Chapter 9

Health and Safety Information

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I. Introduction

Commercial fishing is a very dangerous occupation. Slippery decks, heavy gear, and an inhospitable environment are inherent dangers on fishing vessels. The safety and survival information presented in this manual and in the observer safety training is only an introduction to these topics. There are many pamphlets, books, and videos that provide more detailed information about sea safety and survival. A good book to read about vessel safety is the University of Alaska's Marine Advisory Bulletin "Beating the Odds on the North Pacific", which should be provided during observer training. You are also encouraged to use the experience of your fellow observers and staff as a resource for safety issues. Use the knowledge and experience of the vessel's captain and crew for guidance on safety on board their vessel. No matter how cautious the crew is it is **always the observers' responsibility** to keep themselves safe and to know how to react properly in an emergency.

II. General Health and Safety

Personal Health and Safety Aboard Vessels

Fishing vessels have many potentially dangerous areas. Be aware of your surroundings at all times and keep your eyes and ears tuned to what is going on. Long and/or late hours, the environment, the food, and the work may be quite different from what your body is accustomed to. Two critically important factors in maintaining health in this new environment are drinking plenty of water and eating enough food.

First Aid and CPR

All WCGOP observers are required to have current American Red Cross first-aid and adult CPR certificates.

Review first-aid and CPR procedures regularly and always bring the first-aid kit issued to you with you to sea. Realize that you may be the most knowledgeable person in first-aid and CPR on the vessel.

Weather

Before ever trip observers should check the NOAA weather forecast and buoy reports. Forecasts are predictions and may change, while buoy reports are the actual conditions at the buoy. Forecasts can be checked via VHF radio, weather radio, or online. If you are unsure about what weather is safe for a particular vessel, consult with local observers, leads, and/or your coordinator.

You can access NOAA forecasts and buoy reports from:

http://www.wrh.noaa.gov/

General Safety Precautions on Board

- Apparel with loose strings or tabs and jewelry such as rings should be avoided as these can become caught in equipment or moving belts. Long hair should be tied back.
- Observers should use a dolly to transport gear from their vehicle to the vessel.
- Don't run aboard ships, particularly up stairwells. Always hold handrails in stairwells and on ladders. Try to always keep a hand free to hang on to the vessel. Remember "one hand for you and one for the vessel". Slipping, tripping and falling are some of the most common causes of injury.
- When climbing on or off a vessel, you should not be encumbered with heavy backpacks or baggage. Balance is important and both hands must be free while boarding or leaving a vessel. Use a daypack and wear comfortable

footwear such as Xtra-Tuffs or athletic shoes that give sure footing. Time your actions with the movement of the boat; i.e. start the climb up a ladder from the top of the up-and-down cycle to avoid being pinched against the ladder by a moving boat. All baggage should be secured with lines and transferred via rope lines or cargo nets. Observer baskets and luggage have been lost overboard because they were thrown without lines attached. Embarking and disembarking are times where injuries are likely to occur, so be extra careful. Ask for assistance from the crew when loading and unloading your observer gear.

- Fatigue and sleep deprivation suffered by the crew and by the observer are threats to everyone's safety. Be conscious of your own physical state as well as that of others on the vessel-whether the person on watch or the person in control of the gear. Fatigued individuals are more likely to make mistakes. Monotonous work, such as longline tally sampling, is difficult to do accurately and safely when tired. Follow the example of the crew and "catch up" on sleep when there are breaks in fishing.

- Bring things from home that will comfort you and can occupy your time during slow periods. Books, magazines, games, favorite articles of clothing, and pleasant smelling soaps, are all examples of things you could bring along. These will help you deal mentally with the sometimes psychologically straining effect of life at sea on a fishing vessel.

- Vegetarians (due to meat-and-potatoes menus) and diabetics (due to odd eating schedules) need to be especially concerned about getting a proper diet. You should bring your own food, dietary supplements, vitamins, and extra medications.

- There is absolutely no place for drugs or alcohol aboard fishing vessels. Stay sober at all times. Also be aware of

side-affects of any prescription medications you may be taking. Those that cause drowsiness or fatigue may not be suitable for life at sea. Talk to you doctor and program staff if you have questions.

- Before you leave the dock review all the safety procedures with the captain and crew; be sure everyone knows their responsibilities in emergencies.
- Keep in mind where you are in the vessel in relation to all of your exit/escape routes. Visualize how you would evacuate and retrieve your safety gear from wherever you may be on the vessel. Visualize your evacuation routes with the vessel in different orientations i.e. on its side, upside down.
- When you are not feeling well, use extra caution and reduce the time spent working.
- Inform the captain and the program of any injuries or illnesses that occur at sea. Document these in your logbook.
- Wash your hands frequently with hot soapy water and/ or sanitizer to reduce your chance for illness and infections.
- Treat all cuts, burns and other wounds seriously and apply appropriate first aid to avoid infections.
- Be aware of confined spaces, such as sleeping quarters, that contain chemicals. Fumes can build up in confined spaces and make people ill or even kill them.

Working on Decks

- Always wear an approved personal flotation device (PFD) and proper boots whenever you are on deck, embarking or disembarking a vessel. Never board or get off a vessel without someone else present and aware of

your actions. This seemingly simple task has can result in injuries or even death.

- Wear appropriate gear when on deck sampling, rain gear, coat, gloves, hat etc. Try to stay as warm and dry as possible. Fleece will insulate you better and keep you drier in a wet climate than cotton will.

- Do not stay outside on the deck during rough seas. One observer was swept forward over a trawler's winches by waves sweeping up the stern ramp. When outside, remain in full view of a second party at all times. Never be on deck alone without the crew's awareness.

- Watch out for slick spots where the deck is wet and oily or frozen, step carefully over the half-foot combing rising from the bottom of metal latch doors and passageways, and look out for low overheads in vessel stairwells and watertight doors.

- Always check for open hatches on fishing vessels. Observers have been hurt falling into open hatches on deck and in the house.

- Beware of trawl cables under strain, they have given way and have maimed and killed fishermen. Whenever a cable is subjected to tension, stand out of the way of backlash. Ask the skipper where they want you to stand when hauling or setting gear. On trawlers try to sample in an area where you don't have to duck under the mainwires to dump discard.

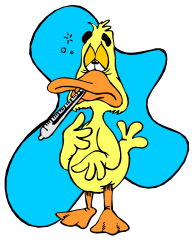
- Explain to the crew how you plan to sample the haul. Ask for advice on a safe place to stand and sample. When nets are being hoisted off the deck, stand clear. Heavy nets have fallen near observers when the suspending cables parted.

- Watch for moving pots and face the direction of the pot launcher while working. Stay away from the buoy line

when the crew is launching pots. Crewmen have been caught in a loop, or the "bite," of the line and pulled overboard.

- Talk with the crew about safe places to sample when on deck. Ask where previous observers have sampled. Don't be afraid to voice concerns on sampling stations, or to ask for help in making a sampling station safer.
- Lift correctly! When lifting, get as close as possible to the object, keep the back straight while using your legs. On a moving vessel, this is critical because unexpected movements can cause back strain. Don't be afraid to ask for assistance when moving large heavy items. See Proper Lifting Techniques on page 14.
- Wear eye protection on longliners whenever near the moving hooks.
- Protect your hands from injury by wearing gloves while sampling.
- Use a gaff to collect fish to protect your hands and keep your body further away from the line.

Seasickness



One of the least pleasant aspects of going to sea is the possibility of seasickness. An individual's susceptibility to seasickness is highly variable. Observers that have experienced motion sickness in cars, planes, or amusement park rides, may experience seasickness during the cruise. Most people feel some level of discomfort when they first go to sea. Seasickness is a result of a conflict in the inner ear (where the human balance mechanism resides) and the eyes, caused by the erratic motion of the ship through the water. Inside the cabin of a rocking boat, for example, the inner ear detects changes in linear and angular acceleration as the body bobs with the boat. But since the cabin moves with the passenger, the eyes register a relatively stable scene.

Agitated by this perceptual incongruity, the brain responds with stress-related hormones that can lead to nausea and vomiting, similar to a poison reaction. This effect can be magnified by strong smells (like diesel fumes or rotten fish, which are part of daily life at sea). Seasickness usually occurs in the first 1-24 hours at sea. For most people, seasickness dissipates when the body becomes acclimated to the ship's motion (getting one's "sea-legs"). In rare cases, an individual may stay ill beyond the first couple of days at sea, regardless of sea state. If this occurs, dehydration may become life threatening if it leads to shock.

If you know you will be seasick or are unsure if you will be, you can take seasickness medication before going to sea. There are several over-the-counter or prescription medications available to minimize seasickness.

- **Dramamine** (generic name is dimenhydrinate) is an effective antihistamine and is available over-the-counter. It can cause drowsiness.
- **Bonine** (generic name is meclizine) is an effective antihistamine and is available over-the- counter. It can cause drowsiness.
- **Coast Guard Cocktail** is a two part prescription-only drug that contains promethazine. It is a seasick-preventing antihistamine coupled with ephedrine, which prevents drowsiness.
- **Transderm Scop** is another prescription-only motion sickness drug. It is a dime-sized adhesive patch that is worn behind the ear and delivers a continuous dose of scopolamine. Each patch lasts for 72 hours. The main side effects of the patch are dry mouth and occasionally blurry vision, but there is less drowsiness.
- **Acupressure** wristbands and eating crystallized ginger are other remedies used with varying success.

To be effective seasick medications must be taken before the symptoms begin. Most medications take several hours to be absorbed into the body. If you are vomiting and cannot keep anything in your stomach taking medication at sea will not be an option. Even if you doubt that you will get seasick, you might want to take the medication before you board as a precaution against rough weather. If you do get seasick, take comfort in the fact that recovery is only a matter of time. All that is usually required for a complete recovery is some patience. Here are a few tips and considerations regarding seasickness:

- Continue eating items like crackers; dry toast, dry cereal, etc. (avoid anything greasy, sweet, or hard to digest). Keeping something in your stomach suppresses nausea, or, when vomiting, eliminates painful "dry heaves".
- Keep drinking fluids. Seasickness and related medications cause dehydration and headaches. Try to drink juices low in acidity, clear soups, or water, and stay away from milk or coffee.
- Focus on the horizon to eliminate the visual conflict in your brain.
- The vessel's motion is generally less pronounced the further astern you go. Try to stay as far back from the bow as possible.
- Keep working. Most people find that being busy on deck keeps their minds off their temporary discomfort. Also, the fresh air out on deck is often enough to speed recovery.
- Carry a plastic bag. This simple trick allows some peace of mind and eliminates some of the panic of getting sick. When vomiting over the side, be aware of which way the wind and waves are coming. Going to the leeward side will ensure that an unpleasant experience doesn't become any more unpleasant.

- Above all, don't be embarrassed or discouraged. When observers are seasick, chances are that others people on board are seasick too! No one is immune to seasickness.

Fish and Mammal Poisoning

Bacteria from fish may lead to infection in cuts, scrapes, or punctures. To prevent "fish poisoning", wash your hands thoroughly after sampling in a solution of hot, soapy water. Change gloves often to keep them dry and discard any torn gloves. Treat **all** minor cuts, especially those on your hands, with antiseptic such as Betadine to avoid infection from fish slime.

Be cautious whenever wading through fish on deck. Fish spines, especially on rockfish, can penetrate rubber boots and cause painful wounds to the feet. Spines often carry bacteria and can lead to fish poisoning.

If a wound gets red or swollen, soak it for ½ hour in very hot, soapy water at least three times a day. Dry and bandage the wound. Antibiotics are commonly prescribed for fish poisoning. The vessel will probably have some on board should they be needed. Never leave an infection untreated--the threat to your health can become much more far-reaching than simply a pair of inoperative hands.

