

## Accident prevention for laborers in fisheries (fishery/aquaculture)

### Introduction

This pamphlet covers points that will help you avoid safety and health issues while working in the fishing industry.

In addition to following the instructions provided by your skipper, fishing chief, or supervisor, it's important that you take proactive measures to keep yourself safe.

Please be mindful of the points covered in this pamphlet at all times. We hope you will work safely, disembark in good health, and enjoy a happy reunion with your family.

※ A Japanese version is also available, so please speak with your Japanese superior if you have any questions.

## I Fishing vessels (Onboard work, etc.)

### 1. Pointers for coming aboard

#### 1) Waves and vessel motion

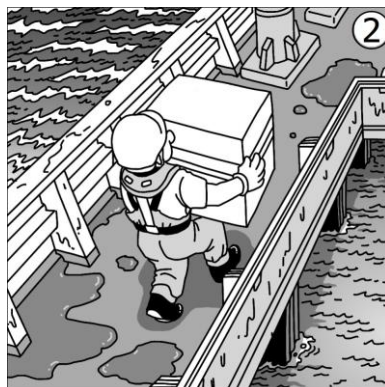
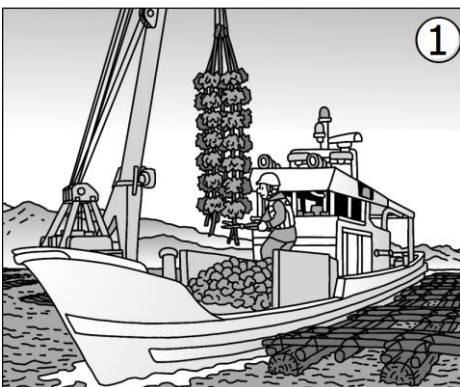
Waves are caused by the interaction of the wind waves and swell, and the surface movement is complicated. Waves can rise up unexpectedly from any direction and pound the deck, causing injury to crew members and even washing them overboard.

Vessel motion is unpredictable and is affected by wind waves, swells, vessel speed, and vessel course changes.

Unlike land, fishing vessels are in perpetual motion and can be hit by sudden waves, making it necessary for crew members to watch their footing and surroundings at all times. A lack of situational awareness may result in falls by tripping and slipping or falls overboard.

The vessel and waves will not follow a steady rhythm. There is always the possibility of unexpected lurching and waves. All crew members must bear this in mind and be prepared for contingencies. Please be aware that the movement is not simple like a seesaw. Do not assume that you will be fine based on past onboard experiences.

When working on deck, always keep an ear out for warnings from the lookout, and always wear a life jacket as a contingency for falls overboard. This is particularly important when performing fishing operations at night, as the deck lights make it harder to see the water's surface.



- Watch your head! ①
- Which is the safer route? ②
- Adhere to the Three Point Rule when ascending or descending stairs and ladders. ③



- Vessel motion is erratic. ④
- When working on deck, you must always use a lifeline or wear a life jacket. Safety ropes should be strung when necessary. ⑤
- When vessel motion is especially rough, all movable objects must be secured or tied in place. ⑥

## 2) Making organization, tidiness, cleanliness, and good hygiene a habit (Discipline)

Organization, tidiness, and cleanliness are vital for working on a constantly moving vessel that is frequently buffeted by waves. If deck areas are not kept organized, tidy, and clean, crew members can trip over loose objects or be hit by sliding containers.

### ● Organization

Organization is about distinguishing between what is needed and what is not, and disposing of the latter. However, please bear in mind that ocean disposal of wastes is prohibited by law depending on the type and method. Please consult your superior and follow their instructions.

