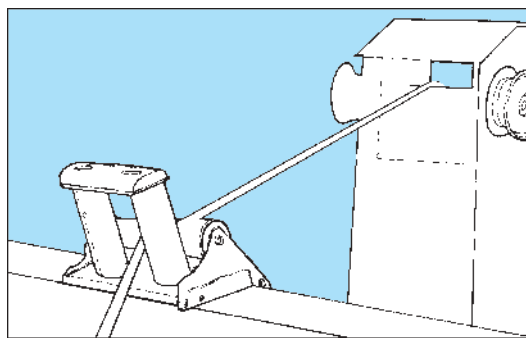
Purse rings on seine nets **must** be secured to the middle of the ring strap. This prevents rings from falling and hitting crew when back hauling the net through the power block.



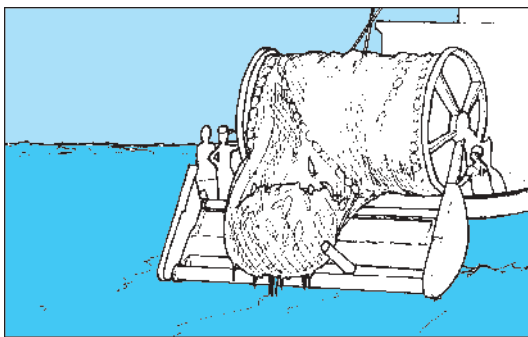
When back hauling the net, power block operators should watch for and warn the crew of lead lines dropping from the block. Many crew have been struck by falling lead lines.



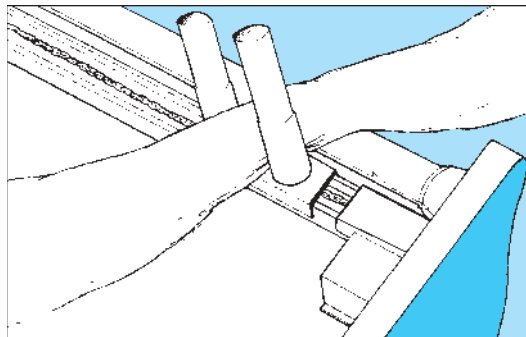
Lifting a large bag over the stern could endanger crew by causing equipment stress or failure, or by making the vessel unstable. In such cases, crew **must** use other methods for landing the catch, such as brailing or splitting the bag.



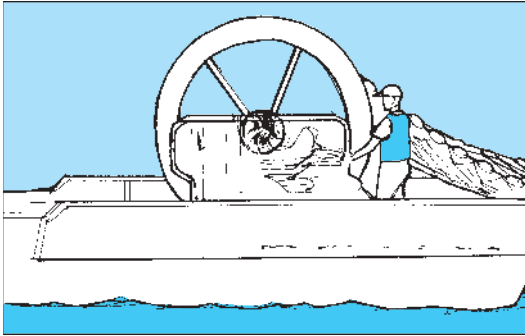
Pursing winches and davit leads **must** be positioned to ensure proper spooling of the line onto the winch drum. If the line isn't spooled properly — for example, if it spools only on one side of the drum — it is more likely to backlash when being let out. When gear spools properly, it also eliminates the need for crew to direct the line.



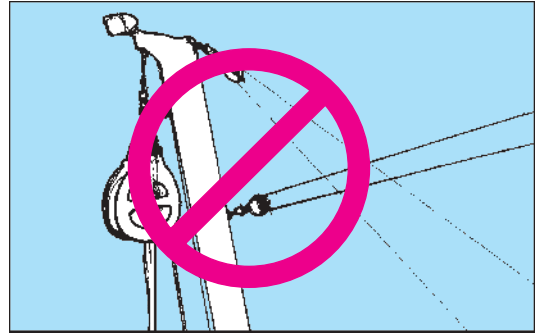
Crew **must** stay clear of the bag when it is brought over the stern roller. The bag can shift, hitting crew or pinning them down. This hazard increases in rough weather.



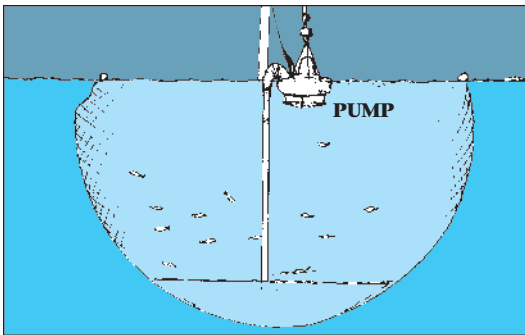
Crew **must** stay clear of stern spooling gear while it is operating. A major hazard is getting feet caught between the spooling roller cradle and the side of the boat. Add stop blocks to limit spooler travel to rails.



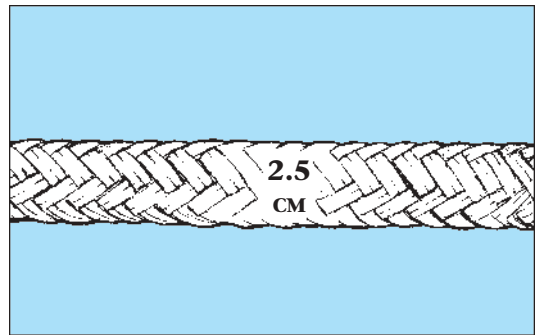
The drum operator **must not** leave the controls while the drum is turning. The drum operator needs to be able to stop the drum quickly in case of emergency.



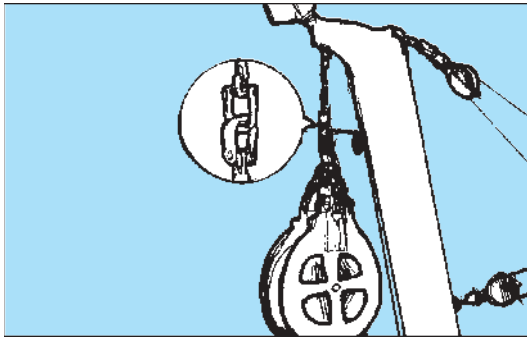
Don't leave power blocks or heavy equipment hanging in the rigging when not in use. If a line snaps, gear or equipment could come crashing down on crew.



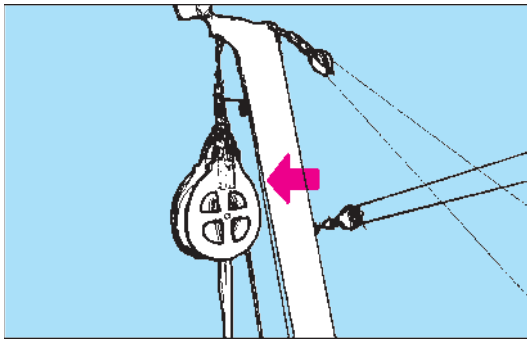
When seining for herring, pumping gear **must** be able to pump fish from the bottom of the bunt while the net is set. Dying fish create deadweight that can cause stability problems — and even cause a vessel to capsize. Always carry enough extensions to pump the bunt of large sets.



Power block haul lines **must** be at least 2.5 cm (1 inch) of double braid nylon or the equivalent. This thickness of line is the minimum needed to safely secure power blocks.