Take extra precautions against infection when collecting specimens from marine mammals. Mammals have similar biological systems to people and the organisms that infect them, can infect people to. "Seal finger" is a fungal infection of the hands that can easily be contracted by a scratch or bite from a marine mammal.

Illness and Accidents

Observers must contact a coordinator and AOI any time an injury occurs or any time illness or injury prevents sampling!

If you become ill on board, such as coming down with a severe cold or flu or seasickness that inhibits work, you must inform your coordinator of the situation. If the illness gets worse or continues to affect your work for more than three days, your assignment may need to be changed. If you are hurt on board, let the skipper know and contact AOI and your coordinator. If the accident is serious, the captain will contact the USCG who will respond as necessary.

Heavy and Repetitive Lifting

The duties of WCGOP observers are physically demanding. The position requires not only heavy lifting but also repetitive motions. In addition, observers are subject to unstable and unpredictable footing. Even in calm weather the observer will be subject to the rocking and rolling of the vessel. The vessel's decks may be covered in seawater, blood, fish slime, etc. Because of these compounding factors observers should always be thinking about avoiding injury and utilizing proper lifting techniques. Most observers at some time in their career will experience back pain or injury, but with the use of proper techniques and awareness many injuries can be avoided.

Proper planning may be the most effective means of reducing the potential for back injury. Before sampling on a vessel an observer should visualize the flow of fish and have a plan in place to avoid injury. Things to ask yourself before lifting baskets:

- How heavy is the basket? Can it be filled halfway twice?
- What can be done to minimize the number of lifts required or the amount of weight lifted? Can a basket be filled while it is on the scale?
- Where does the basket need to be moved to? Can it be slid across a rail or hatch instead of carried?

- What route does the basket have to follow? If it must be lifted can twisting be avoided?

Proper Lifting Techniques

Even with proper planning and utilizing proper lifting techniques to avoid excessive lifting, observers will frequently need to lift and move baskets that are heavy. Using proper lifting techniques can help to avoid injuries. When lifting:

- Size up the load before lifting, think about technique.
- Squat, don't bend (use your legs as much as possible).
- Stick chest out and back straight (Similar to proper sitting position).
- Keep feet apart at shoulder width.
- If possible stagger feet (similar to a lunge lift, but less exaggerated).
- Keep weight close to the body.
- Raise up with head first and chest out.
- If turning, turn with feet not body.
- Do not jerk or twist.
- Put the weight down the same way it was lifted (bend knees and not the waist).
- Wear shoes with non-slip soles.

AOI's Recommended Stretches and Exercises

AOI has provide information about exercises that observers can do to strengthen their core muscles with the goal of preventing back injuries. In Figure 9-1, page16 and Figure 9-2, page17 are instructions for four exercises that AOI recommends observers incorporate into their their daily

routine. West Coast observers in particular have jobs that make lifting-related injuries more likely than they might be otherwise. Observers often have several weeks of relative onshore inactivity followed by periods during which observers go out at sea and work on deck sampling for about 10 days at sea, while other observers will have shorter trips with periods of inactivity on deck followed by hours of heavy lifting. Most back injuries have occurred when they are sampling on deck. Core strengthening exercises offer a meaningful way for AOI to address risks posed by the combination of both 1) light-duty onshore periods that alternate with physically intense at-sea periods and 2) the cycles of rest and sampling that make up longer trips at sea.

While onshore between trips, observers can do all four of the recommended exercises in fifteen minutes per day. While at sea, observers can use one or more these exercises to activate the core muscles before beginning sampling (abdominal crunches, for instance, could be done in your bunk or on the galley floor).

Core Strengthening Exercises

Because the muscles of the trunk and torso stabilize the spine from the pelvis to the neck and shoulder, they allow the transfer of powerful movements of the arms and legs. The "core" actually consists of many different muscles that stabilize the spine and pelvis and run the entire length of the torso. These muscles stabilize the spine, pelvis and shoulder and provide a solid foundation for movement in the extremities.

Abdominal Crunch

Recommended Repetitions: 2 sets of 50

- Lie on your back and place your feet on a wall so that your knees and hips are bent at 90-degree angles. Tighten your abdominal muscles.
- Raise your head and shoulders off the floor. To avoid straining your neck, cross your arms on your chest rather than locking them behind your head. Hold for three deep breaths.
- Return to the start position and repeat.

Bridge

Recommended Repetitions: 2 sets of 15

- Lie on your back with your knees bent (A). Keep your back in a neutral position, not arched and not pressed into the floor. Avoid tilting your hips. Tighten your abdominal muscles.
- Raise your hips off the floor until your hips are aligned with your knees and shoulders (B). Hold for three deep breaths.
- Return to the start position and repeat.

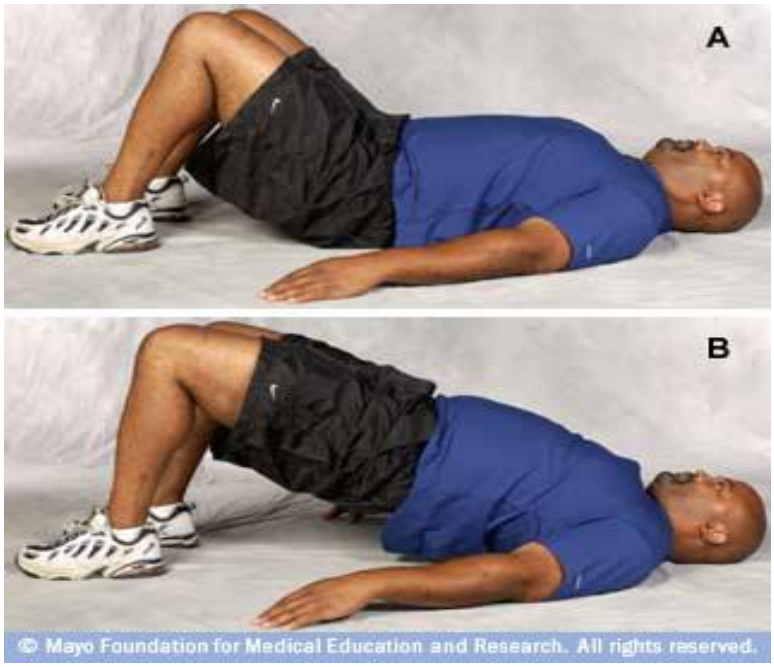


Figure 9-1: AOI's recommended stretches and exercises to help avoid injuries.

Segmental rotation

Recommended Repetitions: 2 sets of 15

- Lie on your back with your knees bent and your back in a neutral position. Tighten your abdominal muscles.
- Keeping your shoulders on the floor, let your knees fall slowly to the left (A). Go only as far as is comfortable. You should feel a stretch, but no pain. Hold for three deep breaths.
- Return to the start position. Repeat the exercise to the right (B).

Modified Plank

Recommended Repetitions: Starting with holds of 15 seconds, working up to one minute, once per session

- Lie on your stomach. Raise yourself up so that you're resting on your forearms and your knees. Align your head and neck with your back, and place your shoulders directly above your elbows. Tighten your abdominal muscles.
- Create resistance by pressing your elbows and your knees toward one another. Neither should move from their positions on the floor. Hold for three deep breaths.
- Return to the start position and repeat.

Figure 9-2: AOI's recommended stretches and exercises to help avoid injuries.

Carpal Tunnel Syndrome

Heavy lifting is not the only concern with observers and back injuries. Carpal Tunnel Syndrome (CPS) is another injury that has occurred with WCGOP observers. CPS occurs when the median nerve, which runs from the forearm into the hand, becomes pressed or squeezed at the wrist.

Causes of Carpal Tunnel Syndrome

Doing the same hand movements over and over can lead to carpal tunnel syndrome. It's most common in people whose jobs require pinching or gripping with the wrist held bent. People at risk include people who use computers, carpenters, grocery checkers, assembly-line workers, meat packers, violinists and mechanics. Hobbies such as gardening, needlework, golfing and canoeing can sometimes bring on the symptoms.

Carpal tunnel syndrome is linked to other things too. It may be caused by an injury to the wrist, such as a fracture. Or a disease such as diabetes, rheumatoid arthritis or thyroid disease may cause it.

Symptoms of carpal tunnel syndrome

- Numbness or tingling in your hand and fingers, especially the thumb, index, and middle fingers.
- Pain in your wrist, palm or forearm.
- More numbness or pain at night than during the day. The pain may be so bad it wakes you up. You may shake or rub your hand to get relief.
- More pain when you use your hand or wrist more.
- Trouble gripping objects.
- Weakness in your thumb.

Early detection allows for early treatment which can prevent serious cases. WCGOP observers should report any signs or symptoms of CPS to their employer immediately.

Coast Guard Boarding

If the Coast Guard boards your vessel, introduce yourself and let them know that you are a fisheries observer. Do not participate in any discussions between the Coast Guard and the crew.

Cooperate with the boarding party and honestly answer any questions. Coast Guard officers receive very little fish ID training and may ask assistance in identifying species of fish and invertebrates. Make sure your logbook and paperwork are in order in case they are requested for review. **Do not give away your original forms or your logbook**, refer them to the WCGOP for copies of the data.

Try to find a private location if someone in the boarding party wishes to question you. If you are questioned, answer all questions completely and honestly. You are a source of objective information for the boarding party. You should cooperate fully and not hamper their investigation.

Have the boarding party call your coordinator if they have any questions that you are unable to answer or if any issues arise.

Harassment

It is of the utmost importance to the WCGOP that observers are provided a safe and hostility-free work environment. Observers can be subject to negative attention, comments, or actions as vessels often see them as unwelcome government agents or even "fish cops". It is the responsibility of the contractor (as the employer) and the vessel's personnel (by regulation) to ensure observers are not verbally, physically, or sexually harassed.

Harassment of observers by vessel personnel is strictly prohibited in 50 CFR 679.7 9(g). (see Appendix for Regulations text) "It is illegal to (1) Forcibly assault, resist, oppose, impede, intimidate, or interfere with an observer."

Identifying Harassment

Harassment can take many forms such as:

- Repeatedly waking an observer during sleep periods.
- Providing substandard accommodations and food.
- Criticizing an observer's sampling techniques or reporting practices.
- Excessive/Inappropriate teasing or ribbing.
- Interfering with an observer's sampling.
- Intentionally throwing discarded species over that are requested by the observer.
- Tampering with an observer's gear.
- Intimidating an observer.
- Barring an observer from areas they need access to-do their job.

In all cases, harassment is defined as when the observer feels threatened or feels that their work or living environment is being compromised.

Sexual Harassment

Sexual harassment is unwelcome behavior of a sexual nature. Privacy is greatly reduced onboard a vessel, and interactions can become intense very quickly.

Sexual harassment may include sexist remarks or behavior, or sexual advances which result in a tense and unproductive work environment. Examples of sexual harassment include:

- Suggestive sounds or gestures.
- Sexual remarks about ones clothing, body or sexual orientation.
- Leering or ogling.
- Persistent sexual comments and jokes.
- Constant brushing against or touching a person's body.

Sexual harassment is unwanted attention in a nonreciprocal relationship (relationships with vessel and plant personnel are prohibited under observer standards of conduct). In most normal interpersonal relationships, an individual can exercise free choice in deciding to develop a relationship based on mutual caring and respect. These elements are absent in sexual harassment. If you feel sexually harassed remember that it is not your fault! Take the appropriate steps to address the situation, contact help, and document thoroughly.

