

Safety Quik

This guide has been prepared as a reference to assist you in developing an emergency drills program for your vessel.

Add your vessel specific information and review with your crew regularly.



Emergency drills should be performed:

- At the start of each fishing season
- When there is a change of crew
- At regular intervals to ensure crew are familiar with emergency procedures

Name of Vessel

Vessel Master

Crew List



Contacts for Fishing Safety Information

IN AN EMERGENCY

Joint Rescue Coordination Center

1-800-567-5111

1-250-363-2333

Coast Guard Radio VHF Channel 16

OTHER



Phone: 604-261-9700

Email: fishsafe@fishsafebc.com

www.fishsafebc.com



SAFETY MANAGER

Pat Olsen

Manager of Interest, Marine 250-334-8777

SAFETY OFFICERS

Lower Mainland

Bruce Logan

Cell 604-314-8336 604-244-6477

Vancouver Island

Mark Lunny

Cell 250-703-6434 250-334-8732

Jessie Kunce

Cell 250-886-2138 250-881-3461

24 hr Accident Reporting Line 1-866-922-4357

Fishing Injury Claims 1-800-663-7921

TRANSPORT CANADA MARINE SAFETY

Prince Rupert 250-627-3045

Nanaimo 250-754-0244

Victoria 250-363-0394

Vancouver 604-666-5300

TRANSPORTATION SAFETY BOARD

Glenn Budden,

Investigator, Marine 604-666-2712

Securitas-Confidential Reporting 1-800-567-6865

Email: securitas@bst-tsb.gc.ca

MARINE TRAINING

BCIT Marine Campus 604-453-4111

Safer Ocean Systems 250-755-7742

Western Maritime Institute 250-245-4455

Quinte Marine 604-524-0652

Northwest Community College 250-624-6054

St. John Ambulance First Aid 604-321-2651

Quik Nav 604-689-7949

Camosun College 250-370-4016

Fish Safe gratefully acknowledges AMSEA (Alaska Marine Safety and Education Association www.amsea.org) and NPFVOA (North Pacific Fishing Vessel Owners Association www.npfvoa.org) for the use of diagrams and reference material in the production of this guide.



Canada

Stability Checklist



Vessel Specifics

- ☐ Do weather conditions allow for safe travel?
- ☐ Is all gear secure on deck (boom, skiff, totes, traps, etc)?
- ☐ Are your manhole and hatch covers secure?
- ☐ Are engine room and lazarette doors closed?
- ☐ Are your scuppers clear?
- ☐ Are all high water alarms working properly?
- ☐ Are your fuel cross connections closed?
- ☐ Have you minimized free surface in all tanks (fuel, fish holds)?
- ☐ Is your vessel evenly trimmed?
- ☐ Do you have adequate freeboard?

Why do drills?

Fishermen that have survived tragic circumstances attest to the importance of having a vessel specific drills program.



The Marine Emergency Duties training that I took helped to keep me calm. When our boat capsized, all that

training and practice came back to me. I was able to get into my survival suit and swim to a nearby vessel so we could save my dad who was in the water without a survival suit. This training helped save our lives.

**Steve Veloso, Crew, Survivor,
FV Love and Anarchy**

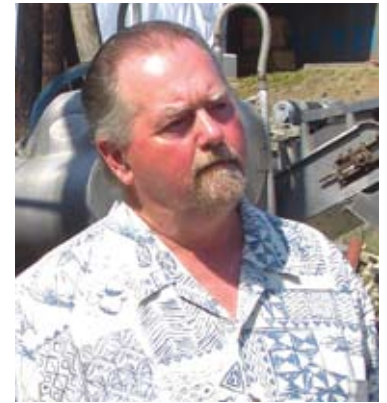


helped us survive longer by preventing cold shock. It saved my life.

Chris Cook, Master, Survivor, FV West Isle

Having spent thirty years on the water, I never expected to deal with loss of life or loss of any crewmember. The tragic loss of the Galaxy and three crewmembers will remain embedded in the minds of all commercial fishermen. According to U.S. Coast Guard, it was a miracle that 23 people survived. As the Captain, I can emphatically state that survival is the direct result of knowing what to do prior to the incident. There is no time to think about "what now". 23 survivors was the direct result of knowing what to do prior to this catastrophic incident. I will forever maintain that Unconscious Competence is your only means to survive. Drills are imperative on a regular basis.