Haul lines **must** be shackled to the power block. Use adequate shackles and regularly check their condition.



Power blocks **must** be attached to a safety line when hanging above the deck.

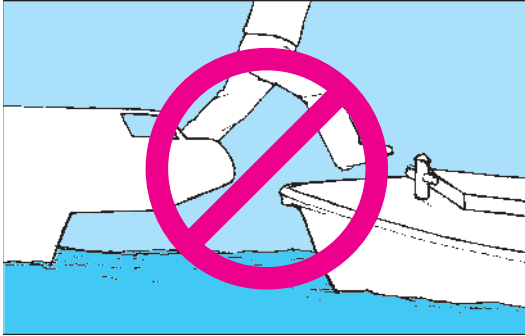
## WCB INJURY REPORTS

### Seining injuries

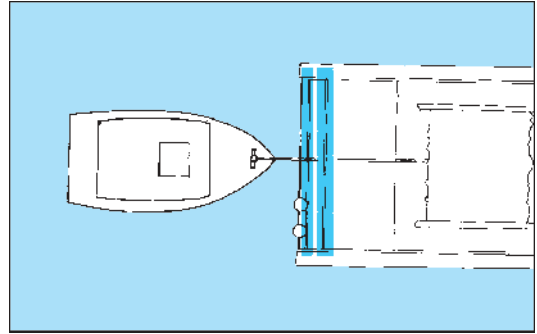
<i>Type of Injury</i>	<i>Cause of Injury</i>
Head injury causing death	Beachline whip hitting head
Hernia	Lifting a hairpin
Lower back strain	Lifting an 18 kg (40 lb.) block
Broken back, dislocated finger	Falling through a hatch into the hold
Broken elbow	Tripping and falling on deck
Broken heel	Catching a foot between the spool and a reel
Amputated index finger	Catching the finger in a beachline
Broken finger	Beachline snapping, then throwing a wood chip at a hand
Multiple injuries	Bag of fish hitting a crew member, throwing him into the drum
Neck and shoulder strains	Falling off the boat into a net full of herring



## When working on seine skiffs:



Avoid jumping into a skiff. It's too easy to lose your balance, slip or fall.



When climbing in or out of a skiff, stay clear of the pinch points between the skiff and the main vessel.

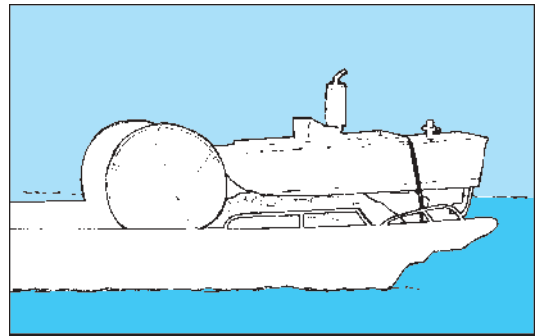
### HAZARD ALERT

#### Skiff crushes legs

During the launching of a power skiff, a crew member's legs were crushed when they got pinned between the skiff and the bulwark of a seine vessel.

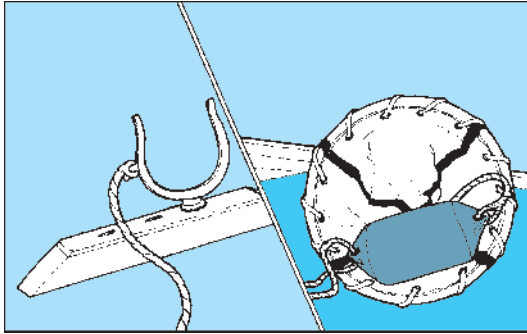
The skiff slid to the starboard side of the deck, where the crew member was standing. As it slid onto him, the skiff pinned the crew member against the bulwark.

Prevent possible injury when launching power skiffs by staying forward and clear of the skiff. Masters should position their vessels to lessen the roll from swells.

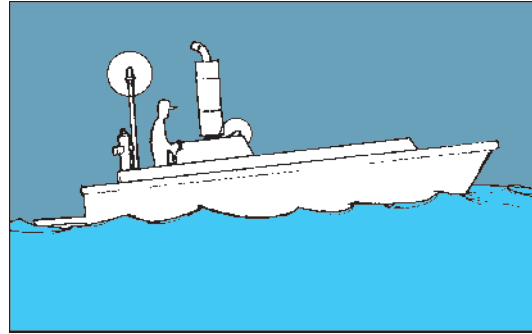


If a skiff is being carried on deck, secure it so it won't shift and hit crew, damage equipment, or cause stability problems. Secure the skiff with a nylon strap that can be easily cut, if necessary.

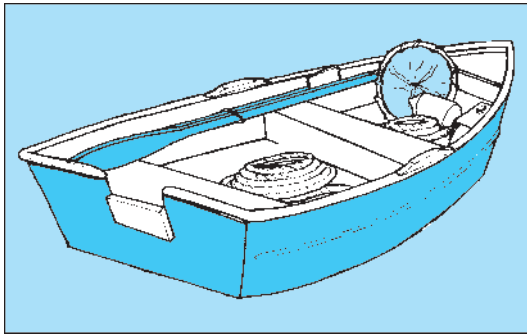
When towing the skiff, the master **must** make sure effective communication exists between the main vessel and the skiff.



Keep extra oar locks in dead skiffs. Keep spare oars and a sea anchor in dead and power skiffs.



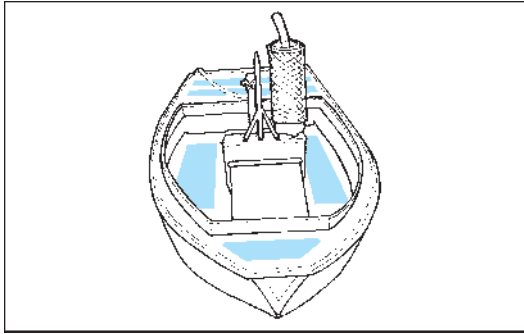
Make sure the skiff has proper navigation lights for night use.



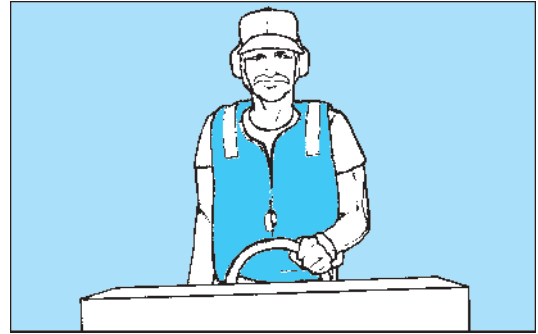
Organize and stow all gear safely.



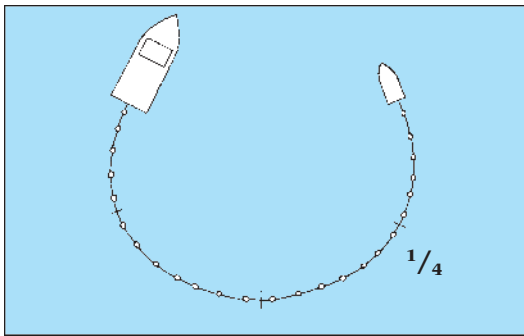
If the skiff has a gas-powered outboard, do not smoke around the gas tank. Be aware that sparks from welding torches or open batteries could cause the tank to catch fire or explode.