What to Do if Observers Experience Harassment

Observers who experience harassment in any form should confront it directly and document it completely. By reporting harassment, you protect future observers as well as yourself. Please report any cases of harassment to the observer Program and NOAA Fisheries Enforcement as soon as possible. The agency is unable to help with problems if they are unaware of them.

Tip* Observers should not feel embarrassed to report harassment or worry that they did something to provoke the unwanted behavior. Remember, unreported harassment not only affects your ability to do your job but it will set a precedent for the treatment of future observers on that vessel.

Follow these steps when you experience harassment:

1. The FIRST time an observer feels uncomfortable or feels that a crew member has crossed a line, tell the offender to STOP. In this conversation the harasser should be told that his/her comments, actions or advances are unwanted and that they should stop.

   Tip* Remember that you are the judge of whether another person's actions negatively affect you.

2. Don't fight fire with fire. Observers should behave professionally at all times. Make sure that verbal and non-verbal body language exhibit a clear message to the harasser to stop.

3. Document all harassment incidents from the very beginning in the logbook. Record the details of the event assuming that the harassment could escalate. It is easier to do it initially than to come back and reconstruct it weeks later. In the logbook, describe the situation, including who, what, where, when, why and how. Refer to the daily notes instruction page in your logbook for more documentation details. Be as detailed as possible. Include direct quotes, accurate times and dates, any witnesses present, circumstances surrounding the event and any other important details. Detail all attempts made to end the harassment and the responses that were received.

4. If the initial harassment is egregious or if the problem continues after clearly asking the harasser to stop, report it to the skipper. Tell the skipper the full story, explain that it is affecting your work, and request that he take steps to end the problem. Most skippers do not want trouble on the boat. If the skipper is informed that trouble is brewing, he should take appropriate action.

Document any further incidents and the skipper's actions.

5. If the harassment is not taken care of by the skipper, if the issue is with the skipper, or if there are other problems with the skipper, report the offense to a coordinator and your contractor at the first opportunity, use your cell phone at sea if necessary. If there is no resolution, the coordinator will make arrangements for you to leave the vessel.
6. In an emergency situation contact help immediately, don't wait until you get to shore! Using your cell phone, vessel VHF or single side band radio or your EPIRB in an extreme emergency, contact your coordinator, contractor, USCG, police or other help ASAP.

Affidavits

You may be asked to fill out an affidavit when you return to shore.

An affidavit is an official account of the incident. It will assist the WCGOP and Enforcement in tracking problems on vessels. It is important to bring all harassment issues to the WPGOP staffs' attention as soon as possible. Documenting each incident will help to create an official record that can be used by WPGOP staff or Enforcement when dealing with harassment issues.

Situations that require observers to complete affidavits include:

1. All harassment/intimidation issues.
2. All failure to comply with NMFS Safety regulations.
3. All sampling bias issues.
4. All failure to notify issues (as per coordinators judgment).

III. Survival at Sea

The 7 steps to Survival

The USCG assembled the Seven Steps to Survival from personal experiences of those who survived emergency situations. Committing the seven steps to survival to memory should be one of the goals of every observer learning how to survive at sea. Every time the situation changes-boarding a raft, reaching land, etc., the seven steps begin again.

1. **Recognition** - You must quickly recognize the seriousness of the situation and that your life is in danger. Hesitation or denial may cost your life.
2. **Inventory** - Stop and assess the situation. Decide what you have that will help you survive and what are the hindrances. Inventory equipment, weather, your skills, injuries, and your mental condition. Doing so will help you to make good decisions that will help you survive.
3. **Shelter** - Your biggest enemy is the cold. Shelter can be clothing, an immersion suit, a raft, or an overturned vessel-anything that protects you against the loss of body heat. Water can take heat away from your body much quicker than air, so shelter also helps you keep as dry as possible. High heat loss areas, including the head and neck, need to be protected most. The added buoyancy of a PFD helps to keep your head and neck out of water, therefore conserving heat. In a shore survival situation, the seven steps to survival start over again and shelter is your first priority after you inventory the situation. It takes hours to construct adequate shelter on shore and you must do so as soon as possible.
4. **Signals** - Anything that attracts attention and conveys a message is a signal. Radios, EPIRBs, and flares are signals carried by vessels. Immersion suits have lights attached. You may have a signal mirror in your personal

survival kit. If abandoning ship, anything that can be tossed overboard may help an aircraft spot your position. **Anything that makes you bigger, brighter, or different from your surroundings is a signal,** so an attempt to gather items which float from a sinking ship should be made. In a shore survival situation, three of anything (fires, buoys, immersions suits on the beach) is an internationally recognized distress signal.

5. **Water** - It is recommended that humans drink two liters of water per day to stay healthy. You can live without water for only a few days, and will suffer dehydration from the onset of any abandon ship emergency. Life rafts have limited rations of water, so it is advised to gather as much as possible before abandoning ship, if time permits. Have a strategy for gathering extra water in an emergency. **Never drink seawater or urine.**
6. **Food** - A person can go without food much longer than without water. Never eat food without water-your body requires water to digest food. Life rafts are supplied with limited food rations. In a shore survival situation, many types of edibles can be found near shore. Almost any animals or green plants in the inter-tidal zone are edible, but avoid mussels and clams-they may cause paralytic shellfish poisoning.
7. **Play** - Studies have shown that mental attitude makes a positive difference in a survival situation. Play is anything that keeps you occupied and prevents your mind from dwelling on the difficulties you are facing. Play could be reading, telling jokes or stories, completing a task, improving your shelter-anything that keeps your mind active and focused.

Psychology of Survival

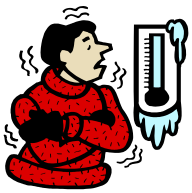
Often the reason some people survive emergencies and others don't is simply the "will to live" or the "will to survive". Maintaining a positive attitude in an emergency

situation and trying to regain a sense of control over your situation is very important for survival.

Some common themes that run through the stories of survivors:

- Accept your situation, but don't give in to it.
- Act like a survivor, not like a victim.
- Don't give up.
- Be positive.
- Have a plan.
- Pray.
- Play.
- Keep a positive attitude, and find the will to live!

Hypothermia



Harsh, cold, wet conditions as well as the chance of going overboard make hypothermia a real threat on fishing vessels. Hypothermia by immersion in water can occur in temperatures less then 91° F, and many deaths at sea due to drowning are actually caused by hypothermia.

Hypothermia by definition, is a cooling of the core temperature of the body. This happens when the body's heat production can't keep up with the body's heat loss. The five main heat loss areas are; the head (50% of the body's heat can be lost through the head), neck, armpits, sides, and the groin. These areas are essential to keeping warm and insulated while working on deck. Ways to prevent heat loss are by retaining body heat with proper clothing and insulation; regulating body heat by eating healthy and drinking warm drinks and by avoiding getting too wet. You should also be aware if you are overheating and adjust your layers as necessary.

Hypothermia can happen on land, a slower often harder to recognize form, or by immersion in water which is a rapid

onset, dangerous condition which requires rescue from the water. Both types of hypothermia happen in stages:

1. **Shivering.**
2. **Violent shivering, loss of coordination.**
3. **Unconsciousness.**
4. **Death.**

It is important to recognize hypothermia in order to treat it as soon as possible. Drop in temperature, feeling cold, depressed vital signs, slurred speech, staggering, reduced mental ability/impaired judgment and lack of response to stimuli are all signs of hypothermia. Victims with these signs should be considered hypothermic and treated accordingly.

Treating hypothermia patients is basically the same for all types, with a few differences depending if it is mild or severe and if a pulse and breathing are present.

For mild hypothermia

If a victim is mildly hypothermic (only feels cold, with no other symptoms) some exercise, food and drinks in small quantities if the victim can swallow and perhaps a warm shower may be appropriate.

For severe hypothermia

If the victim shows any signs of severe hypothermia (violent shivering, loss of coordination, or unconsciousness):

Treat Gently

- Don't force joints, or rub skin.

Increase Shelter

- Remove wet clothing.
- Increase insulation.

- Protect from elements.

Gently Rewarm Core

- Padded/insulated heat packs.
- **NO** exercise.
- **NO** food or drinks.
- **NO** showers.

Monitor and Transport to a Care Facility

Severe hypothermia without a pulse and no breathing

Treat severe hypothermia without a pulse and no breathing as described above in severe hypothermia and begin CPR. When in doubt of the level of hypothermia, assume the worse and treat appropriately.

Cold Water Near Drowning

Drowning victims who appear dead may be saved! Cold-water near drowning is a phenomena that has been observed in cold waters (under 70° F) where victims have been revived using CPR after being immersed in cold water for up to one hour. Victims appear to be dead but have been revived. In a cold water drowning event first rescue the victim from the water, then start CPR and prevent further heat loss and transport to a care facility. Keep in mind that although a victim looks dead, s/he may be revived by this technique.

The STAY Rules

If an emergency forces you into the water with or without your immersion suit and no raft, practice the STAY rules:

1. **STAY afloat.**
   - Wear a PFD, or immersion suit.
2. **STAY dry.**

- Immersion suits are the best protection in the water.
- Get out of the water as soon as possible.

3. **STAY still.**
   - Staying still decreases heat loss by 30% over swimming or treading water.
4. **STAY warm.**
   - Protect high heat loss areas; head, neck, armpits, sides and groin.
   - If prolonged water exposure is unavoidable, assume HELP or HUDDLE positions.
5. **STAY with the boat.**
   - Staying with an overturned vessel will give you shelter and make you a bigger signal.
6. **STAY together.**
   - Makes a bigger signal and promotes moral support.
7. **STAY sober.**
   - Drugs and alcohol have no place in an emergency situation.

Heat Escape Lessening Position (H.E.L.P.) and HUDDLE positions

When immersed in the water in an immersion suit or PFD it is important to assume positions that will help you stay still and conserve heat. The use of these tactics can double survival time over that of swimming or treading water. These positions cannot be assumed without flotation. These positions help conserve heat by protecting your main heat loss areas; head, neck, armpits, sides and groin. To assume the H.E.L.P. position float slightly on back and hold the inner sides of your arms tight against the sides of your chest to protect your armpits. Bend your knees and pull up your legs toward your groin as far as you can without tipping over. To assume the HUDDLE position

form large or small groups and form tight huddles to share body heat. Individuals without flotation or who are really cold can be put in the middle where it is warmest. Groups can also lay on their backs, head to toe, and holding on to each other leg's to form the RAFT position. Placing an injured person or someone without flotation on top to keep them warmer and out of the water. The HUDDLE and RAFT formations make you bigger, brighter, and different.

The best way to stay warm and dry is to stay out of the water in the first place.

IV. Equipment

Immersion Suit

An immersion suit is required for everyone aboard a vessel that operates in cold water. You will be issued an immersion suit with your gear. It is your responsibility to check and maintain your suit. If it gets wet, air-dry it out of direct sunlight. If you notice any rips, tears, punctures, or other damage, notify your coordinator. Check your immersion suit monthly and record the date of inspection in your logbook. Store your immersion suit in an easily accessible location out of harms way. One of the best locations is just inside the galley door. That way you can reach it easily while working on deck and when exiting the wheel house.

The procedure for donning an immersion suit is as follows:

1. Sit on deck and work your legs into the suit. It may be necessary to remove your boots. Placing plastic bags over your boots or feet may help your legs slide easier. If you choose to use plastic bags beware of them and make sure they do not get stuck in the zipper. People have died when a bag go caught in the zipper and their suit filled with water. If you can, leave your boots on or take them with you in your suit.

2. Once your legs are all the way in, get up on your knees. Place your weak arm in first, and then pull the hood over your head with your strong arm. If you have long hair, make sure that it is safely tucked in the hood. If you are wearing a hooded sweatshirt be careful not to mix the hoods up.