Dave Shoemaker, Master, Survivor, FV Galaxy



How To Do Effective Drills

CONSIDER: HOW LONG CAN YOU SURVIVE?

On your vessel _____ days

In your liferaft _____ days

In your survival suit _____ hours/days

In your lifejacket/PFD _____ hours

In your clothes _____ minutes

**Reflecting on this will inform
your choices in an emergency.**

1. Know what you want to happen as a result of your training

- The crew will be knowledgeable, ready and able to confidently and effectively deal with a sudden emergency

2. Know what you want to communicate

- Techniques and drills that cover a wide variety of emergency scenarios
- Teamwork

3. Believe that drills will improve the safety of you and your crew

- Share meaningful experiences and stories that highlight this belief

4. Take an inventory of the resources you have available

- Document where your life saving equipment is located.

5. Consider and discuss with your crew the different types of drills and what their role would be in an actual emergency.

- Document this on your Emergency Duties/Muster List.

6. Be a good example, listen as well as talk

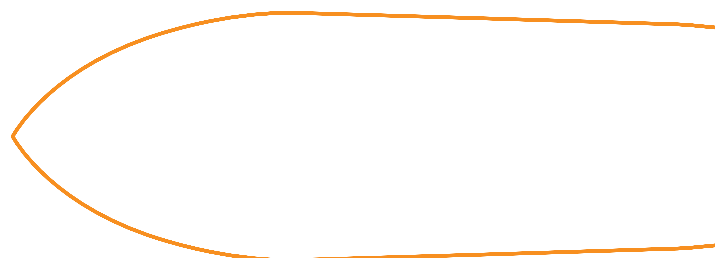
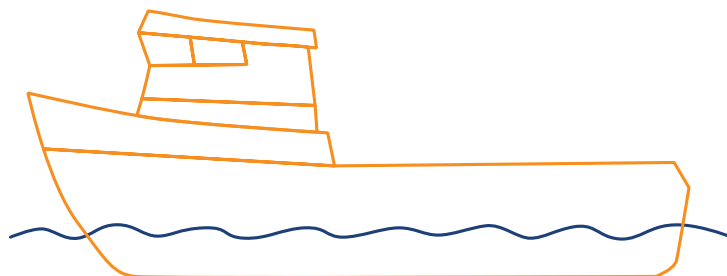
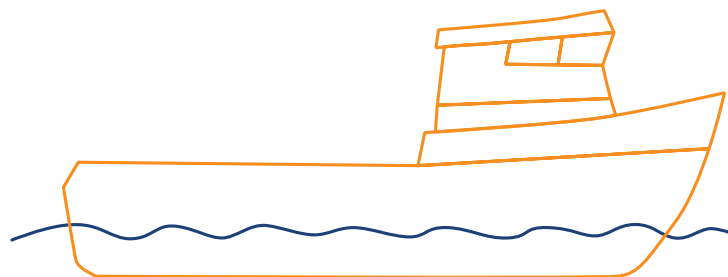
- Explain, do a walk through, instruct and correct
- Get input from the crew
- Acknowledge good performance, offer praise and constructively critique mistakes
- Debrief and discuss alternative scenarios for next drill
- Log the drill

Emergency Equipment Location

Make a list of all the safety equipment you have on board and identify the location on the vessel drawings.

1. Liferaft(s)
2. Hydrostatic Release Unit (HRU)
3. Immersion Suits
4. Lifejackets (PFDs and Keyhole)
5. EPIRB
6. Flares
7. Emergency Shut-offs
8. Liferings and Throwing Lines
9. First Aid Kit
10. Fire Extinguishers
11. _____
12. _____
13. _____
14. _____
15. _____

Make a list of all the safety equipment you have on board and identify the location on the vessel drawing.