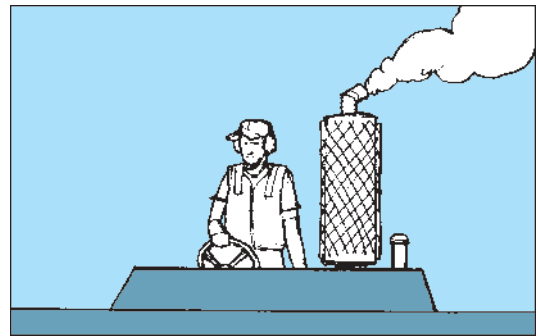
Decks and floors **must** be non-skid where practical, and the rails and sides of the skiff **must** be free of snags that can catch the net.



Crew **must** wear a life jacket or PFD in a skiff.



Skiffs **must** be operated so that the skiff won't capsize from a backlash in the net. For example, when setting with a power skiff, make sure at least  $\frac{1}{4}$  of the net is in the water to act as a shock absorber before turning the skiff to tow.



In a power skiff, the exhaust system **must** be shielded to prevent burns and **must** direct exhaust away from the crew.

## SAFE BEACHLINE OPERATIONS

Beachline operations can be very dangerous work. Beach crew have been seriously injured, and sometimes killed. Hazards include falling on rocks or getting struck by a beachline.

Because of the potential for injury, crew who tie up to the beach **must** be trained and adequately supervised. Never put a crew member without experience or training on the beach.

Beach crew **must** know how to:

- Tie proper knots
- Assess tie-ups
- Communicate with the skiff (hand, sound signals, etc.)
- Attach beachline straps
- Tie and untie the knot
- Cut lines or straps

Beach crew **must** wear gloves to prevent cuts from barnacles, and boots to prevent slipping on seaweed or slippery rocks. Beach crew **must** carry a knife to cut the beach line or the strap, if necessary.

If beach crew tie up at night, proper lighting is required. It is not safe for beach crew to use only a flashlight to guide them over the shore, which may be steep, rocky, or covered with seaweed. Beachline operations **must not** be done in the dark *unless*:

- All crew are trained in night-time procedures
- The seine boat can provide enough light to the work area
- Skiff crew wear high-visibility clothing and a life jacket or PFD
- Effective communication (for example, hand, light, or airhorn signals) is in place between the beach crew and the seine boat

Other safety steps for beach crew include:

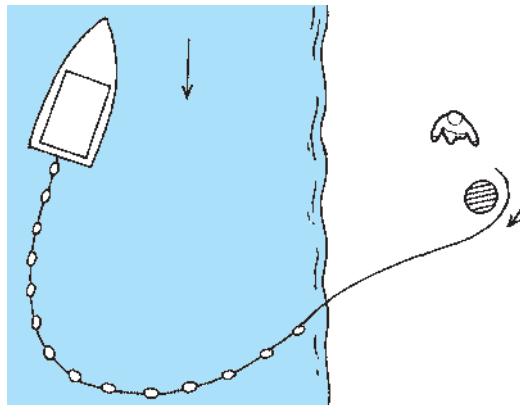
- Carry the line over your arm. Avoid carrying a beachline over your shoulder. If the net backlashes, you could be pulled back, fall, and get hurt.
- Before tying up, make sure you have enough slack in the line to give you the time you need to tie the knot.

- When working on beachlines, stay out of the hazard area — between the tie-up point and the vessel. And always use safe knots with enough length to protect yourself from potential beachline whip.
- Beachlines often need to be tied quickly, but do not rush. Working too quickly invites accidents. Plan ahead. Scout the shoreline and identify good tie-up sites — and how you'll get to them — before going ashore.
- When tying knots, never put your hand through a loop when forming the next one. If the line tightens, you could hurt your hand or lose a finger in the bight of the line.
- When releasing the beach knot, make sure you are clear of all line. Keep the line ahead of you.
- If you need to join two lengths of beachline, use knots that can handle the strain. For example, if the extension has no spliced eye, use two bowline knots or a double cat's paw (a sheet bend). Otherwise, use a double cat's paw to tie the plain end of the main beach line into the eyed end of the extension.
- When you can, tie the knot to a strap, not directly to a tree. If you have to, cutting a strap is much safer than cutting a line.

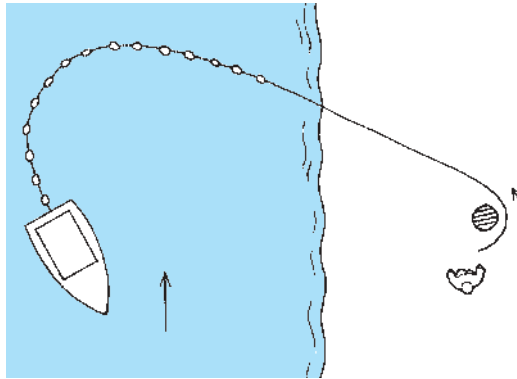
### **Tying to a tree**

When tying a beachline directly to a tree, make sure that the first wrap around the trunk is going in the right direction — that is, so that the last wrap will fly off the tree away from you. A line that is wrapped around the tree in the wrong direction can kill you.

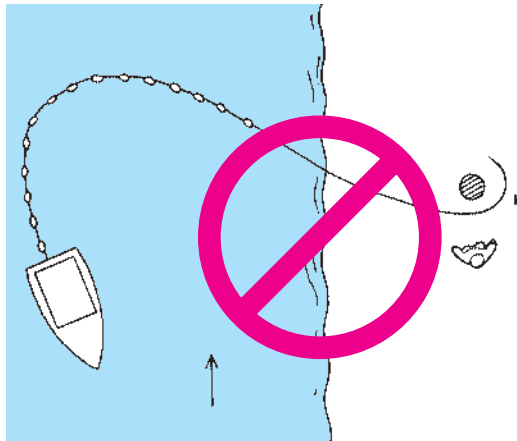
For a right hand or starboard-side set, do the first wrap this way:



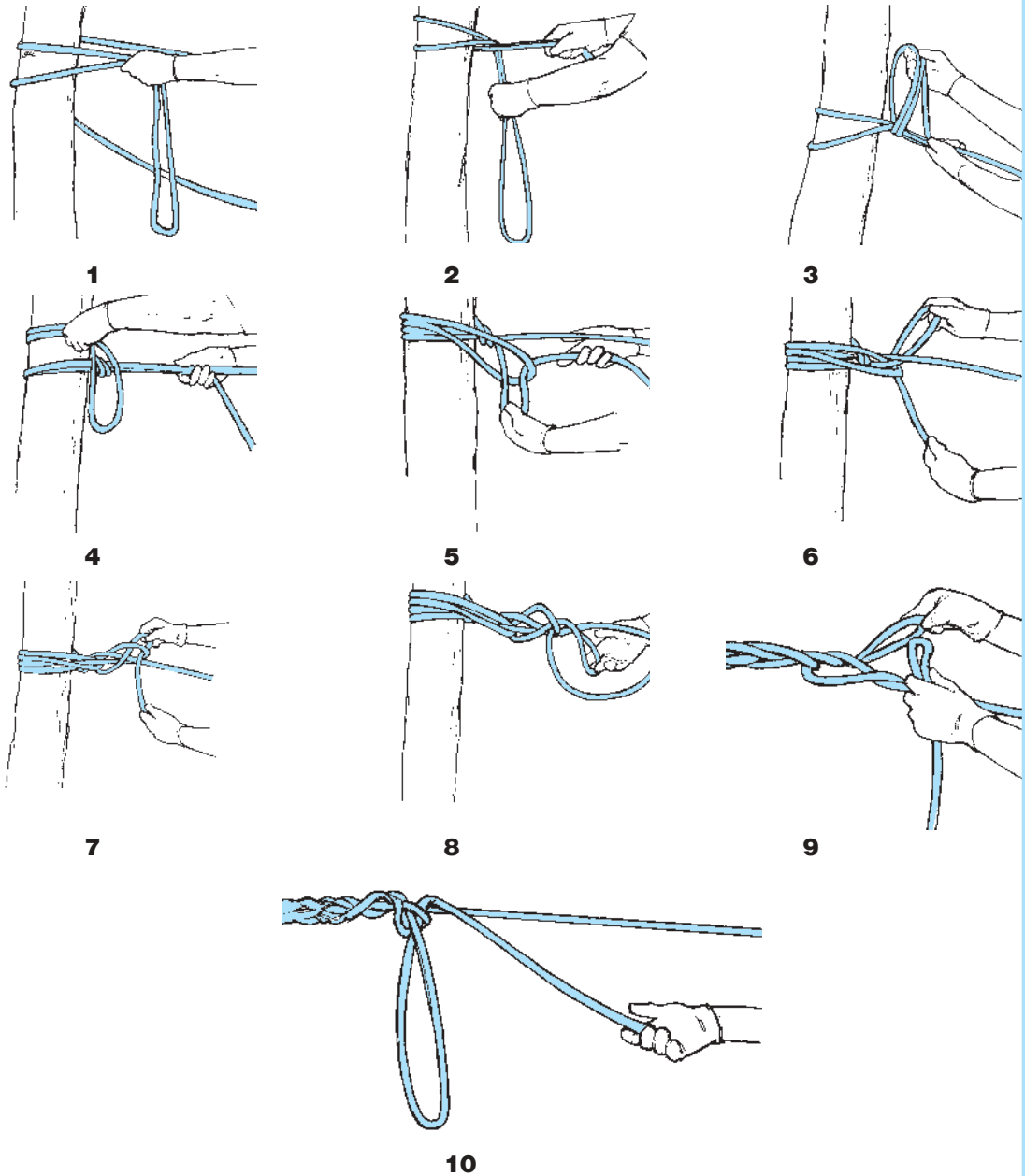
For a left hand or port-side set, do the first wrap this way:



This is an example of the wrong way to wrap a tree:



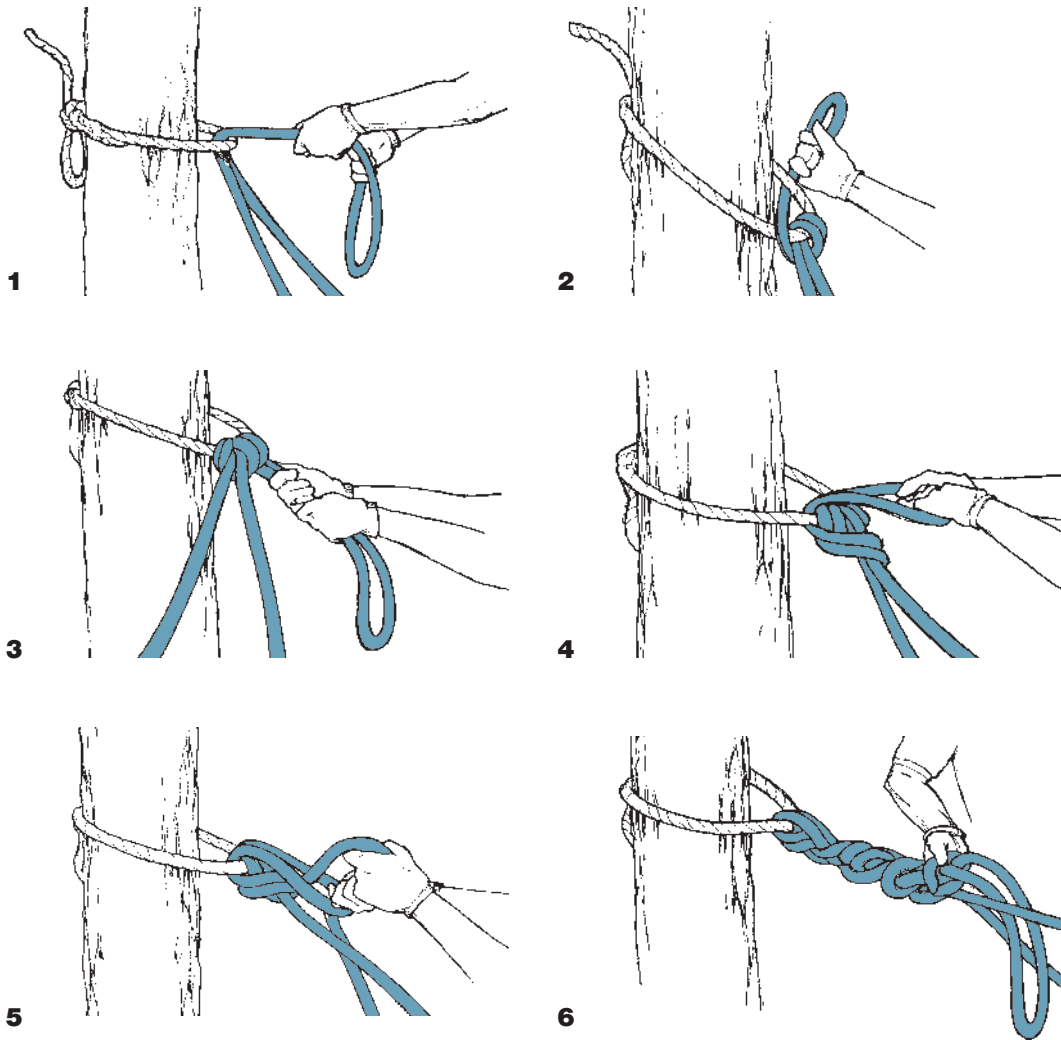
The key to tying a good beachline knot is changing the way you tie the knot to meet different variables including tide conditions, vessel towing power, and the location of the tie-up site. The following is an example of a basic knot used for tying to a tree:



## Tying to a strap

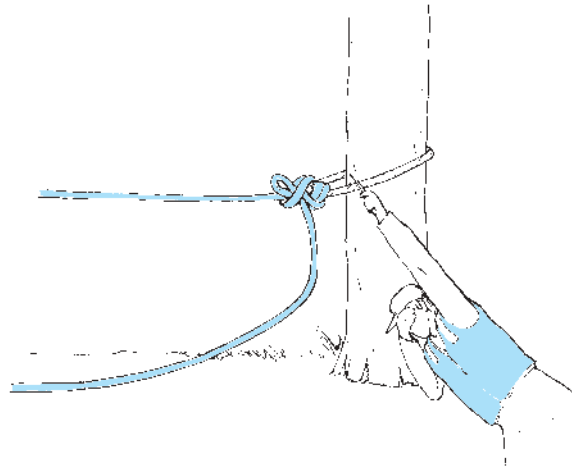
When using a strap for a large tree, stump, or rock, make sure the strap is strong enough to handle the strong forces during the set. Keep a wide selection of straps in the skiff that will fit different sizes of trees and rocks.