3. Holding the zipper below the slide with one hand, lean back to straighten the zipper and pull the lanyard with the other hand. Secure the face flap. Many times toggles or whistles attached to the zipper get caught during donning. **Do not** inflate the air bladder until in the water.

4. Jumping in the water is the last resort. Ease yourself into the water if possible. If jumping is necessary, face the bow or stern and place your vessel side arm over the side and top of your head for protection and with the other hand cover your mouth and nose and get a couple fingers inside the hood to allow air to escape from the suit upon entering the water. Step off the vessel, don't jump, and keep your feet together to protect from floating debris.

Personal Flotation Devices (PFD)

You will be issued either self inflating suspenders or a type III work vest as your PFD. Make sure that the PFD you are issued fits properly. It is a program policy to wear your PFD at all times while on deck. Check you PFD monthly for damage and to insure that the auto inflation mechanism is set correctly. Conduct a manual inflation test once a month and record the date of inspection in your logbook. Never wear a PFD inside a vessel unless instructed by the USCG. It may impede your ability to escape if the vessel sinks

EPIRBs (Emergency Position Indicating Radio Beacons)

All vessels operating outside of three miles will have at least one 406 MHz EPIRB mounted in a float-free bracket that will be automatically deployed and activated in the event of sinking. The signal is received by satellite, and in new styles, will identify the registered owner. It is important to know where the EPIRB is mounted and how to activate it manually. In the event of an abandon ship emergency it is an item you want to take with you. Someone will be assigned that duty on the station bill. Be sure to locate the EPIRB(s) on the vessel and read the directions on how to activate them.

In addition, observers are issued a personal 406 MHz EPIRB that either needs to be manually deployed or that automatically activate when placed in water. You should store your personal EPIRB with your immersion suit and take precautions to keep it dry. There have been several cases where the Coast Guard has received signals from observers EPIRBs that have accidentally gotten wet. If your EPIRB gets wet, wipe it off immediately. If it starts to transmit, call your coordinator and the Coast Guard.

Using EPIRBs

- In an Emergency, turn it on and leave it on.
- Protect it from loss.
- Keep it with you when you leave the vessel.
- Keep antennae vertical, out of the water.
- Do not allow antennae to touch any solid object; this prevents grounding.

Throw Ring

All the commercial fishing vessels you will observer are required to have at least one ring buoy or "Lifesling", unless they are less than 26' in length. Smaller vessels may substitute a type IV throwable cushion. These devices are

used to mark and or assist in the recovery of a man over board. Make sure you know where there are stowed.

Observer Safety Equipment Checklist

The Observer Safety Equipment Checklist is located in the Observer Logbook and is where observers document their monthly inspections of their safety gear. Go through the checklist every month at a minimum (before every trip is recommended) with your gear in hand and check off each item on the list that passes inspection. Include in the comments expiration dates, any servicing you perform, or comments. **If an item does not pass inspection bring it to the attention of you coordinator, lead observer or other WCGOP staff immediately.** They will get you a replacement ASAP. It is important to do timely inspections so that if replacement safety gear is needed it can be issued before your next trip. Again, it is very important to inspect your safety gear regularly as faulty gear may be of no help should you need it. Inspections are also a great time to practice using your safety gear, such as donning your immersion suit. It is the observer's responsibility to carefully inspect their safety gear and ultimately to insure their own safety.

Equipment Test Checklist

Observers should maintain program-issued safety equipment on a monthly basis to ensure its working properly. If any item does not pass the examination, notify your coordinator immediately so it may be replaced. Check your equipment at a minimum of once per month. ***Check off only those items that pass.***

Inspection date #1: _____ Inspection date #2: _____

Inspection date #3: _____ Inspection date #4: _____

406 EPIRBS

	1	2	3	4	Comments
No physical damage? (cracking corrosion, ect.)	☐	☐	☐	☐	_____
Tested PLB?	☐	☐	☐	☐	_____
Battery expiration date?	☐	☐	☐	☐	Exp. date 1:_____ Exp. Date 2:_____ Exp. date 3:_____ Exp. Date 4:_____
Registration expiration date?	☐	☐	☐	☐	Exp. date 1:_____ Exp. Date 2:_____ Exp. date 3:_____ Exp. Date 4:_____
No antennae damage? (cracks, washer at base)	☐	☐	☐	☐	_____

Beacon ID: _____

PLB

No physical damage? (cracking, corrosion, etc.)	☐	☐	☐	☐	_____
Tested PLB?	☐	☐	☐	☐	_____
Battery expiration date?	☐	☐	☐	☐	Exp. date 1:_____ Exp. Date 2:_____ Exp. date 3:_____ Exp. Date 4:_____
Registration expiration date?	☐	☐	☐	☐	Exp. date 1:_____ Exp. Date 2:_____ Exp. date 3:_____ Exp. Date 4:_____
No antennae damage? (bent, poor rotation, etc.)?	☐	☐	☐	☐	_____

Beacon ID: _____

Immersion Suit

No rips/tears/holes in Neoprene?	☐	☐	☐	☐	_____
Seam thread and inner seal glue intact?	☐	☐	☐	☐	_____
No grease/oil stains/ mildew?	☐	☐	☐	☐	_____
Zipper seams in good condition?	☐	☐	☐	☐	_____
Zipper waxed? (if necessary)	☐	☐	☐	☐	_____
Strobe attached securely?	☐	☐	☐	☐	_____
Strobe tested?	☐	☐	☐	☐	_____
Whistle securely attached?	☐	☐	☐	☐	_____
Whistle tested?	☐	☐	☐	☐	_____

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Figure 9-3: Observer Safety Equipment Checklist from Logbook.

Inflatable PFD

No rips/tears/holes?	☐	☐	☐	☐	_____
Seams in good condition?	☐	☐	☐	☐	_____
Straps and clips in good condition?	☐	☐	☐	☐	_____
Strobe attached securely?	☐	☐	☐	☐	_____
Strobe tested?	☐	☐	☐	☐	_____
CO2 indicator green?	☐	☐	☐	☐	_____
CO2 cylinder seal intact?	☐	☐	☐	☐	_____
Complete manual inflation test?	☐	☐	☐	☐	Test. date 1:_____ Test. Date 2:_____

Workvest PFD

No mildew?	☐	☐	☐	☐	_____
No foam shrinkage?	☐	☐	☐	☐	_____
No foam water-logging?	☐	☐	☐	☐	_____
No rips/tears/holes?	☐	☐	☐	☐	_____
Seams in good condition?	☐	☐	☐	☐	_____
Straps and clips in good condition?	☐	☐	☐	☐	_____
Strobe attached securely?	☐	☐	☐	☐	_____
Strobe tested?	☐	☐	☐	☐	_____

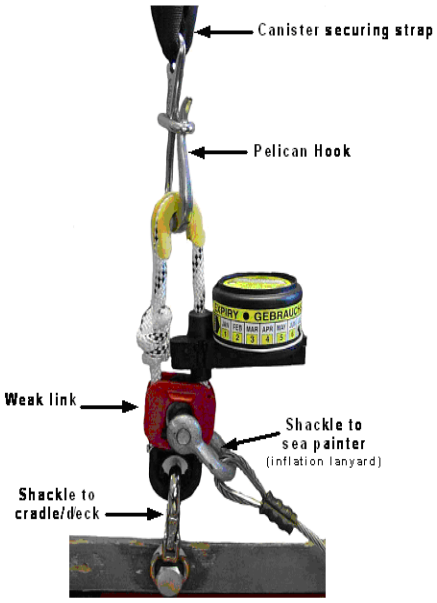
Figure 9-4: Observer Safety Equipment Checklist from Logbook.

Liferafts

Most vessels operating outside of three miles are required to have a liferaft. Liferafts are required by law to be mounted in a float free arrangement or have a hydrostatic release designed to automatically deploy the raft. It is better to manually launch and inflate the raft if there is time in the event of an emergency. Life rafts need to be serviced annually (except a brand new life raft which is good for two years from the manufacturing date). All liferafts need to have the repack /expiration date displayed on the canister. Never go on a vessel that is required to have a liferaft if it needs to be repacked, is not mounted correctly or has an expired hydrostatic release. Know where the liferafts are stored, how to remove them from the cradle, where to launch them, and how to inflate them.

Hydrostatic releases

Most life rafts and EPIRBs will be mounted with a hydrostatic release designed to automatically deploy the unit when submerged to several meters. Always check the expiration dates to assure that they are current and that the release is hooked up correct.



Launching a liferaft

1. Release hydrostatic release if present.
    - To release the hydrostatic release; release the pelican hook.
2. Secure painter only if someone can stand by with a knife to cut it if the vessel starts to sink quickly. Otherwise rely on the weak link built into the hydrostatic release or the float free weak link.
3. Carry, do not roll, canister to lee side (windward if vessel is on fire).
    - Near bow or stern.
    - Away from obstructions.
4. Make sure water is clear of people and debris.
5. Toss canister into water with painter secured.
6. Pull painter all the way out.
    - Up to 250'.
7. Give painter a hard tug.
8. Canister should split apart and raft should inflate.
    - Hissing sound is ok, over-inflation valves are working.
    - May inflate upside down.

Boarding liferafts

1. If possible, enter liferaft dry.
2. Don't jump on the canopy - if possible, aim for the door. You could injure yourself on the SOLAS kit, CO_2 tank or other people.
3. Beware of sharp objects.
4. Boarding from water:

    <u>a.Without SOLAS entry ramp:</u>
    - Use buoyancy of immersion suit/PFD to spring up into the door way.

- Legs together – "seal kick".
- Grab top tube, then straps inside to pull self in.
- People inside should help others aboard by grabbing below their arms and sitting back. Always pull people in facing the raft to avoid injuring their backs.

b. With SOLAS entry ramp:

- Board ramp.
- Enter liferaft.

Righting liferaft

1. Find side with CO_2 cylinder.
2. Position raft to use wind and waves to your advantage.
3. Grab righting strap, handles or line, in open hand.
4. Pull over raft.
   - You may need to mount the raft, kneel on cylinder and lean back.
5. Land in water on back.
6. If raft lands on you, create air pocket by raising hand, pushing the raft floor up.
7. Use righting strap to find perimeter of raft.

SOLAS Kits

Many life rafts will contain a SOLAS (Saving Of Life At Sea) kit. These kits are packed inside the life raft and contain things such as food, water, 1st Aid kits, flares, etc. The life raft will be labeled with the type of SOLAS kit included. This should be noted on your Safety Checklist.

Standard equipment

Insulated canopy	Painter
CO_2 cylinder	Sea anchor
Towing bridles	Righting strap
Lifelines	Heaving lines
Paddles	Automatic locator light
Automatic interior light	Inflating and bilge pump
Leak stoppers	Repair kit
Knife	Survival manual
Pressure relief valves	Rainwater catchments
Rainwater storage bags	Water stabilizing pockets

SOLAS B (limited Service Pack)

All of the above	Flashlight
2 flashlight bulbs	Spare flashlight batteries
Sponge	Bailer
Jackknife	Parachute distress flare
Hand-held flares	Smoke flare (optional)

SOLAS A (Ocean Service Pack)

All of the above and these:	
Signal mirror	First aid kit
1.5 quarts water/person	1lb rations/person
Additional bailer	Additional sponge
Additional parachute flares	4-6 handheld flares
Signal whistle	Anti-seasickness pills
Fishing kit (optional)	Graduated drinking vessel

Abandon Ship Kit/Go Kit

Many vessels will have an abandon ship kit. These kits may contain extra flares, food, water, First aid materials, radios, etc. Always find out where this is stored in case of an emergency and it is needed.