⑦

### ● Tidiness

Tidiness is about sorting the items that you need and keeping them in a handy place so that you can safely, easily, and immediately take them out when needed. ⑧

### ● Cleanliness

Cleanliness is about removing dirt and garbage, and keeping areas clean. Deck areas will be dirtied by fish blood and grime during fishing operations. If not cleaned properly, these increase the risk of slips, falls, and other serious accidents. ⑨

### ● Good hygiene

Good hygiene is about washing your clothes and hands, disinfecting cooking appliances, and maintaining a high level of personal hygiene. It is crucial to preventing diseases. ⑩

### ● Discipline

Discipline is about making organization, tidiness, cleanliness and good hygiene a habit. These are the basic requirements for maintaining onboard safety and sanitation.





## 2. Dangerous and hazardous objects and safety signs

### 1) Handling dangerous and hazardous objects

There are many hazardous objects (high-pressure gases, flammable materials, toxic substances, etc.) onboard. Please follow the warning signs and your superior's instructions, and handle these items with the utmost care.

- **High-pressure gases:** These include acetylene gas for welding, freezer refrigerants, and LPG for cooking. The risks associated with these are fires, explosions, gas poisoning, suffocation, and frostbite. Do not move them unnecessarily from their storage place, apply a strong force to the gas cylinders, or damage the valves and pipes.
- **Flammable materials:** These include engine fuel, kerosene, paint, and other solutions. Ignition sources should not be brought near the storage area.
- **Toxic substances:** These include dilute sulfuric acid for battery fluid and descaling agents for seawater pipes. Inhaling gas or touching a solution can result in poisoning or inflammation. Protective gear (goggles and acid-resistant gloves) must be worn when handling these substances. When using cleaning agents for disinfecting, be sure to use a safe dilution rate.
- **Other hazardous materials:** There have been numerous incidents of crew members being injured by the catch, such as by shark teeth, stingray barbs, snow crab claws, and tuna fins. Exercise caution and avoid direct contact.

### 2) Safety signs

A variety of signs like the ones below have been posted onboard to prevent accidents. It's important that you comprehend their meanings.

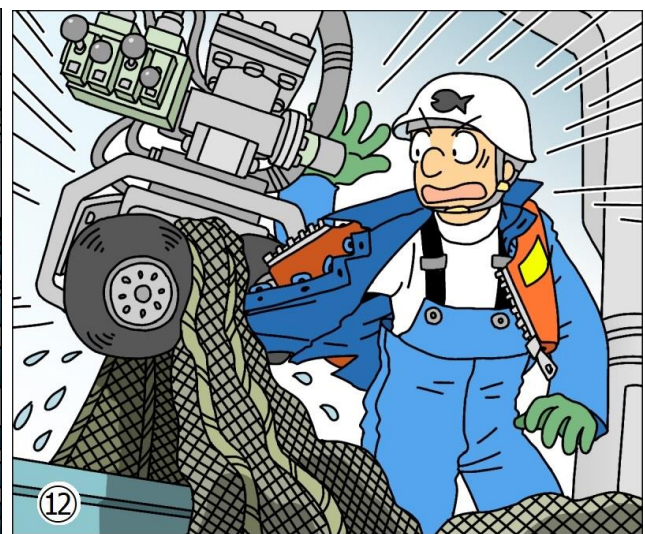
The examples listed here are from JIS Z9104 “Safety Signs.”

Prohibition signs: Signs that prohibit entry or a certain action.		
		
Fire prohibited	Do not enter	Passage prohibited
Warning signs: Signs to warn of a potentially dangerous situation.		
		
Toxic substance	Fall hazard	Electric shock hazard
Safe condition signs: Signs indicating the location of emergency exits, first aid kits, stretchers, and more.		
		
Emergency exit	First-aid kit	Evacuation route
Fire safety signs: Signs indicating the location of fire-fighting equipment.		
		
Fire extinguisher	Fire hydrant	
Mandatory action signs: Signs indicating instructions that must be carried out.		
		
Wear safety helmet	Wear mask	Wear safety glasses
Other hazardous areas will be marked with yellow and black paint or rope like the illustration below.		
		

