

Vessel Stability

Knowing and understanding the stability characteristics of your vessel is probably the single most important thing you can do to help ensure the safety of your vessel and crew. The following are some basic items you should consider:

- Always ensure that deck cargo and equipment are properly stored and secure.
- Ensure doors and hatch covers are closed and secured while at sea to reduce the possibility of down flooding, check seals around doors and manhole covers.
- Freeing ports should be kept clear at all times to ensure water does not build up on deck.
- Pen boards should be used in the fish hold at all times to ensure fish does not shift.
- Fish should not be carried on deck as this can create a free surface and cause the vessel's center of gravity to rise, reduce stability.
- The fish hold should be loaded evenly to reduce heel and trim.
- Avoid, whenever possible, storing heavy weights above the main deck or lifting weight with a boom, both raises the center of gravity and reduces the vessel's stability.
- If topside ice accumulation occurs, ensure it is removed as quickly as possible while paying attention to crew safety.
- High water alarms should be fitted in all hull compartments potentially subject to flooding.
- Practice good judgement when using equipment such as para-vanes and anti-roll tanks, having regard for wind and sea conditions as well as speed and course.
- Be aware that a fishing vessel's stability changes during a voyage depending on fuel, bait and supplies consumed and the catch and gear taken on board and stowed.
- Keep track of physical changes made to your vessel such as installing new fishing gear.
- Follow any stability assessment completed for your vessel, and understand the limitations.

SAFETY FACTS

Fire Extinguishers

REGULATORY REQUIREMENTS:

as summarized from the *Fishing Vessel Safety Regulations*


https://laws-lois.justice.gc.ca/PDF/C.R.C.,_c._1486.pdf

1. Portable Fire Extinguishers and any fixed fire extinguishing system must be:
 - a) type approved by a recognized product certification body,
 - b) kept fully charged at all times,
 - c) if the contents are kept under pressure, must be tested periodically as per manufacturer's specification.
2. Any fire extinguishing equipment required by these Regulations shall:
 - a) be in good working order,
 - b) be readily accessible and available for immediate use, and
 - c) be maintained in accordance with the manufacturer's recommendations.
3. Safety equipment shall not be altered in any way that compromises its performance or that diminishes the integrity or readability of a marking set out in a standard related to it.

MINIMUM CARRIAGE REQUIREMENTS:

As summarized from *Fishing Vessel Safety Regulations (Section 3.27)*:

Vessel Hull Length	Fire Extinguisher Equipment, Any Voyage Distance
Not more than 6 m (19'8")	<ol style="list-style-type: none">a) 1 of 1.5kg (3 lbs) MP-DC Portable Extinguisher ANDb) 1 of 1.5kg (3 lbs) MP-DC if equipped with a fuel burning cooking , heating or refrigerating appliance
More than 6m but not more than 15 m (49'2")	<ol style="list-style-type: none">a) 1 of 2.25kg (5 lbs) MP-DC ANDb) 1 of 2.25kg (5 lbs) MP-DC if equipped with a fuel burning cooking , heating or refrigerating appliance ANDc) 1 of 2.25kg (5 lbs) DC OR 4.5kg (10 lbs) CO² at the entrance to the engine space
More than 15m	<ol style="list-style-type: none">a) 1 of 4.5kg (10 lbs) MP-DC ANDb) 1 of 4.5kg (10 lbs) MP-DC at each access to a space fitted with a fuel burning cooking, heating or refrigerating appliance ANDc) 1 of 4.5kg (10 lbs) MP-DC at the entrance to each accommodation space ANDd) 1 of 4.5kg (10 lbs) DC or 9kg (20 lbs) CO² at the entrance to the engine space



MP-DC = Multi-purpose Dry Chemical (Class A, B & C fires – ammonium phosphate)
DC = Dry Chemical, either Multi-purpose or Regular (Class B & C fires only – sodium bicarbonate)
CO² = Carbon Dioxide (Class B & C fires only)

The total number of portable fire extinguishers that must be carried on board a fishing vessel may be reduced by one if the remaining fire extinguishers are arranged so as to be readily accessible near the equipment or locations.