First Aid Kit

Vessels will have some type of First aid kit onboard. Their kit may not contain much at all. The program will issue a basic First aid kit. Observers are encouraged to add to it and should include any personal medication that is needed. It is the observers responsibility to keep everything current in the kit. If anything is used during a trip, makes sure to replace it prior to the next trip.

Communication Equipment

Most vessels will have at least one VHF (Very High Frequency) radio with ranges up to 25 miles. Many will have SSB (Single Side Band) radios with reliable ranges of 50-150 miles. Some may have CB's (Citizen Band) with reliable ranges up to 5 miles. Every time you board a vessel, learn where the radios are, which ones work, and how to use them.

In some areas your personal cell phone will work at sea. This can be an important resource for sampling questions and especially during an emergency. Your phone may be the only piece of communication equipment not burning in the wheel house!

In addition to radios, many boats will have cell phones that are more powerful than your personal cell phone. Some will have Satellite phones. You should ask about where these are located and how to use them in case of an emergency. You can always use these to call for help; however the radios should be your first choice.

Emergency Channels – many radios will have a red button that will automatically go to the emergency frequency.

VHF- Channel 16
SSB – 2182 MHz and 4125 MHz
CB – Channel 9

Many modern radios will have a "Distress" button that can be pushed to send out a distress call with the vessel location if there is not time to spend a proper MAYDAY.

Navigation Equipment

Most of the fishermen will be using GPS (Global Positioning Service) to get their latitude and longitude. Some still rely on Loran positions, but most will get these from a GPS. Ask the captain how to switch from Loran to GPS. If the GPS is hooked up to a plotter, be sure you know which position is the vessel and which is the curser.

Signals

Elements of effective signals

- Must attract attention.
- Bigger

- Brighter
- Different
- Must convey message that you need help.

There are two types of signals;

Passive - A signal that functions on its own.

Example: EPIRB, bright colors, wreckage.

Active - A signal that only functions with your help.

Example: Flares, whistles, mirrors, radio, phone.

General rules for signal use

- Stay alert! Maintain watches.
- Have active signals always ready.
- Protect signals from loss.
- Signals come in three.

Flares Types

- **Meteors:** Visibility is best at night and have a fast burn time.
- **Parachute Flares:** Have a 60 second burn time, up to 1000 feet height, and visibility is best at night.
- **Hand-held flares:** Has a longer burn time and visibility is best at night.
- **Smoke:** Visibility is best in day time and works best in little wind.
- **Dye marker:** Visibility best in day time and works best in calm seas.

General flare safety

- **Hand held**: Be aware of hot, dripping slag that could burn you, your immersion suit and/or the life raft.
- **Meteors:** Hold 60-80 degrees above the horizon.
- **All Flares**: Treat like a firearm, use gloves if possible, turn face away prior to firing. **Do not** fire directly at aircraft, vessels, or people. Know how to use before handling – read instructions! Keep wind to your back.

Other Factors

- Fire one flare first, preferably a Parachute or meteor, and conserve the rest.
- Primary use is when potential rescuers are in sight.

Other signals

- **Whistles:** Three to five times louder than the human voice.
- **Strobe and lights**: Keep batteries up to date and check bulb monthly.
- **Chemical light sticks**: Check expiration dates.
- **Reflective tape**: Check that it is not peeling off of PFDs and immersion suits.
- **Mirrors:** Visible up to 50 miles.
- **Fires**: Build three fires with lots of smoke (use damp leaves, seaweed, etc.).

Fire Extinguishers

Most commercial fishing vessels are required to carry fire extinguishers. Only vessels less than 26' with outboard motors and construction that will not permit the entrapment of explosive or flammable gasses or vapors are

not required to carry fire extinguishers. You should check where fire extinguishers are located and that they are in working order. You should always know where the closest extinguisher is. You may need to respond to a fire or provide backup to the crew. Some vessels may have built in systems located in the engine room. Get out of closed spaces and shut off any air supplies before these systems are triggered.

Personal Survival Kits

A personal survival kit takes up very little space greatly enhance the ability to survive. Think of the seven steps to survival and choose items that may help in an emergency situation on board a vessel. Your kit should contain at least one item from each of the four elements essential for a personal survival kit.

1. Signals - mirror, whistle, flares, strobes, streamers etc.

2. Shelter aides - space blankets, dental floss, knife etc.

3. Fire - fire starter, lighter, waterproof matches, tinder etc.

4. Personal Medications - sea sickness medications, antacids, insulin, etc.

Build your kit small enough so that it can be worn on your body while on deck or in the house. You should have your personal survival kit on you at ALL times.

A larger more comprehensive kit should be built and kept in with your immersion suit. This larger kit can contain food, water, radio and other helpful items in an emergency situation. A larger kit, the immersion suit is not a replacement for a personal survival kit worn on your body at all times. Items such as a knife, dental floss (a strong multi-purpose line), plastic garbage bags, matches, signal mirrors, a compass, hard candy, or bouillon cubes are small items that fit in a zip-lock bag and could save your life.

V. Vessel Orientation and Safety Checklist

WCGOP observers are required to check every vessel they board for safety equipment required by U.S. Coast Guard regulations and general safety concerns. Prior to leaving on the first trip on any vessel, all observers must do the following two things:

- Complete a Vessel Safety Orientation Checklist (See Figure 9-8).
- Mail, fax or e-mail, a copy of the completed Vessel Safety Orientation Checklist to their assigned coordinator.

Prior to your first trip ask for a vessel orientation. If the captain refuses to give you one, document it in the log book and in the comment section of the Vessel Safety Orientation Checklist. Check for a Station Bill and any emergency instruction. If a Documented vessel doesn't have a Station Bill, offer to give them one and help them fill it out.

During your orientation, familiarize yourself with all the safety equipment, possible sampling areas, gear storage areas, how all doors or hatches operate, and egress routs. Always think about how to get out of enclosed areas, especially the bunk room, upside down, in the dark and underwater.

Pay special attention to listing, bilge pumps running at the dock, excess water in closed spaces, and weight stored high above deck. These issues could severely impact the stability of the vessel at sea. Discuss any concerns with the captain, your lead and your coordinator.

During the orientation, pay close attention to over all vessel condition. Look for rust holes though the hull or deck, broken windows, missing hatches, broken bin boards etc. Also note cluttered work areas, poorly stowed gear, spilled

lubricants, fuel, and hydraulic fluid. Record all concerns about overall vessel condition on your Vessel Safety and Orientation Checklist. Discuss these concerns with your lead observer and your coordinator prior to making a trip.

After the initial trip, periodically verify that the vessel safety gear remains on the vessel and is in working order. If at any point the vessel does not meet U.S. Coast Guard safety regulations, the vessel is considered unsafe to carry an observer and you may not board. If this should occur, contact a coordinator immediately.

Vessel Safety Orientation Checklist

The Vessel Safety Orientation Checklist is designed to facilitate the initial safety check. Always verify all the items on the checklist before embarking on a vessel for the first time. Write thorough comments on any items that are unavailable, unsafe or look inadequate. Always advise a coordinator immediately of any unsafe situation and NEVER leave on a vessel that you do not feel is safe.

Checklist of Vessel Safety Equipment From Logbook

Vessel Safety

Prior to boarding a vessel for the first time, you are required to check the vessel for safety equipment required by U.S. Coast Guard regulations. Check the major safety items identified below. Please be aware that certain items on the safety checklist may not be required for vessels of certain sizes or operating in certain geographic areas. For further information, refer to the US Coast Guard publication "Federal Requirements for Commercial Fishing Industry Vessels" or contact your coordinator.

Write thorough comments on any items that are unavailable, expired, unsafe, or you feel are not adequate. Advise your NMFS coordinator of any unsafe situations. ***Do not leave on a vessel that you do not feel is safe***. Items listed below may not necessarily deem a vessel safe. Hydrostatic releases are good for two years from installation date. Equipment expires midnight of the last day of the month listed. Ex. A hydrostatic release marked 11/2010 expires midnight Nov 30, 2008. Do not leave on a vessel if any piece of equipment will expire during the trip. Each trip, verify that the safety gear remains on the vessel and is in working order. Mail, fax, or email this form to your coordinator prior to leaving on the first trip.

Float-free arrangement: Life raft in the alternate float-free arrangement

Hydrostatic release set-up: The hydrostatic release must be current, hooked up properly and the expiration date marked

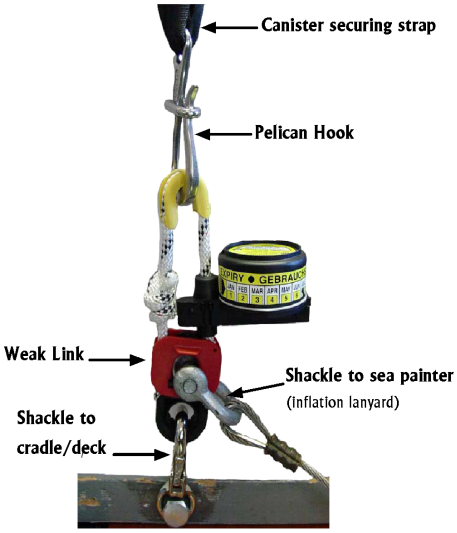


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Figure 9-5: Vessel safety checklist in Logbook.

WCGOP Vessel Safety Checklist Instructions

Depending upon the vessel length, the area of operation and number of crew, the safety equipment required under USCG regulations will vary. For details, be sure to refer to the "Federal Requirements for Commercial Fishing Industry Vessels" pamphlet. After referring to the pamphlet, if you still have questions contact your lead observer or coordinator.

Commercial Fishing Vessel Safety Examination Decal

- Record the Vessel Name and USCG/State Registration number. These are available in the WCGOP Database and should be confirmed during the vessel safety check.
- Look for a current USCG Commercial Fishing Vessel Safety Examination decal.*These decals are valid for two years from the last day of the month issued. Currently there are two versions of the decal in circulation, those with an expiration date and those with an issue date.* This date is indicated with the hole punched. Mark on the checklist the exact marks from the decal including documented/undocumented, location, year and month. Also record the decal number.
- Confirm that the vessel only plans to operate in the area marked on the decal.
- Is the Decal Valid? Circle Yes or No.

Life rafts

- Circle either Inflatable, Buoyant apparatus, None, or N/A. If N/A draw a line though the rest of this section.
- Total Capacity: Fill in the box with the number of people the lifer aft can accommodate.
- Total number of people onboard: Fill in the box with total number of people onboard the vessel, including yourself. Be sure to confirm how many vessel personnel will be on the trip including last minute friends/family members.
- Life raft/s able to float free? Circle Yes or No. In an emergency situation, would the raft float free of the rigging and equipment? The cradle of a float free raft needs to be bolted or attached to the vessel. The raft should not be attached to the cradle, but the painter line needs to be attached to the vessel with a weak link in between the painter line and the attachment.
- Service due sticker expiration date: Record the repack date. The expiration date is the last day of the month displayed.
- Hydrostatic release/weak link expiration date: Record the expiration date of the hydrostatic release/weak link. The weak link expiration date is for float free liferafts only. The hydrostatic release is good for 2 years from installation date.
- Life raft Equipment? Circle either SOLAS A, SOLAS B, or Coastal.
- Write notes to the left in the margin if it's labeled as Ocean Service (SOLAS A equivalent) or Limited Service (SOLAS B equivalent).