### 3. Appropriate clothing and the use of protective equipment



○ A loose sleeve got caught in a net hauler. ⑪



○ A jacket hem got caught in a cone roller used to haul nets. ⑫



Crew members must wear work clothes and safety shoes or rubber safety boots while on duty. Sleeves and jacket fronts must be buttoned or firmly closed to prevent them from getting caught in rotating machinery.



○ When using a safety belt lanyard equipped with a shock absorber as a lifeline, the elongation of the shock absorber (over 1 meter) must be taken into account.

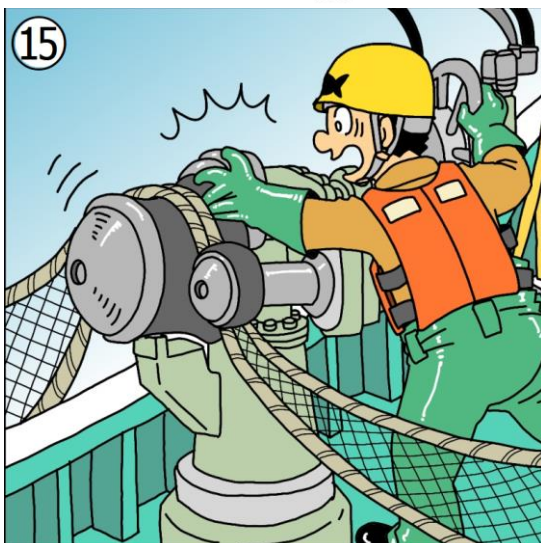


○ Helmets protect your head from flying or falling objects. The face shield protects your eyes and face from thrashing fish and errant hooks.



○ Raincoat sleeves and hems must be securely fastened. A life jacket for work must be worn over the raincoat. ⑬

○ Confirm that the slip-resistant soles of your rubber boots or rubber safety boots are not worn down. (Like safety shoes, the toecaps of rubber safety boots are reinforced with synthetic resin or steel, protecting the toes from external force.) ⑭



○ Gloves will protect your hands from cuts and dirt. However, the fingertips can get caught in machinery if not worn properly. ⑮



#### 4. Diseases and how to prevent them

On fishing vessels, there may be day-night reversals where you work during the night and rest during the day, or you may be required to alternate between short work and rest periods. It's vital that you rest properly as poor health can lead to injury or illness. While at work, you must maintain your own health. It's also important to keep an eye out for your fellow crew members.

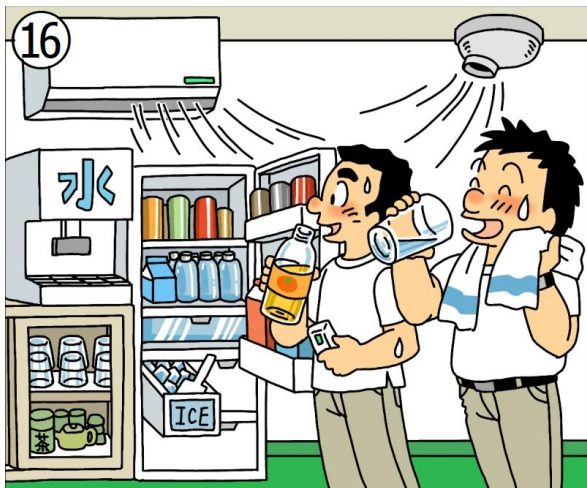
Even if you were to become suddenly ill, the vessel cannot immediately return to port.

In Japan, companies are required to have their workers receive an annual health checkup. Please be sure to take it. In addition to the annual checkup, which is required for the health certificate in your mariner's pocket ledger, please utilize the free health consultations that are made available to ship personnel as part of the Safety Sanitation Campaign for Seafarers, which is held every September.