For more information on requirements for Fire Extinguishers on Fishing Vessels, contact your nearest Transport Canada Marine Safety and Security Office.

Immersion Suits

DEFINITIONS:

Immersion Suit – a special type of waterproof dry suit that protects the wearer if required to abandon ship in rough, cold water.

Anti-exposure Work Suit – a protective suit designed for use by rescue boat crews and marine evacuation system parties.

MINIMUM CARRIAGE REQUIREMENTS:

As summarized from the *Fishing Vessel Safety Regulations (Section 3.28)*:

https://laws-lois.justice.gc.ca/PDF/C.R.C.,_c._1486.pdf

Vessel Hull Length	Sheltered Waters** Voyages	Near Coastal 2 Voyages (within 25 nm of shore)	Near Coastal 1 and Unlimited (beyond 25 nm from shore)
Not more than 12 m (39'4")	An Immersion Suit or Anti-Exposure Work Suit of an appropriate size for each person on board* AND An EPIRB OR 1 or more Life Rafts or a combination of Life Rafts and Recovery Boats for 100% of persons on board	An Immersion Suit or Anti-Exposure Work Suit of an appropriate size for each person on board AND An EPIRB OR 1 or more Life Rafts or a combination of Life Rafts and Recovery Boats for 100 % of persons on board	An Immersion Suit of an appropriate size for each person on board
More than 12 m (39'4")		An Immersion Suit or Anti-Exposure Work Suit of an appropriate size for each person on board	

* NOTE 1: A fishing vessel on a voyage that is on waters identified as Sheltered Waters may carry on board appliances, or written procedures, for protecting all persons on board from the effects of hypothermia or cold shock resulting from swamping, capsizing or falling overboard, in place of an Immersion Suit or Anti-Exposure Work Suit for each person.

** NOTE 2: Sheltered Waters are defined and users should contact the nearest TCMSS office to make sure the waters they operate in are indeed identified as Sheltered Waters prior to considering substituting equipment or determining if specific equipment is required.

GENERAL INFORMATION:

If Immersion Suits or Anti-exposure Work Suits are carried on board the Fishing Vessel (as required by a regulation or voluntarily) then the following will apply:

- (a) Every Immersion Suit or Anti-exposure Work Suit shall bear a mark or label indicating that it is of a type approved by the Minister (of Transport).
Immersion Suit - CAN/CGSB-65.16-2005 or MSC.81 (70)
Anti-exposure Work Suit - CAN/CGSB-65.21-95 or MSC.81(70)
- (b) Immersion Suits and Anti-Exposure Work Suits shall be:
 - (i) be in good working order;
 - (ii) be readily accessible and available for immediate use; and
 - (iii) be maintained, serviced, tested and replaced in accordance with the manufacturer's instructions or recommendations.
 - (iv) records kept of any maintenance and testing of each Suit.

For more information on requirements for Immersion Suits on Fishing Vessels, contact your nearest Transport Canada Marine Safety and Security Office.

Life Rafts

DEFINITIONS:

Life Raft: Two main types are:

Inflatable: The following are the basic types of inflatable rafts:

- (a) SOLAS – (Safety of Life at Sea) generally of large capacity (6 or more passengers), are built and tested to withstand offshore ocean conditions;
- (b) Reduced Capacity – similar in construction standard as the SOLAS life raft but rated for less than 6 passengers;
- (c) Coastal – constructed to the Canadian Life Saving Appliance Standards, approved for use on fishing voyages within 25 nm of shore.

Rigid: constructed of rigid materials or a combination of rigid materials and inflatable compartments and not relying wholly on inflatable compartments for buoyancy and form. Rigid Life Rafts commonly available in Maritimes do meet SOLAS standards.

Recovery Boat: a boat that is auxiliary to a fishing vessel and that can be used in an emergency. Information on requirements for the fitting and use of a Recovery Boat in lieu of or in combination with inflatable Life Rafts are available from a local TCMSS Office.