The following diagrams show an example of how to tie a safe, all-purpose strap knot.

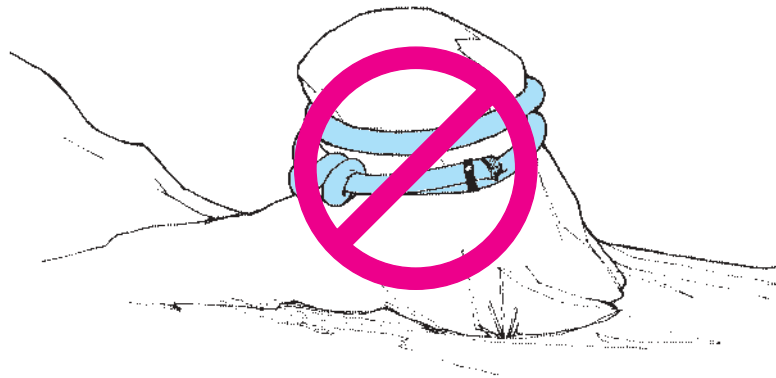




When a strap or beachline has to be cut – protect yourself: Lie on the ground below where the line will be cut. Keep your head, body, legs, and feet close to the ground. Raise only your arm and hand when cutting the line. Cover or close your eyes to protect them from pieces of flying rope.



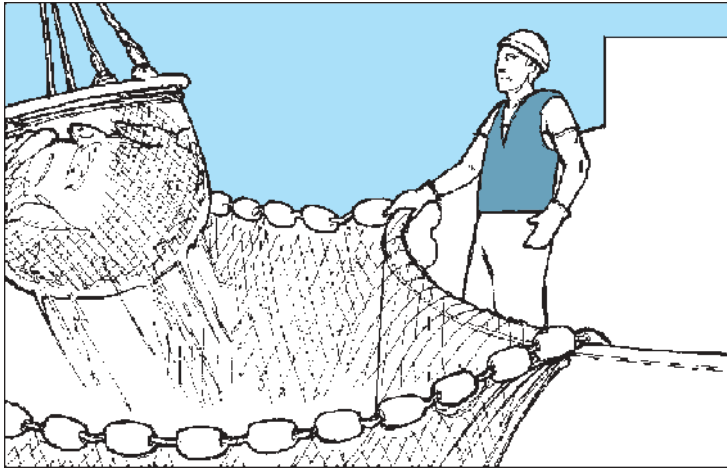
Never wrap a strap twice around a rock or tree. It is dangerous to cut a “double strap” – the strap may whip and cause serious injury.



## BRAILING PROCEDURES

Changes in fishery management strategies have seen a renewal in brailing.

Consider these factors when deciding whether to brail – your vessel's limitations, weather and sea conditions, and the weight in your net. Always err on the side of safety when judging how much is in your net. If it turns out you can't get the bag aboard, you'll have to take the end of the net back amidships to brail. This is difficult work. And the deadweight of dead and dying fish makes brailing harder to do – and can make the vessel unstable.



A typical crew set-up for brailing is one person on the brailer handle, one in the skiff, one at the bulwark, one at the fall controls, and one operating the brailer trip line.

If you may be required to brail, make sure all crew know the proper brailing procedures on page 87.

## Typical Brailing Procedures

1. Drum up the net. Drum all slack from the net. Make sure the spooling gear is positioned correctly.
2. Make sure the lead line is out of the water.
3. Lift the gable end of the net up and secure it. Lift the corks.
4. Gather the cork line, secure it to the skiff.
5. Attach the brailer to the mid-boom fall. Use a shackle, not a hook.
6. Strap the net leading to the drum. Hook the boom tip single fall into the strap and position it around the stern roller. (On a smaller vessel, secure the strap to a cleat or a solid point).
7. Back off the drum to take weight on the strap. And for a larger vessel, raise the single fall to create a pocket for brailing amidships.
8. Begin drying up the net starting from the lead line. Dry up the net evenly. When drying up with a strap and the single fall, do not take the weight of the net on the boom. When drying up is completed, brail the fish into the vessel. Make sure the hatch covers are stowed so that the swinging brailer won't hit them and send them flying into crew or equipment.  

(At a minimum, seiner masters **must** establish safe drying up procedures that cover: communication on deck and between vessels; the coordination of crew activities; securing the net; hoisting fleets; and jettisoning the set if the vessel is endangered).
9. When brailing is done, stow the brailer and replace the hatch covers.
10. Lift the bunt onto the vessel rail. Remove the net strap. If the net was removed from the spooling gear, put it back between the pin rollers.
11. Untie the corks from the skiff. Attach the skiff to the end of the net.
12. Let the gable end go. Throw all bunt web into the water.
13. Drum in the net.

Like any activity in commercial fishing, brailing has its hazards. Stay clear of the brailer when it's swinging. Avoid the pinch points between the brailer and the vessel, and between the handle and the drum stand.

## OTHER SEINING SAFETY STEPS

### **For open sets . . .**

- Make sure there is enough net in the water before picking up the sea anchor.

### **For beachline operations . . .**

- Make it easier for the beach crew to get into the skiff by partly lowering the stern ramp, if your vessel has one.
- Make sure the skiff is clear of the seine boat before throwing the sea anchor into the water. Otherwise, if the skiff doesn't release, the seine could be set over the skiff and its occupants.
- Expert skiff handling and timing with the swell are often needed to safely get a beach person ashore. Make sure both the skiff operator and the beach person are experienced.
- Use rubber bands around the tops of your boots and the bottoms of your rain gear. This helps to keep out water and holds loose clothing to your body, and prevents raingear from restricting leg movement.
- Don't use straps left on trees from previous years. These straps may be rotten, and more likely to break.
- The master should coordinate with the winch operator to minimize the tension on the running line when the beach person is releasing the beach knot.

### **When towing the seine . . .**

- Use a good, strong strap to secure the tow end of the seine. If the strap breaks, the tow hook could come flying back aboard and kill someone.

### **When closing up . . .**

- Release the skiff tow line before the combined forces of the skiff and the winch create hazardous strain, which can cause lines to snap or shackles to break.
- Avoid taking the skiff under a tow line under tension.
- Coordination and care must be used by the skiff crew to get the second person back aboard the seine vessel safely. Competent skiff handling and timing with the swell are essential. Hang lots of tires on the port side of the seiner to act as a barrier and shock absorber.

- Stay clear of the running line when closing. If the line snaps, it could cause serious injury if it strikes crew.