EMERGENCY DUTIES LIST (Muster List)

MASTER MUST ASSIGN DUTIES TO ALL CREW MEMBERS AND POST THIS NOTICE IN A VISIBLE AREA

Vessel Name _____ **Date** _____

[illegible]

Man OverBoard/Retrieval Procedures



It happened so fast...I was in the water for about an hour and a half and after some time your fingers are not workable and you try to stay in the fetal position with your knees up and your arms down.

I had a lifejacket on underneath my rain gear called a Stormy Seas, the one with a blow up, and it was so old that I just blew it up a little bit to make sure it wouldn't pop.

It was the fact that I was wearing a PFD that I am here today. No question in my mind. You have to have something that floats and you can work in it so that the person will wear it all the time. I think that is the key.

**Lloyd Webb, Fisheries Observer,
Survivor, FV Pacific Charmer**

You may only have minutes to save someone from cold water immersion. Know what the man overboard procedure is on your vessel.

SOUND THE ALARM

- **IMMEDIATELY** throw a life ring, life jacket or brightly coloured floating object or marker as close to the victim as possible (make sure you know where these are located)
- Point and keep your eye on the victim at all times
- Tell the wheelhouse what has happened (what side of the vessel the crew man fell from) and continue to verbally direct the vessel operator to the overboard crew member
- Mark man overboard on navigational aids such as plotter, electronic charts, GPS
- Carefully manoeuvre the vessel to pick the crewman up
- Have a means for getting the crewman back on board such as a sling, ladder or tires
- If possible have another crew member don an immersion suit or lifejacket and attach a safety line to assist in retrieval.
- If the man overboard is not immediately located, notify the Coast Guard and other vessels in the vicinity



Fighting a Fire



If using an extinguisher:

- P** – pull the pin
- A** – aim low at the base of the fire
- S** – squeeze the handle
- S** – sweep from side to side

Vessel Specifics

Find the fire and assess the size

Inform

- Sound the general alarm and notify all hands.
- Activate emergency fire procedures.
- Call for help.
- Account for all crew.

Restrict the fire

- Shut off air supply to the fire.
- Close, vents, portholes, hatches, doors, windows and other openings.
- Shut off electrical systems supplying the affected space.
- If fire is in the engine room, shut off fuel supply and vents.
- Maneuver vessel to minimize the effect of wind on the fire.
- Do not activate fixed system (CO2) before ensuring everyone has been evacuated from the space.

Extinguish the fire

- Use the appropriate extinguisher for the type of fire.
- Extinguishing the fire should be done as soon as possible.
- Assign someone to monitor potential re-ignition of the fire.

ALERT
EVACUATE
EXTINGUISH

If water is used to extinguish the fire make sure you have procedures in place to prevent stability issues.

If unable to control the fire, prepare to abandon the vessel.



Vessel Damage Control

There are no shipyards at sea!

Following some basic steps and having a damage control kit readily available puts you in a better position to deal with an emergency flooding situation.



Do you have the pumping capacity you need? Find out before you have an emergency.

Table of Flooding Rates (gallons per minute)

Distance below water-line in feet	Diameter of Opening in Hull (inches)							
	1 inch	1.5 inch	2 inch	2.5 inch	3 inch	3.5 inch	4 inch	6 inch
1 foot	20	44	79	123	177	241	314	707
2 feet	28	62	111	174	250	340	444	1000
3 feet	34	77	136	213	306	417	544	1224
4 feet	39	88	157	245	353	481	628	1414
5 feet	44	99	176	274	395	538	702	1581
6	48	108	192	301	433	589	770	1731
7	52	117	208	325	468	636	831	1870
8	56	125	222	347	500	680	889	1999
9	59	133	236	368	530	722	942	2121
10	62	140	248	388	559	761	993	2235

Assess the Damage

- Determine whether or not available pumps can keep up.
- Alert crew and see that they are prepared to assist or abandon ship if necessary.
- Alert the Coast Guard of the situation.
- Determine whether it is safe to enter the flooded compartment and attempt damage control.
- Trace the source of flooding.

Control the Flooding

- Identify all sources of flooding.
- If possible, isolate flooding by closing watertight doors & hatches.
- Disengage machinery that may make working in flooded area hazardous.
- Jam materials into the breach to slow the flow of water (a mattress may work for larger holes).