INSTALLATION AND SERVICING:

- As summarized from the *Fishing Vessel Safety Regulations (Section 3.28)*
https://laws-lois.justice.gc.ca/PDF/C.R.C.,_c._1486.pdf
 - And the *Life Saving Equipment Regulations, Schedule IV, Section 2*
https://laws-lois.justice.gc.ca/PDF/C.R.C.,_c._1436.pdf
1. A Life Raft that is carried on board a fishing vessel shall be marked with the date and place of the last service, shall be stored on board in a manner that allows easy manual deployment and, except in the case of a coastal Life Raft that is packed in a valise type container, mounted so that it will automatically float free if the vessel sinks.
 2. An inflatable Life Raft shall be serviced annually in accordance with the recommendations of the manufacturer.
 3. A Rigid Life Raft that does not have inflatable compartments does not require an annual inspection by the manufacturer but the Emergency Pack must be inspected at a maximum period of every 4 years and all equipment replaced that have expiry dates due in the next 4 years.

MINIMUM CARRIAGE REQUIREMENTS:

- As summarized from the Navigation Safety Regulations 2020 (Section 209)<https://laws-lois.justice.gc.ca/PDF/SOR-2020-216.pdf>
- and the Fishing Vessel Safety Regulations (Section 3.28)
https://laws-lois.justice.gc.ca/PDF/C.R.C.,_c._1486.pdf

Vessel Hull Length	Sheltered Waters Voyages	Near Coastal 2 Voyages (within 25 nm of shore)	Near Coastal 1 and Unlimited (beyond 25 nm from shore)
Not more than 12 m (39'4")	a) 1 or more Life Rafts** or Recovery Boats for 100 % of persons on board; OR b) The following equipment: <ul style="list-style-type: none"> • 1 EPIRB or 2-way Radio; AND • Immersion Suits or Anti-Exposure Work Suits for 100% of persons on board OR	a) 1 or more Life Rafts** or a combination of Life Rafts and Recovery Boats for 100 % of persons on board; OR b) The following equipment: <ul style="list-style-type: none"> • 1 EPIRB; AND • Immersion Suits or Anti-Exposure Work Suits for 100% of persons on board. 	Near Coastal 1 Voyage 1 or more SOLAS Life Rafts or Reduced Capacity Life Rafts for 100 % of persons on board. Unlimited Voyage 2 or more SOLAS Life Rafts or reduced capacity Life Rafts mounted in such a manner that there is capacity for 100% of the persons on board available on each side of the vessel; AND 1 Recovery Boat
More than 12 m (39'4")	Life Saving appliances or written procedures (or both) for protection from the effects of hypothermia or cold shock.	1 or more Life Rafts** or a combination of Life Rafts and Recovery Boats for 100 % of persons on board;	

** Coastal, Reduced Capacity or SOLAS Life Raft

For more information on requirements for Life Rafts on Fishing Vessels, contact your nearest Transport Canada Marine Safety and Security Office.

SAFETY FACTS

Marine Flares

DEFINITIONS:

Pyrotechnic Distress Signal - commonly called a Marine Flare.

CARRIAGE REQUIREMENTS:

As summarized from the *Fishing Vessel Safety Regulations*

https://laws-lois.justice.gc.ca/PDF/C.R.C.,_c._1486.pdf

Vessel Hull Length	Sheltered Waters and Near Coastal 2 (All voyages within 25 nm from shore)	Near Coastal 1 and Unlimited Voyages (All voyages beyond 25 nm from shore)
Not more than 6 m (19'8")	3 Pyrotechnic Distress Signals other than Smoke Signals (no smoke permitted)	3 Pyrotechnic Distress Signals other than Smoke Signals (no smoke permitted)
More than 6 m but not more than 9 m (29'6")	6 Pyrotechnic Distress Signals other than Smoke Signals (no smoke permitted)	6 Pyrotechnic Distress Signals, other than Smoke Signals, of which at least 2 must be Rocket Parachute Flares (no smoke permitted)
More than 9 m but not more than 12 m (39'4")	6 Pyrotechnic Distress Signals of which not more than 3 are Smoke Signals	6 Pyrotechnic Distress Signals of which at least 2 must be Rocket Parachute Flares and not more than 3 are Buoyant Smoke Signals
More than 12 m but not more than 15 m (49'2")	12 Pyrotechnic Distress Signals of which not more than 6 are Smoke Signals	12 Pyrotechnic Distress Signals of which at least 4 must be Rocket Parachute Flares and not more than 6 are Buoyant Smoke Signals
More than 15 m (49'2")	12 Pyrotechnic Distress Signals of which not more than 6 are Smoke Signals	12 Pyrotechnic Distress Signals of which at least 6 must be Rocket Parachute Flares and not more than 6 are Buoyant Smoke Signals

GENERAL INFORMATION:

1. A Marine Flare shall bear a mark or label indicating that it is Transport Canada (TC) approved.
2. Every Marine Flare expires four years after its date of manufacture and shall be withdrawn from service.
3. Expired Marine Flares **MUST** be returned to companies or individuals that have been identified as a Distributor under the Canadian Explosives Act. In the marine industries, any company that inspects and repacks liferafts are usually approved as a Distributor of Pyrotechnic Distress Signals. Some local marine supplies Retailers will accept expired Marine Flares on behalf of a Distributor but are not obligated to do so.
4. Law Enforcement Agencies (local Police Forces, RCMP, etc.) and Government Representatives (TCMSS Inspectors, DFO Officers, Coast Guard Officers, etc.) do not collect and are not supposed to carry expired Marine Flares. They must be returned to a Distributor (or an accepting Retailer) by the owner.

For more information on requirements for Marine Flares on Fishing Vessels, contact your nearest Transport Canada Marine Safety and Security Office.

SAFETY FACTS

EPIRBs

EPIRB – an Emergency Position-Indicating Radio Beacon is used to alert search and rescue services, in the event of an emergency, by transmitting a coded message on the 406 MHz distress frequency via satellite and earth stations to the nearest rescue coordination centre.

MINIMUM CARRIAGE REQUIREMENTS:

- As summarized from the Navigation Safety Regulations 2020 (Section 209) <https://laws-lois.justice.gc.ca/PDF/SOR-2020-216.pdf>
- and the Fishing Vessel Safety Regulations (Section 3.28) https://laws-lois.justice.gc.ca/PDF/C.R.C.,_c._1486.pdf

Vessel Size (Hull Length)	Within 25 nm from shore		Beyond 25 nm from shore
	If Life Raft carried	If no Life Raft	
Less than 8 m (26'3")	1 EPIRB or PLB* or Hand Held VHF with DSC	1 EPIRB	1 Float-free EPIRB
More than 8 m (26'3") Not more than 12 m (39'4")	1 EPIRB or PLB* <i>*406 MHz Personal Locator Beacon</i>	1 EPIRB	1 Float-free EPIRB
More than 12 m (39'4")	1 Float-free EPIRB		1 Float-free EPIRB

A fishing vessel of **any length** on Sheltered Waters** voyages **MAY** carry an EPIRB in lieu of the requirement under the Fishing Vessel Safety Regulations to carry a Life Raft or combination of a Life Raft and Recovery Boat.

*** NOTE: Sheltered Waters are defined and users should contact the nearest TCMSS office to make sure the waters they operate in are indeed identified as Sheltered Waters prior to considering substituting equipment or determining if specific equipment is required.*

It is mandatory for all 406 MHz EPIRBs and PLBs to be registered with the Canadian Beacon Registry. Ensuring that EPIRB and PLB is registered and the information is kept up-to-date is a regulatory requirement and will facilitate the task for search and rescue personnel in the event of a distress situation.

For more information on requirements for an EPIRB on Fishing Vessels, contact your nearest Transport Canada Marine Safety and Security Office.