Immersion Suits/PFDs

- Immersion Suits onboard? Circle Yes, No, or N/A. Not including the observers.
- Is there one for each person onboard? Circle Yes or No. Observers should have their own immersion suit issued by WCGOP.
- Location(s): Document where the immersion suits are stowed.
- Is there a PFD for each person onboard? Circle Yes or No. Observers should have their own PFD issued by WCGOP.
- Location(s): Document where the PFDs are stowed.

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Figure 9-6: Vessel safety checklist in Logbook.

Flares

- Location(s): Record where flares are stowed onboard.
- Handheld: Record the number and expiration dates of handheld flares onboard.
- Parachute: Record the number and expiration dates of parachute flares onboard.
- Smoke: Record the number and expiration dates of smoke flares onboard.
- Meteor: Record the number and expiration dates of meteor flares onboard.

Fire Extinguishers

- Present: Circle Yes or No
- Location(s): Record the locations of all fire extinguishers. Use note section on the back of the safety checklist if necessary. Make sure you remember their location and how to remove them from their bracket in case of an emergency.
- Extinguishers in serviceable condition? Circle Yes or No. Extinguishers with gauges need to have gauges registering in the green to be considered serviceable. Extinguishers without gauges, such as CO2 extinguishers, should be considered serviceable if they appear to be in good shape and good working order. No dents, severe rust, broken valves, or cracked hoses should be present.

Additional Safety Checks

- First Aid Materials present? Circle Yes or No. Record location stowed.
- Who onboard other than the yourself is currently certified for CPR/First Aid? Record name and position
- Number of working radios: Record the number and type (CB, VHF, SSB) of working radios. Be aware of which radios actually work and which ones don't. Look for an "emergency button" which automatically takes you to the emergency channel for that type of radio.
- Watertight doors/hatches work properly? Circle Yes, No, N/A. If no, include comments in notes. Watertight doors and hatches should open, close, and seal.
- Hatches/passageways unobstructed? Circle Yes or No. If No, include comments in notes. Hatches and passageways should be free of clutter or gear that could shift and obstruct passage openings.
- Is there adequate means of escape? Does the vessel have adequate means of escape from your quarters? Circle Yes or No. If No, include comments in notes.
- Is there a station Bill posted? Circle Yes or No
- Were you given Emergency directions? Circle Yes or No and record what they were. Did the skipper ensure that you were given, a safety orientation? If not, ask the skipper to do so.
- Did you see the Bilge pumps? Circle Yes, No, or N/A. If No, include comments in notes.
- Did you hear the general/high water alarm? Circle Yes or No. If No, include comments in notes.
- Is there an anchor present? Circle Yes or No. Does it have chain attached to it? If No, include comments in notes.
- Was a wheel watch arranged? Circle Yes or No. If No, include comments in notes. ***Observers are not allowed to leave on a vessel if a proper wheel watch is not maintained.***
- Charts and compass present? Circle Yes, No, or N/A. If No, include comments in notes. Charts can be electronic or paper.

Figure 9-7: Vessel safety checklist in Logbook.

EPIRB

- Visually inspect EPIRBs. Leave all handling and testing to the crew. If an EPIRB is accidentally activated, notify the USCG on VHF Channel 16 immediately be prepared to give them the vessels name, and approximate location.
- Present: Circle Yes, No or N/A. If N/A draw a line though the rest of this section.
- Locations(s): Record location of all EPIRBs whether they are mounted or stowed.
- Battery expiration date(s): Record the battery expiration dates. The battery expires on the last day of the month displayed.
- Hydrostatic releases date: Record the hydrostatic release date. The hydrostatic releases are good for two years from the installation date.
- Located in a float free location? Circle Yes, No, or N/A. Only Type I EPIRBs need to be mounted in a float free location. Type II EPIRBs only need to be accessible. **Observer EPIRBs do not qualify as a vessel's EPIRB.**
- NOAA registration sticker expiration date: Record the expiration date, month/day/year. If the EPIRB registration sticker has expired an observer can not depart on that vessel until the EPIRB registration form has been filled out either online, or a hard copy has been faxed or mailed to the SARSAT Office. See instructions in manual for details on how to assist vessel owner in registering an EPIRB.
- Registered to the vessel? Circle Yes or No. The vessel name on the sticker must match the vessel it is on. If No, contact your coordinator.
- Alphanumeric code on sticker matches code on EPIRB? Circle Yes or No. If No, contact your coordinator.
- Signal tested? Circle Yes or No. Have the captain/crew test if possible or ask to see the log of the monthly tests.

Type IV Throwable PFDs

- Type: Circle: Ring, cushion, or LifeSling
- How many are on the vessel? Record number of throwable PFDs.
- Easily Accessible? Circle Yes or No
- Location(s): Record location(s) of throwable PFDs. Be sure to note their locations and how to access them from your sampling area in a man overboard situation.

Notes Section

Additional comments/concerns: Additional comments about items not mentioned above should be documented in the notes section, including, but not limited to, the quality of the bin boards, excess water in the bilge or lazarette, the amount of gear/clutter on deck, lack of anchor chain, unsafe bunk situations or any other safety issues warranting documentation.

Figure 9-8: Vessel Safety Orientation Checklist in Logbook

Completed Vessel Safety Checklist

After completion of checklist; sign, print name and date it. Prior to the first trip mail, fax, or email the checklist and all notes to your Coordinator.

John LaFargue
NOAA, CA Coordinator
427 F st. #217
Eureka, CA 95501
Fax: 707-443-3002
Office Phone: 707-443-3228
Cell: 530-604-7386
Email: John.LaFargue@noaa.gov

Allen Crammer
WA /OR Coordinator
Hatfield Marine Science Center
2032 SE OSU Dr.
Newport, OR 97365
Fax: 541-867-0505
Office Phone: 541-867-0527
Cell: 503-791-2703
Email: Allen.Cramer@noaa.gov

Brian Perry
WA /OR Coordinator
Hatfield Marine Science Center
2032 SE OSU Dr.
Newport, OR 97365
Fax: 541-867-0505
Office Phone: 541-867-0527
Cell: 541-961-3709
Email: Brian.Perry@noaa.gov

Figure 9-9: Vessel Safety Orientation Checklist in Logbook

Vessel Safety Checklist

Vessel name: _____

USCG/State registration #: _____

Decal Verification

Complete the above sticker as it appears on the vessel. Be sure the following fields are checked:

1) Documented Is the decal valid? o Yes o No
2) Location
3) Expiration year
4) Expiration month

Life Rafts

☐ Inflatables ☐ Buoyant apparatus ☐ None ☐ N/A

Total Capacity: _____ Total # people on board: _____

Life rafts able to float free? ☐ Yes ☐ No

Service sticker expiration date*: _____

Hydrostatic release expiration **: _____

Life raft equipment? ☐ SOLAS A ☐ SOLAS B ☐ Coastal

Immersion Suites

On board? ☐ Yes ☐ No ☐ N/A One for each person? ☐ Yes ☐ No

Location: _____

PFD for each person: ☐ Yes ☐ No Location: _____

Fire Extinguishers

Present: ☐ Yes ☐ No How many? _____

Serviceable? ☐ Yes ☐ No

Location(s): _____

_____

Flares

Location(s): _____

Handheld: how many: _____ Exp. date: _____

Parachute: how many: _____ Exp. date: _____

Smoke: how many: _____ Ex.p date: _____

Meteor: how many: _____ Ex.p date: _____

Type IV Throwable PDF's

☐ Ring ☐ Cushion ☐ Lifesling

Easily accessible? ☐ Yes ☐ No

Number: _____ Location(s): _____

EPIRBS

Present? ☐ Yes ☐ No ☐ N/A In float-free location? ☐ Yes ☐ No Registered to this vessel? ☐ Yes ☐ No Signal tested? ☐ Yes ☐ No

Decal's alphanumeric code matches EPIRB code? ☐ Yes ☐ No Location(s): _____

Battery exp. date*: _____ Hydrostatic release exp. date*: _____

NOAA registration sticker: _____ Exp. date: _____

Additional Checks

First aide materials present? ☐ Yes ☐ No Location: _____

Who besides you is CPR Certified? (Name & position): _____

Working radios: how many? _____ Type: _____

Watertight doors/hatches working properly?	☐ Yes	☐ No	Is there an anchor present?	☐ Yes	☐ No
Did you see the bilge pumps?	☐ Yes	☐ No	Is there a Station Bill posted?	☐ Yes	☐ No
Hatches/passageways unobstructed?	☐ Yes	☐ No	Was a wheel watch arranged?	☐ Yes	☐ No
Did you hear the general/high water alarms?	☐ Yes	☐ No	Charts & compass present?	☐ Yes	☐ No
Is there adequate means of escape?	☐ Yes	☐ No	Were you given emergency directions?	☐ Yes	☐ No

What were the emergency instructions? _____

Observer signature: _____

Print: _____ Date: _____

** Expires the last day of the month displayed*
***Hydrostatic releases are valid for two years from installation date.*

OMB Control No. 0648-0593 exp. 09/30/2010

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Figure 9-10: Vessel Safety Orientation Checklist in Logbook

Observer Safety Survey

Fill out an Observer Safety Survey in the logbook for each vessel during a trip period. It is important to be as thorough as you can since these will be used to collect data on fleet safety. Be professional in your comments. This information maybe provided to the USCG and Enforcement.

Observer Safety Survey

Observer name: _____ Date: _____ Fishery: _____

Vessel: _____ USCG/State#: _____ Home port: _____

Please complete the following checklist *for each vessel observed* in the trip limit period. Please be specific in the descriptions. The debriefer will review this checklist during the debriefing interview and will inform the coordinator of any areas of concern.

Which of the following were you unable to locate? Select all that apply.

General alarm	☐	First aid equipment	☐
406 EPIRB	☐	Life rings/buoyant equipment	☐
Survival suits for all aboard	☐	Flares/smoke or dye makers	☐
Life preservers for all aboard	☐	Radio equipment	☐
Life rafts with capacity for all on board	☐	**Found all the above**	☐
Fire extinguishers	☐		

Comments:

Incident date:

Who provided you with a safety orientation?

No one showed me what to do	☐	Mate	☐
Vessel owner	☐	Other crew member	☐
Captain	☐	Other	☐

Comments:

Incident date:

If emergency drills were conducted, what emergency situations were addressed during the drills?

No safety drills were held	☐	Launching survival craft	☐
Fire	☐	MAYDAY	☐
Man overboard	☐	Testing alarms	☐
Vessel flooding	☐	Abandon ship	☐
Donning survival suits	☐	Other	☐
Donning SCBA	☐		

Please describe drills especially if you marked "Other":

Incident date:

Were alcohol and/or drugs used by vessel personnel to a degree that you felt your safety was compromised? ☐ Yes ☐ No

Please describe observations including dates of trip(s) and incident date(s):

Incident date:

Did you observe any safety incidents or marine casualties?

No problems or accidents occurred	☐	Loss of engine power	☐
Person overboard	☐	Loss of electrical power	☐
Collision or grounding	☐	Fuel leak	☐
Vessel flooding	☐	Parting cables	☐
Loss of steering control	☐	Hung up doors	☐
Fire	☐	Lack of proper wheel watch	☐

Please explain further, providing trip dates that the incident occurred. Also provide details for incidents not listed above:

Incident date:

Were there any conditions aboard this vessel that have not been previously mentioned and that may have affected your safety and well-being? ☐ Yes ☐ No

Please explain:

Incident date:

Were you harassed or did you feel intimidated on the vessel during your trip(s)? ☐ Yes ☐ No

Please explain:

Incident date:

Did you fill out a statement? ☐ Yes ☐ No Statement ID(s)#: _____

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Figure 9-11: Observer Safety Survey from the Logbook

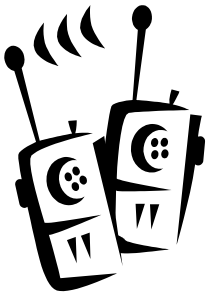
VI. Emergencies on Board

Sending a May Day

There are three types of emergency broadcasts:

1. **SECURITE** – lowest urgency, brings attention to weather, navigation hazards.
2. **PAN PAN** – calling station has an urgent message to transmit.
3. **MAYDAY** – highest urgency, immediate life/ limb threatening danger.