##### 1) Heat stroke

Heat stroke occurs when working in areas under direct sunlight such as the deck, or a hot and humid environment. It's important to replenish your body's supply of water and salt even when you don't feel thirsty, and to take regular breaks in a cool area. ⑩

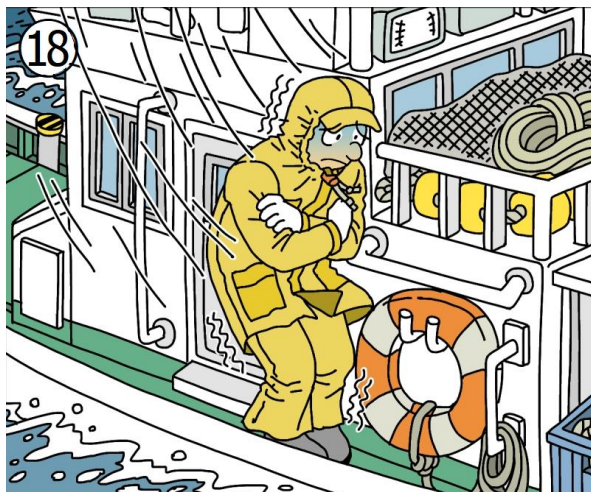
- ① Dizziness, lightheadedness → Rest in a cool area ⑪
- ② Nausea, weakness → Go to the medical room
- ③ Inability to walk straight, unresponsiveness → Emergency transport



##### 2) Hypothermia

Hypothermia is caused by prolonged exposure to cold rain, wind, or waves, and can be fatal. ⑫

Shivering, lightheadedness from the cold → Warm your body. Drink something hot. ⑬





### 3) Infectious diseases

Influenza, viral gastroenteritis, and other infectious diseases spread quickly in a vessel's closed and shared quarters. It's important to keep living quarters sanitary. To prevent food poisoning, don't drink non-potable water, be sure to sterilize fresh water and disinfect all kitchen utensils.



### 4) Back pains

Lifting heavy objects or working in an awkward position can lead to back injury. Avoid lifting objects in an incorrect manner. When needed, lift it together with several other crew members. ②②



### 5) Mental health

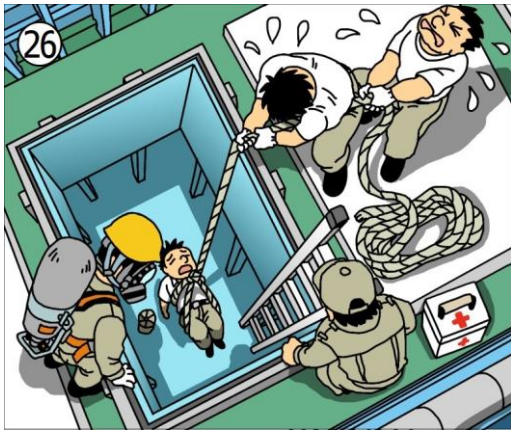
Persistent feelings of isolation or alienation could lead to mental disorders such as depression. Strive to get plenty of sleep and rest. Good communication with your crewmates can also help alleviate everyday stress. Please proactively consult your superior or other crew members if you experience anxiety, insomnia, distress, or ill health. ②③ ②④ ②⑤

## 5. Emergency procedures

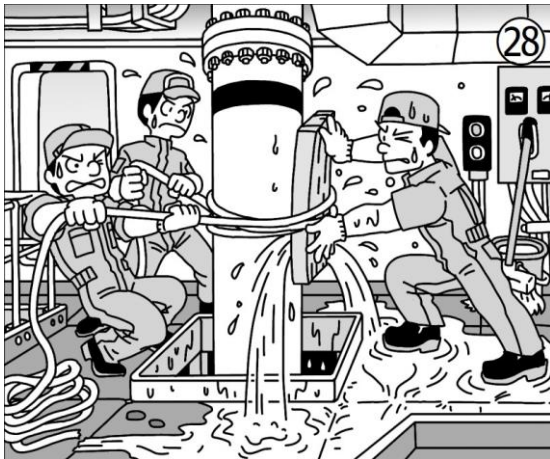
All crew members will need to work together to deal with emergencies such as fire, flooding, man overboard, or oxygen deficiency in a hold. And if the vessel should sink, it's important that the crew work together to launch the life rafts, evacuate the vessel, and await rescue.