Fatigue

Fishermen recognize that fatigue is part of fishing. It's important to know the facts and to determine how you might remove or minimize potential hazards caused by fatigue.

We are not able to interpret any situation correctly and miss signals if we are tired. Learn to recognize the signs and symptoms of fatigue.

WHEELHOUSE FATIGUE CHECKLIST

Mood

- > More irritable than usual
- > Uncommunicative
- > Easily frustrated by tasks
- > Doesn't care

Alertness/Sleepiness

- > Looks tired
- > Yawns a lot
- > Has micro sleeps
- > Behaves "automatically"
- > Slurs speech
- > Rubs eyes

Focus

- > Preoccupied with parts of a problem
- > Loses the big picture
- > Misses warning signs
- > Unable to stay focused on a task
- > Has a fixed gaze
- > Reports blurred vision
- > Fails to interpret a situation correctly

Task Performance

- > Takes unusual risks
- > Cuts corners to get the job done
- > Shows poor judgement of distance, time or speed
- > Is clumsy
- > Does things in the wrong order
- > Doesn't complete tasks
- > Forgets recent information
- > Moves slowly
- > Reverts to old habits
- > Responds slowly to situations
- > Does not think logically
- > Makes calculation mistakes

*"The collision was caused by the inability of the crew to maintain a proper watch as they had fallen asleep due to fatigue."
– Transportation Safety Board of Canada*

How do you manage fatigue?

FATIGUE FIGHTERS

What can you do to wake yourself up and get a boost of energy?

- > Get some exercise
- > Avoid sugar
- > Manage your blood sugar
- > Stay hydrated
- > Sleep
- > Caffeine is a strong stimulant but use it wisely



MANAGING FATIGUED CREW MEMBERS

- > Take a break
- > Have a nap
- > Have a drink (Water is best and avoid caffeine within four hours of a sleep period.)
- > Have something to eat but avoid anything too heavy
- > Rotate tasks
- > Take shorter wheel turns
- > Send him for a long sleep
- > Rotate him to a task where the risk is acceptable if he is required to continue working
- > Consider whether the task must be continued or can be delayed

"When the guys get tired we take shorter wheel turns." – Martin Carr, Savage Fisher

Drug & Alcohol Awareness

> DRUGS AND ALCOHOL IN THE WORKPLACE AFFECT SAFETY – ON AND OFF THE WATER

WHAT'S THE BIG DEAL?

Alcohol and certain types of drugs are mood-altering (psychoactive). They affect the central nervous system (mainly the brain) and our ability to work safely. Workplace hazards and accidents are often the result of the use of alcohol and other mood-altering drugs. It's not just the "high" that causes a problem; hangovers from alcohol and withdrawal from certain drugs can be just as serious as the mood-altering affect. This is an Occupational Health and Safety issue; one not only of safety but also of due diligence and liability.

WHY ARE WE ADDRESSING THIS ISSUE?

Under Occupational Health and Safety legislation employers are responsible for the health, safety, and welfare of employees. Employers must minimize or eliminate all safety risks that have the potential to harm employees. Employees also share in the responsibility. Employees have a duty to work safely and free from impairment, and to report any concerns of unsafe working conditions – which may include our own impairment/use or that of a co-worker.

WHAT SUBSTANCES ARE WE TALKING ABOUT?

Central Nervous System depressants slow down the body's reactions to thinking and judgment, as well as breathing and heart rate.

Depressants include:

- Alcohol
 - Effects depend on age; gender; body weight; previous experience with alcohol; how much food is in the stomach; other drugs (legal or illegal) taken at the same time; and, expectations of how it will make you feel.
 - Effects vary depending on how much has been taken over what period of time.
 - Hangovers are caused partly by a chemical that's produced when alcohol is processed by the liver. A person with a hangover is not able to work safely.
- Prescription drugs such as
 - Sedative benzodiazepines (Valium™, Xanax™, Restoril™, Ativan™ ...)
 - Narcotics (morphine, codeine, oxycodone, Dilaudid™...)