A mayday call is for a life-threatening emergency. The emergency frequencies are Channel 16 on VHF radios and 2182.0 MHZ or 4125.0 MHZ on single side band radios (SSB). VHF radios are for short range and SSB radios are for long-range communications (See Appendix R for more information on radios). Vessels are required to monitor the emergency frequencies at all times. Most radios have a red button that changes to the emergency frequency immediately. Near the radios, there should be a placard posted that describes MAYDAY calls. Be familiar with what constitutes a proper MAYDAY call:



1. MAYDAY MAYDAY MAYDAY (said three times).
2. Vessel name and call sign (said three times).
3. Location - Latitude and Longitude or a geographic references that is part of the location.
4. Nature of emergency.
5. How many persons on board.
6. Vessel description-Length, color type, etc.
7. What radio frequency is being used.

8. Listen for a response. If none, repeat the message until it is acknowledged or you are forced to abandon ship.

Unanswered MAYDAY

Sometimes you may hear a MAYDAY, but not hear a response from the Coast Guard. If this happens:

1. You must answer and log details.
2. Advise vessel what assistance you can give.
3. Contact Coast Guard to ensure that they have received the call.

MAYDAY relay

1. Acquire information Name and call sign of vessel in distress.
2. Location.
3. Nature of problem.
4. Number of persons onboard.
5. Description of vessel.
6. Name, address, and phone number of vessel owner.

Transmit MAYDAY relay

1. MAYDAY RELAY, MAYDAY RELAY, MAYDAY RELAY.
2. Your vessels name and call sign.
3. Name and call sign of vessel in distress.
4. Location of vessel in distress.
5. Nature of problem with vessel in distress.
6. Degree of assistance needed (i.e. immediate).

7. Listen for acknowledgement.
8. Transmit additional information.

Man Overboard

The first thing to remember is to take steps to minimize chances of falling overboard by avoiding unsafe deck behavior and working on deck when it is not safe. In the event you or a crew member falls overboard, follow these steps:

If you are the one overboard:

1. Attract attention, yell, whistle, etc.
2. Assume the H.E.L.P. position.
3. Keep clothes and boots on. They will increase insulation and will not pull you down.
4. Grab any floating objects that will make you more buoyant and more visible.
5. Stay as still as you can.

If you are aboard a vessel and someone goes overboard:

1. Mark position with anything that floats and mark waypoint on GPS if possible. (Many vessels have a M.O.B. button especially for these situations)
2. Sound Alarm.
3. Post lookout. Eyes and pointing hand **never** leave victim.
4. Maneuver vessel to return to victim.
5. Rescue swimmer dons immersion suit with rescue line attached. Prepare to launch rescue craft if needed.

6. Recover victim. Bring aboard (horizontally if it takes no more time) over the side or up the stern ramp of the vessel.
7. Treat victim. Look for signs of hypothermia and/ or cold water near drowning as well as any other injuries.
8. Contact Coast Guard and vessels in area if victim is not found immediately, or medical advice/ attention is needed.

Fire

It is wise to know where fire extinguishers and exits are located in every area of the vessel-especially those areas in which you spend time. Fire extinguishers have only short bursts of fire retardants, so back-up extinguishers should be located and brought to the fire as soon as the fire is discovered. To effectively use a fire extinguisher, fire in short bursts in a low, sweeping motion. Keep your body low to avoid smoke inhalation and heat. Do not attempt to fight a fire alone, (except a small fire e.g. a wastebasket fire).

1. Sound Alarm, notify wheelhouse and signal alarm.
2. De-energize electrical system to area.
3. Close doors to stop the spread of fire and smoke.
4. Fight fire.
   - Smother, cut off air supply.
   - Cool.
   - Interrupt chain reaction.
   - Jettison.

5. Account for personnel.
6. Establish boundary perimeter.
   - Visualize area as a box.
   - Know what is on all **six** sides of the box!
7. Prepare to abandon ship, incase it should be necessary.

8. Ensure everyone knows how to use fire extinguishers.
    - Proper type for fire.
    - Locations.
    - Ensure extinguishers can be found in the dark.

Flooding

When a vessel is taking on water, usually the crew has time to try and solve the problem. Malfunctioning pumps or leaks in through-hull fittings are not uncommon, and can usually be fixed with equipment on board. If the flooding condition worsens, the Coast Guard can drop pumps to a vessel via aircraft. Observers have limited roles in these types of vessel emergencies but should be prepared to assist if needed.

Procedures:

1. Sound alarm.
2. Close all watertight hatches, doors and air vents.
3. Plug holes.
4. Use pumps and buckets of water.
5. Check lines, through-hull fittings and hull for leakage.
6. Maintain stability of vessel.
7. Prepare in case of abandon ship.

Remember: **PLUG! CLOSE! PUMP!**

Abandon Ship

The worst possible emergency requires a person to give up their shelter-the vessel. Never abandon the ship unless it is certain that being on board the vessel is more dangerous than being in the water. Lives have been lost because ships have been abandoned too soon during fires or flooding. Knowing the nearest exits, mustering areas, life raft

locations, immersion suit locations, EPIRB locations, and the emergency equipment available become critical factors in helping you survive an abandon ship emergency.

General Abandon Ship Procedures are as follows:

1. Sound General Alarm.
2. Send Mayday.
3. Don immersion suits/PFDs. Put on extra warm clothing first if possible.
4. Prepare to launch life raft. Attach sea painter to vessel.
5. Assemble signal devices to take into life raft. These include EPIRBs, flares, smoke signals, flashlights, handheld radios, etc.
6. Get First aid kit, water, food, and abandon ship (survival) kit.
7. Muster at embarkation station.
8. When sinking is imminent or remaining on board is inappropriate launch and board life raft.
9. Keep sea painter attached to vessel. Be prepared to cut sea painter immediately if there is risk to life raft or vessel sinks.
10. Activate EPIRB and commence 7 Steps to Survival.

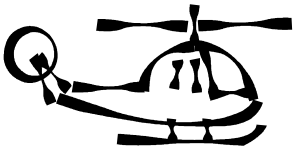
Helicopter Evacuations

In an emergency situation at sea it may become necessary to be evacuated by helicopter from a vessel, life raft or the water. Be prepared to follow helicopter crew's instructions. If you think a helicopter evacuation is necessary:

1. First make contact with the US Coast guard on the radio or by signaling if you are in a life raft or in the water after

an event. Provide the same critical information you would as in a MAYDAY, vessel name, description, nature of problem etc.

2. Clear the area:
    - Lower flopper poles, secure loose debris, etc.
3. Position the vessel:
    - Keep going forward with the bow 35 to 45 degrees to right of wind line.



4. Prepare those to be evacuated.
    - Eye/ear protection, warm clothing, PFD, medical records.
    - Position on deck just before arrival.
5. Hoisting from a vessel:
    - Retrieve trail line.
    - Guide litter/basket with trail line. Allow trail line to touch deck before touching to release static charge.
    - Never tie off trail line!
    - Load one person at a time in basket. Keep hands and feet inside.
    - Use trail line to help guide.
6. Hoisting from life raft or water:
    - If directed to, swim away from life-raft.
    - Use USCG hoisting strap, they will not use hoisting straps on immersion suits.

VII. Summary

You can learn a lot about sea safety and survival from vessel personnel, staff, and experienced observers who have many years of sea experience among them. However, the ultimate responsibility is upon you to survive. It is easy to think "this will never happen to me" and "the skipper will know what to do" but those thoughts may cost you your life. Take the time to learn as much as you can, and consider what your

actions will be in emergency situations. Visualize yourself and your actions in emergency scenarios on deck, in your bunk, or anywhere you spend time. Having thought about an emergency will make your actions more automatic, and the time saved may save your life. Practice using your safety gear and inspect it regularly. Your life is worth far more than any data you could collect in the fishery.

VIII. Safety Regulations

Observer Health and Safety Regulations

Please be aware that regulations do change from time to time and the CFRs should be consulted for the most up to date information regarding observer health and safety regulations. The Commercial Fishing Vessel Safety Act of 1988 mandates certain safety equipment, instructions, and drills aboard vessels that operate beyond the boundary line (a federally designated line between points of land) or carry more than 16 individuals. Not all vessels that need observers fall under these regulations. In mid 1998, NOAA Fisheries adopted regulations to ensure the adequacy and safety of fishing vessels carrying observers. Under 50 CFR Part 600, owners and operators of fishing vessels that carry observers are required to comply with U. S. Coast Guard safety regulations (see Appendix for Regulations text). A vessel is considered inadequate or unsafe if it does not comply with the regulations regarding observer accommodations or if it has not passed a USCG safety examination or inspection. If observers feel uncomfortable boarding a vessel because it is unsafe or inadequate to carry out their required duties, contact a NOAA Fisheries coordinator immediately. A vessel that would normally carry an observer, but is deemed unsafe, is prohibited from fishing without an observer or a waiver.

When boarding a vessel, regulations mandate that observers receive a safety orientation. This may be as simple as a crew

member showing the observer around, but may include watching videos, donning immersion suits, or conducting drills.

Federal Requirements for Commercial Fishing Industry Vessels greater than 60 ft.

General Requirements

Documentation & Official Number 46 CFR 67-69

- Vessel must be measured and documented. Documentation must be on board.
- Hailing/home port, and official number must be displayed in 4 inch letters on both bows.
- Official number must be 3-inch letters and attached to integral interior structure member.

Operator License 46 U.S.C. 8304

- The master, mate, and engineers on the vessel of 200 gross tons or more must have appropriate USCG license and operate within the limitations of the licenses.

Commercial Fishing Vessel

Safety Inspection Requirements 50 CFR 679.50, 33 CPR Chapter I, 46 CFR Chapter I, 46 CFR 28.710, 46 CFR U.S.C. 3311

- Must have a valid Commercial Fishing Vessel Safety Decal issued within the past 2 years that certifies compliance with regulations found in 33 CFR Chapter I and 46 CFR Chapter I.
- Must have a valid certificate of compliance issued pursuant to 46 CFR 28.710.

- Must have a valid certificate of inspection pursuant to 46 U.S.C.3311.

Navigational Requirements

Compass 46 CFR 28.230

- Each vessel must be equipped with an operable magnetic steering compass with a compass deviation table at the operating station.

Electronic Position Fixing Devices 46 CFR 28.260

- Vessels 79 feet or more in length must be equipped with an electronic positioning fixing device such as SAT NAV, GPS, LORAN, OMEGA, or RDF that is capable of providing accurate fixes for the area of operation.

Navigation and Anchor

Lights

- Must be used from sunset to sunrise and when there is limited visibility.
- Navigation Information 46 CFR 28.225.
- Current corrected charts of the appropriate areas and scale for safe navigation.
- Current corrected copy (or applicable extract) of the U.S. Coast Pilot, USCG Light List, National Ocean Service Tide Tables and National Ocean Service Current Tables.

Anchor and Radar Reflectors 46 CFR 28.235

- Vessels operating with more than 16 individuals on board or vessels operating outside boundary water.
- Each vessel must be equipped with appropriate anchor(s) and chain(s), cable, or rope.