Wrap cloth or other material around wedges and plugs for a tight fit

- Bolster patches or plugs with shoring or nail-on patching.

- Lay a tarp against outside hull and secure over the breach.
- Use pumps to remove as much incoming water as possible.
- Give Coast Guard regular updates.
- Close off above the waterline holes, such as drains and discharges that can siphon water into the boat should it sink below their levels.
- Ensure patches are secure before attempting to get underway.
- Maintain a watch at the source of flooding .

Vessel Damage Control Kit

Most vessels have tools and materials on board for damage control. Assemble these items in a common location where they are easily accessible, transportable and complete.

Crew should be familiar with the location, contents and use of the kit and reminded not to use the contents for non emergency projects.

Our kit is located:

DAMAGE CONTROL KIT SUGGESTED CONTENTS:

TOOLS:	SUGGESTED USE:
Hacksaw	cutting pipe, metal, hose, & wood
Adjustable wrench	
Stainless Steel Multi bit screwdriver	
5/16" Nut driver	tightening hose clamps
Vice Grips	
Pipe wrench	
Channel lock wrench	
Hatchet	shaping wood, cutting wedges, driving nails
Headlamp	hands-free lighting
Utility knife	
PLUGS & PATCHES:	
Bicycle inner tubes	wrapping split pipes
Flexible gasket material	gasketing patches/wrapping pipes
Oakum	filling cracks
Soaker pads	filing cracks/removing oil from area
4 (+/-) Tapered wood plugs	plugging pipes/hoses/thru-hulls
Wood wedges	securing shoring/plugging cracks
Plywood patches	patching
HARDWARE & SUPPLIES:	
Plastic tie wraps	securing wrappings & loose pipes
Woodscrews	can be driven with hammer
8x Hose clamps various sizes	securing patches on pipes
Gloves	
Duct tape	
Rubber weld tape	wrapping pipes/hoses/electrical splices
2x Epoxy putty	
Twine	
Tie wire/haywire	

Keep a large tarp on board as well for covering large areas of hull damage

Immersion Suit Donning and Maintenance

Your life may depend on your ability to quickly don an immersion suit. Regular drills will improve your donning time and familiarity with your suit. Donning practice (including getting in the water) will also identify any issues with your suit such as leakage or zipper failure.

Regular drills and maintenance should take place prior to leaving the dock, so that any identified defects may be repaired.

These are general instructions. Not all immersion suits are the same. Carefully read and follow the manufacturer's instructions for your suit.

IMPORTANT!

- Water cools your body 3 times faster than air so avoid going into the water unless absolutely necessary.
- Practice donning to know how to properly seal your suit to keep water out.
- Water inside immersion suits does not warm up – leakage of as little as 2 cups of water will reduce insulation by 30%.



Face Seal Suits

Step 1

This style of suit is best donned while sitting because vessel movement or list may make it difficult to stand.

While sitting, work your legs into the suit. Put your weaker arm into the sleeve of the suit, then reach up and pull the hood over your head with your free hand. Then place your strong arm into the sleeve of the suit.

Step 2

Pull up the toggle to fully close the zipper.

Step 3

Secure the flap over your mouth.

Step 4

Inflate the bladder only when you are in the water.

In order to properly seal this suit and keep out water you **MUST** seal the hood around your face. Put on extra clothing if you have it.

Hoodies may make it difficult to properly seal the hood.

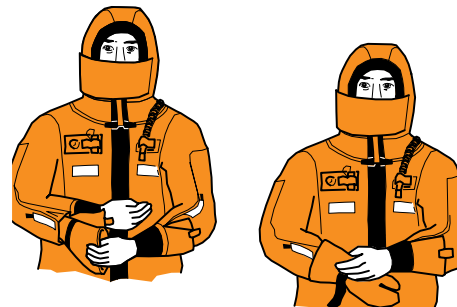
If you need to leave your boots or shoes on (if the suit does not come with a boot feature), putting plastic bags over them makes it easier to get the suit on.