Any of these drugs taken together are particularly dangerous. Taken alone or in combination, even small doses affect reaction time, how quickly the mind processes what's happening, coordination and critical thinking.

Prescription drugs may be abused by taking a medication:

- prescribed for someone else
- amount greater than prescribed or recommended
- in another manner than prescribed (e.g. injection of contents of a pill meant to be taken orally)
- in combination with alcohol (extremely dangerous; breathing and heart rate are lowered significantly)

Central Nervous System stimulants speed up the body's functions and include:

- Cocaine
- Methamphetamine (including ecstasy)
- Prescription stimulants (Ritalin™, Dexedrine™, Adderall™)

Substances like caffeine and nicotine also speed up the body's functions, but they do not impair our judgment, coordination, decision-making or reaction time; they do increase our heart rate and other bodily functions and can affect our ability to work safely.

Cannabis products (marijuana, pot, weed, reefer, hash, hash oil):

- may cause drowsiness or restlessness (depends on amount taken and individual response)
- impair depth perception
- decrease attention span and concentration
- slow reaction time
- decrease muscle strength and hand steadiness
- affect thinking and short-term memory
- affect our ability to assess potentially dangerous or critical risk situations and make good decisions regarding safety

Any one or all of these effects reduce our ability to drive and to perform work tasks safely. Concentrations of cannabis today are on average 300-400% stronger than that of the 70s and 80s. Contrary to popular belief, individuals can be addicted to cannabis, and many of the effects on our brain are long term.

These effects can last for weeks, months and even years after stopping the use of cannabis. Large doses of potent cannabis, especially when swallowed, can cause a serious condition called "toxic psychosis." Symptoms include hallucinations, paranoid delusions, confusion and amnesia. When cannabis use is stopped, these symptoms usually disappear within a week.

The bottom line...

Why do you think they call it dope?

WHY USE?

Many people use alcohol and other mood-altering drugs:

- as a coping mechanism
- truly believe that no harm will result
- as an accepted part of workplace or community culture
- to escape problems
- to avoid or deal with stress
- to “numb out”
- to deal with pain
- to “mellow out”
- to get “high”
- to fit in

WHEN DOES USE BECOME A PROBLEM?

Use becomes a problem when a substance is taken and a person:

- drives
- gets “high” on the job
- comes to work with a hangover (from drugs and/or alcohol)
- experiences negative effects on their daily activity due to drug or alcohol use

It’s often stated that what a person does on their own time is their own business, and that’s true. However, when an individual’s drug and/or alcohol use carries over into the workplace and affects an individual’s safety and the safety of co-workers, then it is definitely a problem and the employer’s business.

WHAT IS “ENABLING” AND HOW DOES IT FUEL THE PROBLEM?

“Enabling” is the idea, feeling, attitude, behavior or action that unintentionally allows or reinforces a person’s drug or alcohol use. It’s sometimes said that “enabling” is doing all the wrong things for the right reasons. Family members often do not recognize there is a problem and may “cover up” or attempt to control the person’s actions, therefore “enabling” the problem use to continue and worsen. Co-workers also often “enable” by covering up, taking on extra duties or work, and making excuses for the problem or behaviour. Captains and supervisors “enable” employees when they do not believe that it is their responsibility to take action.

Remember – there is a difference between the ability to work and the ability to work safely.

WHY TAKE ACTION NOW?

There is a growing trend in Canada where employers are pro-actively addressing health and safety concerns related to employee drug and/or alcohol use. This starts with education and awareness. In the past, looking the other way has resulted in many injuries and deaths related to substance abuse. It is well known that there has been and continues to be a problem with drugs and alcohol in the fishing industry. Many employers and owners are now addressing substance abuse in the workplace. Doing nothing is no longer an option.

WHAT CAN I DO?

Speak up.

Have a conversation.

If you or someone you work with uses drugs or alcohol that is a problem, or it is affecting their safety and that of their co-workers, there are options for help.

Ignoring the problem makes you part of the problem and affects the health and safety of everyone.