- Nonmetallic hull vessels must be equipped with a radar reflector unless it is a vessel rigged with gear that can provide a radar signature at six miles.

Radar and Depth Sounding Devices 46 CFR 28.400

Vessels with 16 or more individuals, or vessels operating outside boundary water, that have had their keel laid or major conversion on or after September 15, 1991:

- Each vessel must be fitted with a general marine radar system for surface navigation with a radar screen mounted at the operating station.
- Each vessel must be fitted with a suitable echo depth-sounding device.

Communications Requirements

Communications Equipment 46 CFR 28.245,46 CFR 28.375,33 CFR 26.03,47 CFR 80

- Each vessel must be equipped with VHF radiotelephone communication equipment operating within 156-162 MHz band.
- A radio transceiver installed on board before Sept. 15, 1991, operating on 4-20 MHz band may continue to be used to meet the requirements for vessels operating more than 100 miles from the coastline in Alaskan waters.
- ·All communications equipment must be operable from the vessel's operating station and must comply with FCC requirements including a Ship Radio Station License.
- ·An emergency source of power, that is independent of the main power supply, outside of the main machinery space, and capable of providing power to communications equipment for at least 3 continuous hours.

Emergency Requirements

Personal Flotation Devices (PFD) 46 CFR 28.105, 46 CFR28.110, 46 CFR 28.135, 46 CFR 28.140

- CG approved immersion suit with 31 square inches of retro reflective tape on the front and back of each side.
- Must have CG approved PFD light.
- Must be marked with the name of the vessel, owner of device, or the individual to whom it is assigned.

Ring Buoy 46 CFR 28.115 & 46 CFR 28.135

- Vessels less than 65 feet must have 1 orange Ring Life Buoy at least 24 inch in size, with 60 feet of line, and marked with name of vessel.
- Vessels greater than 65 feet must have 3 orange Ring Life Buoys at least 24 inch size with 90 feet of line. Marked with the name of the vessel.

Safety Protection Device (SPD)

- Vessels less than 65 feet must have a whistle that is audible for 1/ 2 minute.
- Vessels over than 65 feet must have a whistle that is audible for 1 minute.

Survival Craft 46 CFR Tables 28.120 (a)

- Between shore & 12 miles off coastline - inflatable buoyant apparatus.
- Between 12-20 miles off coastline - inflatable life raft.
- Between 20-50 miles off coastline - inflatable life raft with SOLAS B pack.
- Beyond 50 miles off coastline - inflatable life raft with SOLAS A pack.

Stowage of Survival Craft 46 CFR 28.125

- Each inflatable life raft that is required to be equipped with a SOLAS A or B equipment pack automatically inflates if the vessel sinks.
- Each inflatable life raft must be kept readily accessible for launching or be stowed so they will float free if the vessel sinks.
- Each hydrostatic release unit in a float free arrangement must have a CG approved number starting with 160.062.

Launching of Survival Craft 46 CFR 28.310

Vessels with 16 or more individuals, or vessels operating outside boundary water, that have had their keel laid or major conversion on or after September 15, 1991:

- A gate or other opening must be provided in deck rails, lifelines, or bulwarks adjacent to the stowage location of each survival craft which weighs more than 110 pounds, to allow the survival craft to be manually launched.

Embark Stations 46 CFR 28.395

Vessels with 16 or more individuals, or vessels operating outside boundary water, that have had their keel laid or major conversion on or after September 15, 1991:

- Each vessel must have at least one designated survival craft embark station (more if necessary) that is readily accessible from each accommodation space and workspace.
- Each embark station must be arranged to allow the safe boarding of survival craft.

Means of Escape 46 CFR 28.390

Vessels with 16 or more individuals, or vessels operating outside boundary water, that have had their keel laid or major conversion on or after September 15, 1991:

- Each space used by an individual on a regular basis or which is generally accessible to an individual must have at least two widely separated means of escape. At least one of the means of escape must be independent of watertight doors. Means of escape include normal exits and emergency exits, passageways, stairways, ladders, deck scuttles and windows.

Visual Distress Signals 46 CFR 28.145

- Vessels operating more than 3 miles from shoreline are required to carry 3 parachute flares, 6 hand flares, and 3 smoke signals.
- Vessels operating within 3 miles of the coastline are required to carry night and day visual distress signals. Night signals can be one electric distress light or 3 CG approved flares. Day signals can be either one distress flag or 3 CG approved smoke signals.

EPIRB 46 CFR 28.150 & 46 CFR 25.26

- Vessels operating beyond coastal waters are required to have an FCC type accepted category 1, float-free, automatically activated, 406 MHz EPIRB.
- Each EPIRB must be marked with vessel name and type II retro reflective material (46 CFR 28.135).

General Alarm 46 CFR 28.240

- A general alarm system suitable for notifying individuals on board is required with a contact marker at the operating station. The general alarm must be capable of notifying individuals in any accommodation or

workspace. Under certain circumstances (defined at CFR 28.240) a public address system that is audible in all workspaces meets may meet regulatory requirements.

- In noisy workspaces a flashing red light is required.
- The general alarm system must be tested prior to getting underway and at least once each week while underway.

Emergency Instructions 46 CFR 28.265

- As applicable, emergency instructions are required for: survival craft embarkation stations and personnel assignments; fire, emergency, and abandon ship signals; immersion suit location and donning information; procedures for making distress calls; list of each individual's emergency and specially established procedures. Specific details and posting requirements are found at 46 CFR 28.265.

Instruction, Drills, and Safety Orientation 46 CFR 28.270, 46 CFR 28.275

- At least once a month the master must ensure that drills are conducted and instructions are given to each person on board.
- No individual may conduct the drills or provide the instructions required by this section unless that individual has been trained in the proper procedures for conducting the activity. An individual licensed for operation of inspected vessels of 100 gross tons or more needs to comply with the requirements in 46 CFR 28.275.
- Drills and instructions are to include: abandoning the vessel, fire fighting, man overboard recovery, stabilizing vessel after unintentional flooding, launching survival craft, and recovery of life and rescue boats, donning immersion suits, PFD's, fireman's outfits and breathing

apparatus, radio and visual distress calls and signals, activating the general alarm and reporting of inoperative alarms and fire detection systems.

- Viewing of videotapes followed by discussion led by a person familiar with the subjects can be used for instruction requirements but not as a substitution for drills.

- The master must ensure that all individuals who have not received the above instruction or participated in the drills receive a safety orientation before the vessel may be operated. This safety orientation must explain the emergency instructions required by 46 CFR 28.265 and cover the specially established procedures listed above.

High Water Alarms 46 CFR 28.250

- Alarms are to be both visual and audible and installed at the operating station.

- Alarms are to indicate high water in each of the following normally unmanned areas: a space with a through-hull fitting below the deepest load water line, a machinery space bilge, bilge well, shaft alley bilge, or other space subject to flooding from sea water piping within the space, a space with a non-watertight closure such as a space with a non-water tight hatch on the main deck.

Bilge Systems 46 CFR 28.255

- All vessels must be equipped with a bilge pump capable of draining any watertight compartment, other than tanks and small buoyancy compartments, under all service conditions.

- If portable bilge is used to meet this requirement, a suitable suction hose and discharge hose must be provided that will reach the bilges of all watertight

compartments it must serve and ensure overboard discharge. The portable pump must be capable of dewatering each space at a rate of at least 2 inches of water depth per minute.

Casualties and Injuries 46 CFR 28.080, 46 CFR 28.090

If any of the following incidence occur, the master or other vessel representative must as soon as possible, contact the nearest USCG Marine Safety Office and submit written report CG-2692 within five days:

- Groundings.
- Loss of main propulsion or primary steering.
- Loss of life.
- Injury which requires professional medical treatment beyond first aid and render the victim unfit to perform vessel duties.
- Any damage over $25,000, any occurrence affecting the sea-worthiness of the vessel such as; fire, flooding, or the failure or damage to fixed fire extinguishing systems, lifesaving equipment.
- Auxiliary power generating equipment or bilge pumping systems.

Injury Placard 46 CFR 28.165

- A placard at least 5”x 7” stating the requirements of reporting injuries to vessel operator or agent as defined by US law, 46 U.S.C. 10603 must be posted in prominent place.

First aid Equipment and Training, 46 CFR 28.210

- Each vessel must have on board a first aid manual and medicine chest of a suitable size in a readily accessible location.
- Vessel with more than 2 individuals must have at least 1 individual approved in first aid and at least 1 individual approved in CPR or 1 individual approved in both.
- Vessels with more than 16 individuals on board must have at least 2 individuals approved in first aid and at least 2 individuals approved in CPR. Individuals approved in both may be counted against both requirements.
- Vessels with more than 49 individuals on board must have at least 4 individuals approved in first aid and at least 4 individuals approved in CPR. Individuals approved in both may be counted against both requirements.

Fire Control Requirements Fire extinguishers 46 CFR 28.155 & 46 CFR 28.160 & 46 CFR 25.30

- Vessels over 65' are required to have approved USCG approved fire extinguishers in each of the following locations: Pilot house, service spaces, galleys, paint lockers, accessible baggage and storage rooms, workshops and similar spaces, engine room, auxiliary engine room, auxiliary spaces, and generator spaces. **NOTE:** Specifics on the type of extinguishers, number per location, and legal description of spaces where extinguishers are required can be found at 46 CFR 28.155 & 46 CFR 28.160 & 46 CFR 25.30.

Fire Pumps, Fire Mains, Fire Hydrants, and Fire Hoses. 46 CFR 28.316

Vessels with 16 or more individuals or that are outside of boundary borders that have had their keel laid or major conversion on or after September 15, 1991:

- Vessels >36' must be equipped with a self-priming, power driven fire pump connected to a fixed piping system.
- Specific requirements regarding locations and specifications for fire mains, fire hydrants, and fire hoses can be found at 46 CFR 28.316.

Fireman's Outfits and Self-contained Breathing Apparatus CFR 28.205

- Vessels equipped with refrigeration units using ammonia must be equipped with at least 2 self-contained breathing apparatus with spare air bottles for each.
- If the vessel has more than 49 individuals on board, at least 2 firemen's outfits, stowed in widely separated locations, are required. A fireman's outfit consists of one pressure demand open circuit MSHA/NIOSH approved self-contained breathing apparatus with a 30 minute air supply and a full face piece, one lifeline with a belt or suitable harness, one flashlight, a rigid helmet, boots, gloves, protective clothing, one fire axe, and a spare air bottle.

Miscellaneous Requirements

Guards for Exposed Hazards 46 CFR 28.215

- Suitable hand covers, guards, or railings must be installed in way of machinery that can cause injury to personnel, such as gearing, chain or belt drives, and rotating shafting. This is not meant to restrict necessary access to

the fishing equipment such as winches, drums, or goodies.

- Internal combustion engine exhaust pipes within reach of personnel must be insulated or otherwise guarded to prevent burns.

Watertight and Weather tight Integrity 46 CFR 28.560

- Each opening in a deck or a bulkhead that is exposed to weather must be fitted with a weather tight or watertight closure devise.

Pollution Prevention 33 CFR 151, 33 CFR 155

- Vessels are required to post oil pollution and garbage placards, and to have a written solid waste management plan that describes procedures for collecting, processing, storing, and discharging garbage, and designated person in charge of carrying out the plan. Restrictions on dumping can be found at 33 CFR 151, 33 CFR 155.

Sexual Abuse Act of 1986 46 CFR U.S.C. 10104

- It is the responsibility of the master to report to the USCG any complaints of sexual offenses including aggravated sexual abuse, sexual abuse, sexual abuse of a minor or ward, and sexual contact per 46 CFR U.S.C. 10104.