#### **When hauling the bunt over the stern . . .**

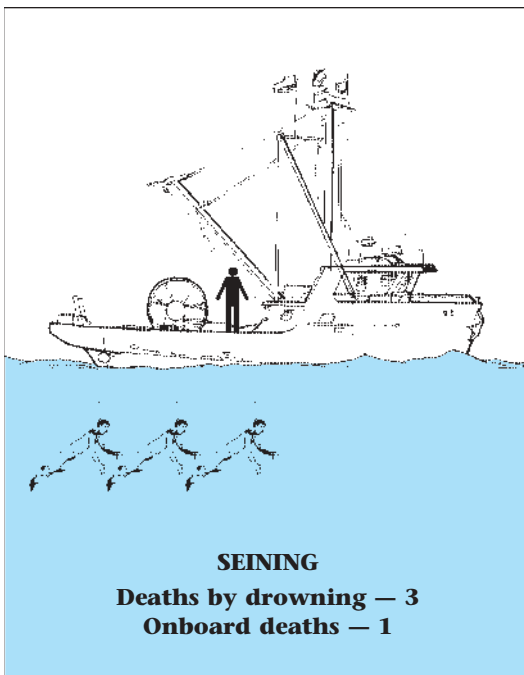
- Avoid using the “jaws” between the stern ramp and the bulwarks as a handle. If the drum operator raises the ramp when your hands are in the jaws, you could lose a hand or fingers.

#### **At the end of the set . . .**

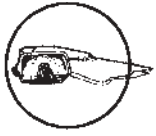
- Secure hatches and manholes, wash down the deck, and secure the hook on the single fall so that it can't get caught in the net during the next set, or fly loose and hurt crew.

#### **When fishing is over . . .**

- Lower the boom and lift the davits inboard.



For the 11 years from 1991 to 2001, there were 4 deaths in seining.

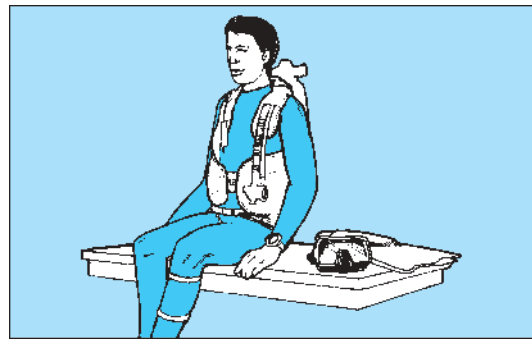


# Dive Fishing Safety

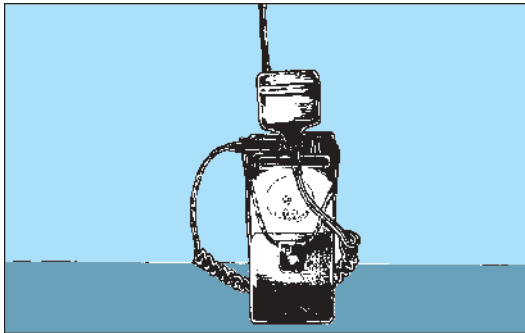
Seafood harvesters who use scuba or surface-supply diving gear **must** be trained in the equipment and procedures necessary for their particular diving activities. Divers must meet the minimum requirements of *CSA Standard Z275.4-97, Competency Standard for Diving Operations*. By law, a copy of the WCB diving regulations in Part 24 of the Occupational Health and Safety Regulation **must** be on hand at all dive sites; for all diving operations, minimum crew requirements **must** be followed, and a diving supervisor **must** be on-site and in control. Other requirements include:



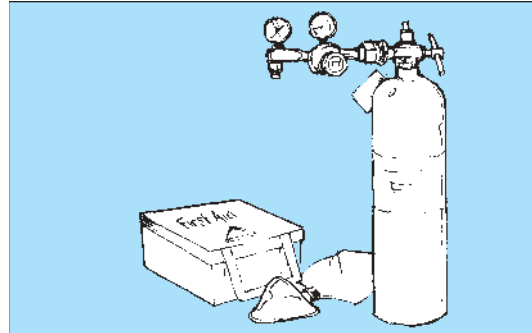
Employers **must** ensure that all divers have adequate training and know how to use available diving gear. A certified copy of competency documents must be available at the dive site.



When diving is in progress, a dressed-in, standby diver **must** be on the dive site at all times to give emergency aid, if needed. The standby diver must be able to enter the water in one minute.



Each dive site **must** have a radio or a phone to allow voice contact with emergency services.

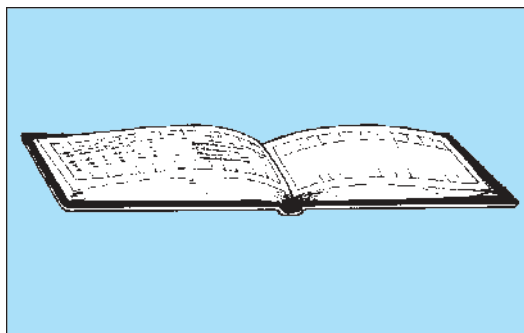


Dive sites **must** have all necessary first aid equipment, which includes an oxygen therapy unit. Each diver must be qualified in CPR and oxygen therapy.

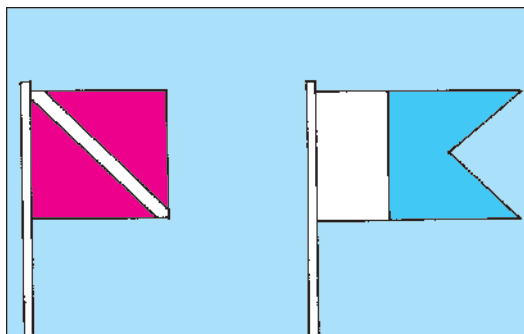
## WCB INJURY REPORTS

### Injuries reported by divers and diving boat crew

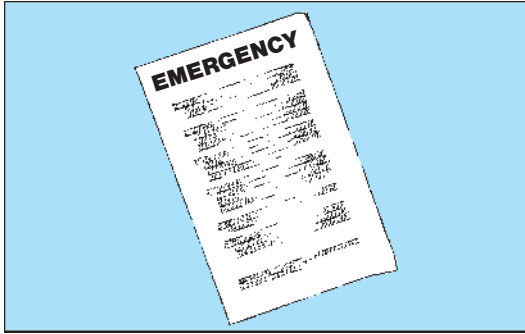
<i>Type of Injury</i>	<i>Cause of Injury</i>
Drowning	Airline tangling in the propeller
Death	Diver developing an air embolism while surfacing
Badly cut leg	Boat running over diver
Punctured hand	Sea urchin spines entering fingers
Broken foot	Slipping, then falling on a boat ramp
Infected knee wound	Sea urchin spine puncturing knee
Strained neck, wrist	Slipping, then falling while cutting sea cucumbers
Broken arm	Arm catching in a winch while hauling a bag on deck



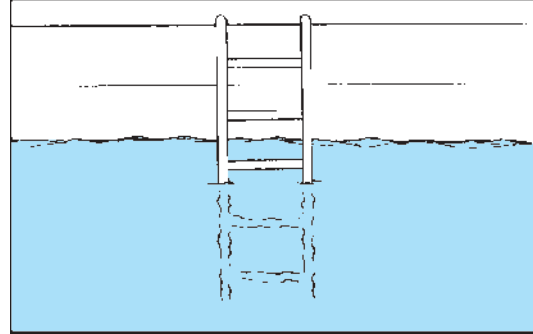
Both the diving supervisor and the diver **must** keep separate diving logs. The log books must include the type of apparatus and gas medium, times, maximum depth, surface interval, decompression tables used, date, and remarks. The diving supervisor's log must be filed with the employer after the dive.