Each crew member will be assigned duties to perform in the event of an emergency. After boarding the vessel, please check the muster list and confirm the duties that you've been assigned to. It's important that you understand what is required of you, so please ask your superior if you have any questions.

Please memorize the signs and signals used in times of emergency, such as a fire. Please also confirm the actions to take when you discover a fire or see a person fall overboard. As the first person on the scene, your first duty is to raise the alarm. Do not attempt to extinguish a fire on your own, and do not jump into the water to rescue a person who has fallen overboard.



- “Hold on!” ②⑥
- Shout “Man overboard!” and throw flotation objects such as a wooden box to the person. ②⑦



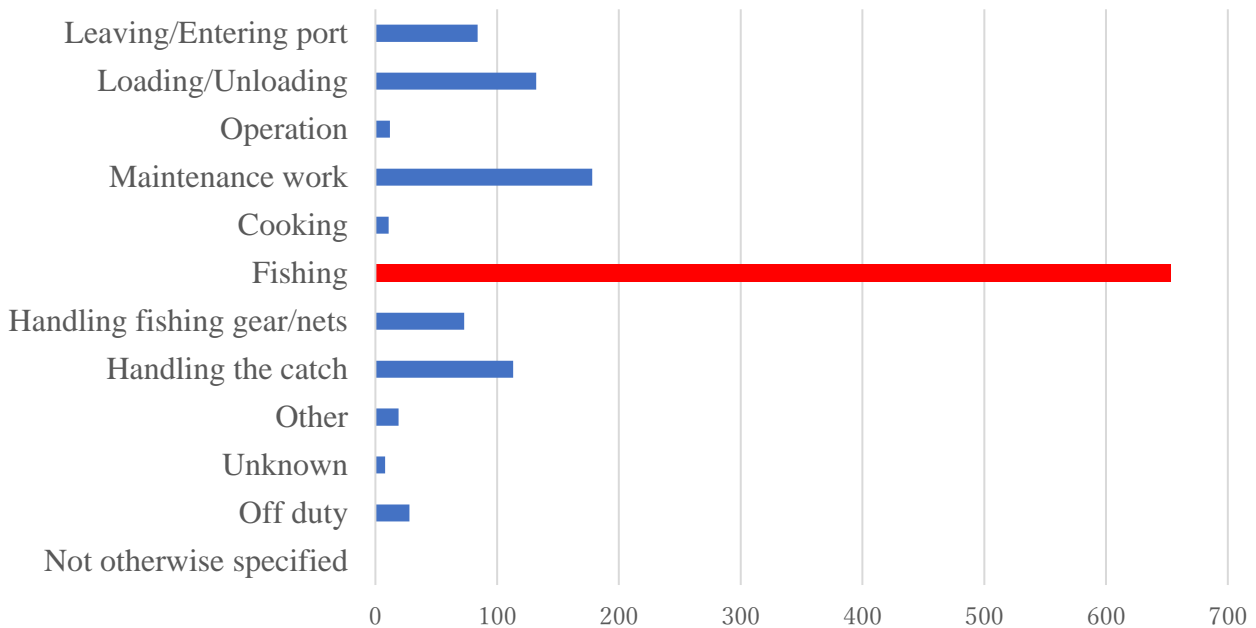
- Temporary repairing of a hole in a seawater pipe using rope. ②⑧
- “Fire!” Approach fire from upwind when attempting to suppress it with an extinguishing agent. ②⑨



- “Help will come!” ③⑩
- “Help is here!” ③①



## Number of accidents by task 1311 cases (Out of action for 3 or more days)



### 2014–2017 Statistics from the report under Article 111 of the Mariners Law

#### 6. Safety measures for onboard work

Most fishing vessel accidents occur during fishing operations.

##### 1) Entanglement/Crushing

Fishing vessels are equipped with powerful machinery such as fishing and mooring equipment. Some have covers and guards to prevent contact, however, they will not automatically stop like elevator doors when they encounter an obstruction. And even if they have an emergency stop button, the button must be manually pressed.