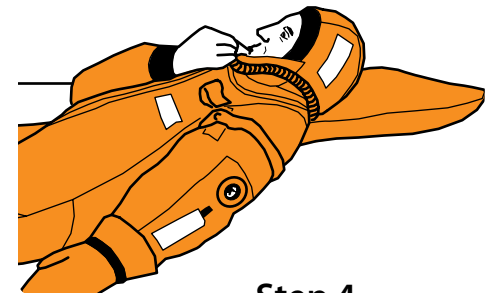
Step 1



Step 2



Step 3



Step 4

Diagrams courtesy of AMSEA.

Neck Seal Suits

Step 1

Remove shoes and add as many layers of clothing as possible. Step into suit one leg at a time and pull suit up as much as possible.

Step 2

Holding fingers together, insert one arm at a time through sleeve wrist seal.

Step 3

Reach to shoulders and pull neck seal over head.

Step 4

Holding zipper together at one end, pull lanyard across chest to close zipper. Make sure zipper is completely closed.

Step 5

Expel excess air through neck seal.

Step 6

Pull hood on. Put on gloves. Enter water.

Step 7

Inflate air bladder in water. Tether yourself to others, use whistle to attract attention.

Remove shoes and add as many layers of clothing as possible. Step into suit one leg at a time and pull suit up as much as possible.



Step 1



Step 2



Step 3



Step 4



Step 5



Step 6



Step 7

Abandon Ship

The order to abandon ship must be given by the master only.

This command is given when all attempts to save the vessel have been exhausted and the lives of the people on board are endangered.

This means the liferaft or immersion suit has become the best shelter.

As long as the vessel continues to float, and there is a relatively safe area for persons on board, including an escape route to the liferaft, the vessel remains your best means of survival.

You will not get sucked down with the vessel when it sinks. This is a myth.

Do you know all your escape routes in an emergency?

Preparations should include the following depending on time and circumstances:

- Establish radio contact with the Coast Guard.
Do not let pride or panic cause you to delay making a distress call.
- Sound the alarm and alert the crew to get to their emergency stations, prepare the survival gear and begin their assigned survival duties.
- Don warm clothing and immersion suits. Hoodies could interfere with the hood seal.
- Know how to put on your immersion suit or PFD before you need it.
If you have to learn this while in cold water, it may be too late.
- Prepare to launch liferaft.



Launching a Liferaft



Vessel Specifics

Step 1

Know where the liferaft is, keep in mind that where the liferaft is stowed may not be the best place to launch. Look for an area where the liferaft can be easily accessed and not get tangled in rigging.

Step 2

If you move the raft to the deck for launching, make sure you untie and re-secure the painter line to the vessel.

Step 3

Try and launch on the lee (**calmer, wind protected**) side of the vessel.

Step 4

After launching pull the painter line until the raft inflates (there may be as much as 100 feet of painter line).

Step 5

Wait for the raft to fully inflate with the canopy erect before boarding. Boarding too soon could interfere with the inflation. If you must cut the painter line for any reason, there is a safety knife stowed near the raft entrance.

Step 6

Activate EPIRB and tie it outside the raft.

Step 7

Account for all persons on board.

Calling For Help

Every crew member should know how to call for help.

Methods can include:

- VHF Radio
- Cell Phone
- Flares
- EPIRBs



Distress Broadcast

1. SEND DSC ALERT

Ensure radio is on. Activate the “red distress” button.

2. SEND DISTRESS CALL ON VHF CH16

MAYDAY MAYDAY MAYDAY

This is fishing vessel _____,

fishing vessel _____,

fishing vessel _____,

POSITION _____

NATURE OF DISTRESS AND AID REQUIRED _____

NUMBER OF PERSONS ON BOARD _____

Listen for acknowledgement. If no one answers repeat.

3. ACTIVATE EPIRB BY FOLLOWING DIRECTIONS PRINTED ON IT.

4. Take the EPIRB with you and tie it to the outside of the survival craft with the antenna pointed upward.

Safety Orientation and Drills Log

Now that you have designed your vessel specific program, make sure you log it.

Document the date, list names of crew who participated and check what drill was completed.

[illegible]