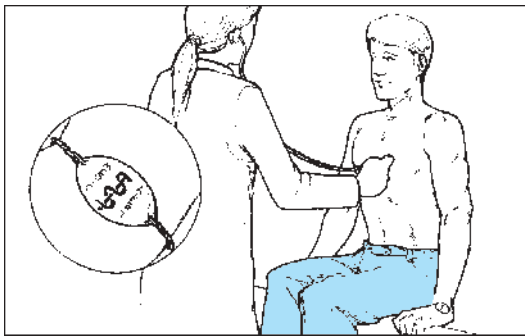
In navigable waters, the recognized diver's flag (left) **must** be flown or displayed. Some authorities may require vessels engaged in diving operations to show the International Code "Alpha" Flag (right). Show diving flags **only** while diving operations are in progress. Remove them when diving has stopped — when no divers are in the water.



Each dive site **must** have an up-to-date list of the locations and telephone numbers of nearby facilities with recompression chambers, and numbers for emergency services such as the Coast Guard, medical airlifts, and doctors knowledgeable and competent in diving medicine.



The ladder should extend far enough into the water so that the diver can easily climb back onto the boat. If the ladder is too short, the diver may be injured getting aboard.

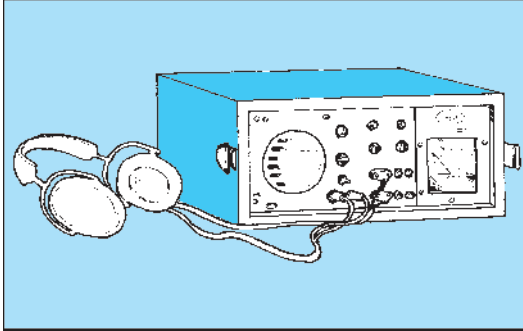


Divers aged 40 and over **must** be examined *at least once every year* by a doctor knowledgeable and competent in diving medicine. Divers under 40 must be examined every two years. After each dive, divers **must** wear a medical alert tag for at least 24 hours. These tags will state that the wearer may be susceptible to diving illnesses such as decompression sickness.

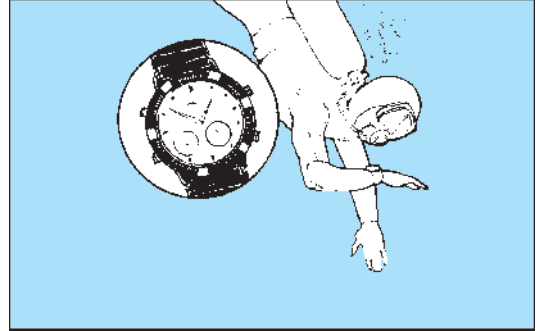


## Scuba diving:

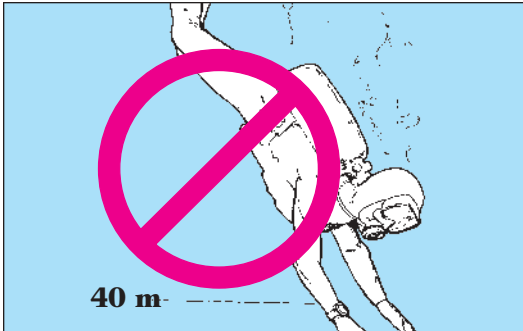
Getting trapped under water and rising too fast to the surface are among the most dangerous hazards for scuba divers. Scuba diving requirements include:



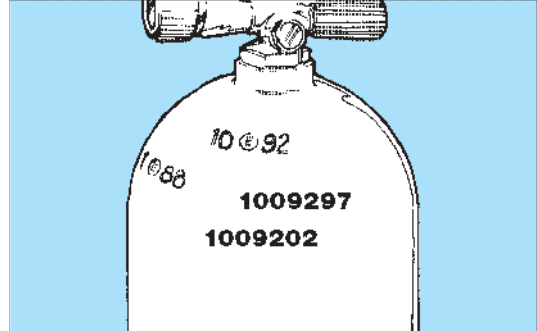
Each diver **must** be in constant communication either with a buddy diver or with the surface by means of lifelines, floats, or voice communication.



Divers **must not** stay at any depth longer than the maximum time planned.



Scuba divers **must not** dive deeper than 40 metres (130 feet) without prior authorization from the WCB.



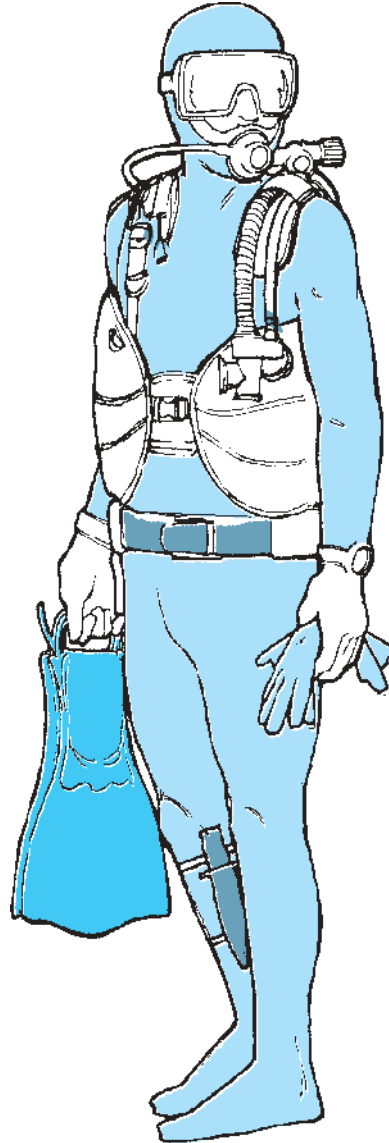
Scuba cylinders **must** be visually inspected internally every year. Cylinders must be hydrostatically tested every five years.

## SCUBA DIVING GEAR

As a minimum, scuba divers **must** use the following equipment as appropriate to the diving conditions and as specified by the diving supervisor:

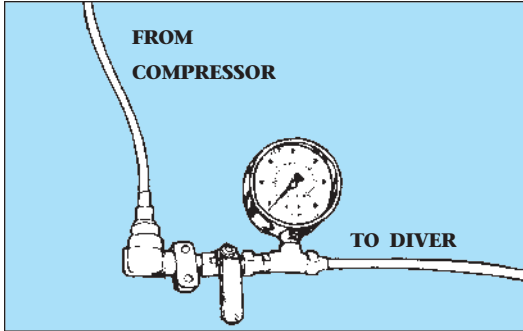
- Scuba unit with a quick-release harness and a pressure gauge
- Face mask
- Swimming fins
- Diving knife
- Depth gauge
- Exposure suit
- Inflatable buoyancy device
- Underwater watch with an elapsed-time indicator
- Weight belt with a quick release buckle

Scuba divers **must** also use any other equipment required by the Workers' Compensation Board. Requirements may vary with diving conditions.