There have been numerous incidents in which crew members have gotten tangled or caught in fishing equipment or fishing gear, resulting in limbs and bodies being crushed or twisted.

**Case 1:** During a hauling operation, a crew member who was bundling nets with a sling got his left hand tangled in the sling and was dragged upward by the winch. The task of bundling the nets was being performed by two crew members. ③②

**Cause:** The crew members weren't keeping an eye on each other. The signal to winch in was given without confirming that all was clear.

**Preventive measure:** When performing tasks in pairs or teams, crew members must pay attention to their coworkers' movements and only proceed after confirming their coworkers' safety.



**Case 2:** A crew member was using the net hauler in rough weather. When the vessel rolled heavily, the crew member lost his balance. The sleeve of his raincoat got caught in the net hauler, resulting in his left hand and forearm being pulled into the net hauler. ③③

**Cause:** Loss of balance. Proximity to the roller. The roller was not stopped in time.

**Preventive measure:** When working in rough weather, crew members must assume a stable posture to keep from losing their balance, and should keep clear of rotating equipment. A lookout must be posted and be ready to initiate an emergency stop.

## 2) Unexpected reactions/Unnatural postures

These include back sprains from lifting heavy objects, and muscle injury, twists, and sprains from working in unnatural positions. These frequently occur during fishing operations and while handling the catch or fishing equipment.

**Case 1:** A crew member was attempting to lift a 30-kilo basket and pour the catch into the sorter when the vessel began rolling heavily. The crew member was thrown off balance and sprained his right hand.③④

**Cause:** The crew member was lifting a heavy object alone and was unable to maintain his balance when the vessel began rolling.

**Preventive measure:** Keep in mind that working on a vessel is very different from working on land. Heavy objects must be handled by two or more crew members. Crew members must also be on guard for sudden vessel motion.

(Remember that any injury to yourself will greatly inconvenience the rest of the crew. Do not be hesitate to ask for help.)

**Case 2:** A crew member was flicking a bonito onto the deck when the fish began thrashing and came off the hook. Thrown off-balance, the crew member tried to regain his footing, but ended up spraining the right side of his back. ③⑤

**Cause:** The crew member did not anticipate the possibility of the fish coming loose and was caught off-guard.

**Preventive measure:** Be aware that the hook can come loose or the line can break when pulling a fish onto the deck. Assume a stable posture and stay alert. Normally, both ankles should be wedged under the water spray chumming system pipe for a secure hold.





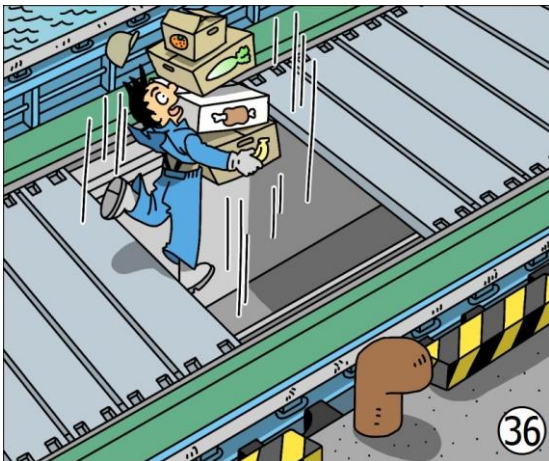
### 3) Falls

Falls are caused by tripping or slipping on deck areas or other surfaces. Crashing into the deck or an object can result in serious injury or even death.

**Case:** While loading food supplies, a crew member slipped and fell from the deck into the fish hold, smashing his right knee. ③⑥

**Cause:** Because the vessel was in port and stable, the crew member let his guard down and was not paying attention to his footing.

**Preventive measure:** Fish hold openings, fishing gear, and protrusions are found in the narrow spaces on deck. Caution is required even when the vessel isn't in motion. Avoid carrying objects in a way that obstructs your vision.