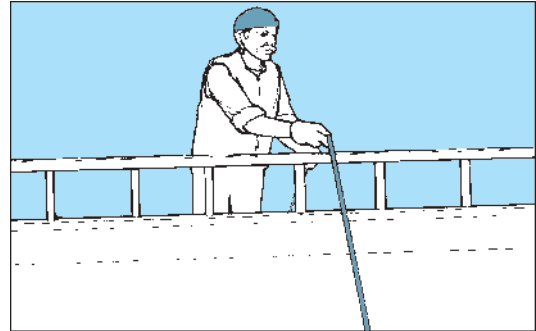


## Surface-supplied diving:

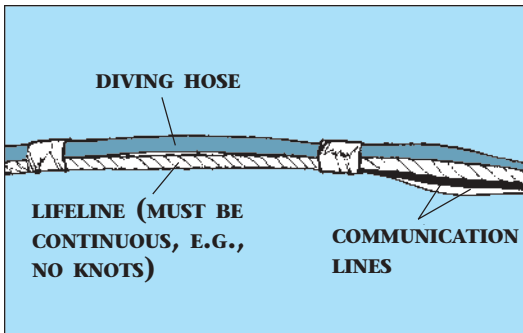
Like all divers, surface-supplied divers must know their depth and time limits to ensure safe diving. Surface-supplied diving requirements include:



Each diver's airline **must** have a pressure gauge and a separate valve. The gauge must be downstream from the valve.



Surface-supplied divers **must** have a diver's tender.



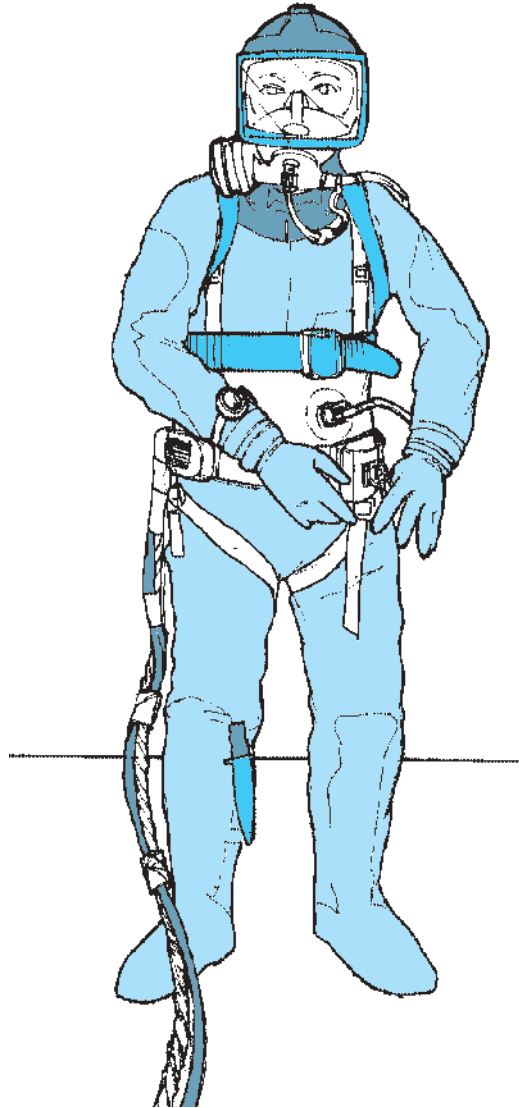
Surface supply hoses **must** be attached to lifelines to prevent undue stress on the supply hose or the helmet. Lifelines **must** be 16 mm ( $\frac{5}{8}$  inch) in diameter, made of polypropylene or other equivalent synthetic fibre. Divers **must** use only hoses designed and suitable for surface-supplied diving.

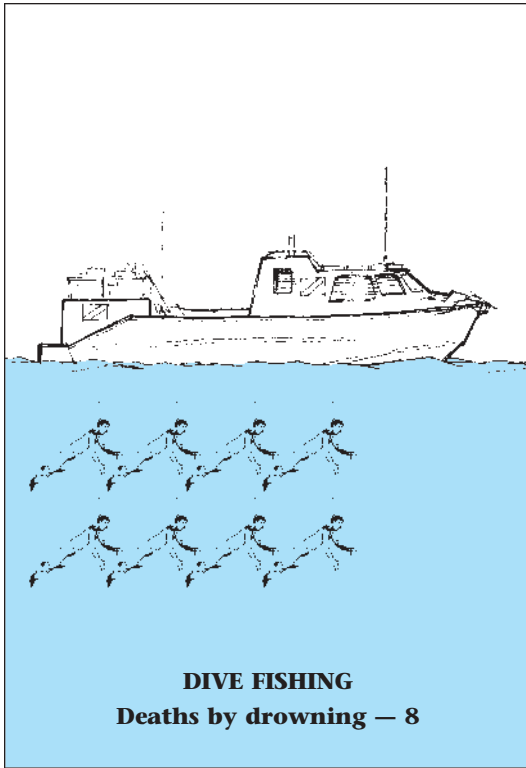
## GEAR FOR SURFACE-SUPPLIED DIVING

As a minimum, surface-supplied divers **must** use the following gear and equipment:

- Boots designed to fasten securely to the foot
- Weight belt, worn outside the diving suit and all gear
- Non-return valves on all surface-supplied diving helmets and masks
- Dive compressor equipped with a non-return valve on the upstream side of the compressor
- Diving knife
- Bailout system

Surface-supplied divers **must** also use any other equipment required by the Workers' Compensation Board. Requirements may vary with diving conditions.





For the 11 years from 1991 to 2001, there were 8 deaths in dive fisheries.

# WCB Offices

Visit our web site at [www.worksafebc.com](http://www.worksafebc.com)

## **Abbotsford**

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1 800 292-2219  
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## **Burnaby**

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1 888 621-7233  
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## **Coquitlam**

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Phone 604 276-3100  
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## **Courtenay**

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1 800 663-7921  
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1 800 663-4912  
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1 800 663-3935  
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Fax 250 751-8046

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## **Surrey**

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1 888 621-7233  
Fax 604 232-7077

## **Terrace**

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Phone 250 615-6605  
1 800 663-3871  
Fax 250 615-6633

## **Victoria**

4514 Chatterton Way V8X 5H2  
Phone 250 881-3418  
1 800 663-7593  
Fax 250 881-3482

## **Head Office / Richmond**

### *Prevention:*

8100 Granville Avenue  
Phone 604 276-3100  
1 888 621-7233 (621-SAFE)

### *Administration:*

6951 Westminster Highway  
Phone 604 273-2266  
1 800 661-2112

### *Mailing Address:*

PO Box 5350 Stn Terminal  
Vancouver BC V6B 5L5

## **After Hours**

## **Health & Safety Emergency**

604 273-7711  
1 866 922-4357 (WCB-HELP)

R09/02