### 4) Falls overboard

Most falls overboard occur due to tripping, being thrown by the motion of the vessel, becoming tangled in fishing gear or fishing nets, or being swept away by a wave. It is a major cause of fatalities.

While most incidents occur during fishing operations, there have been cases in which drunk crew members have fallen overboard while trying to urinate from the ship's side, or while passing between ship and shore. In many cases, there are no witnesses and the exact cause remains unknown.

**Case 1:** Floats, ropes, nets, and other equipment were shot out in turn during a shooting procedure. When the final rope was shot out, a crew member fell from the slipway with the rope and went missing. ③⑦

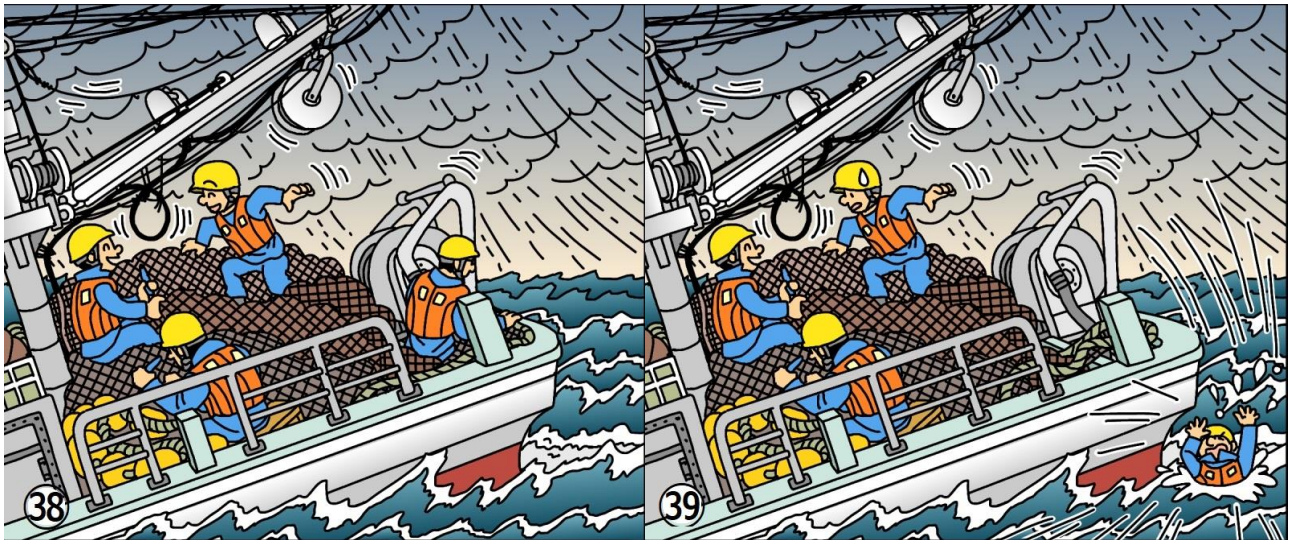
**Cause:** The crew member was working in close proximity to the rope that was shot out from the slipway. The crew members weren't paying attention to each other's work posture or position.

**Preventive measure:** Slipways are extremely slippery and require caution. Crew members must wear safety footwear with slip-resistant soles, and must not step over ropes or place their feet in the bight of a rope. Clear signals are required while working, and crew members must monitor each other, call out to each other, and confirm each other's position.

**Case 2:** A crew member was folding nets while in transit after a hauling operation. He lost his balance, fell into the sea, and went missing. ③⑧ ③⑨

**Cause:** The crew member was working alone in a poor footing area. The motion of the vessel caused him to lose his balance, and there was no guardrail or handhold for him to hold on to.

**Preventive measure:** In poor footing areas such as a deck covered with nets, it's important to pay attention to your footing and have something to hold on to in the event that you lose your balance. When working on deck areas, always wear a lifeline or life jacket, and employ a buddy system or post a lookout in accordance with the law.



## II Aquaculture industry

### 1. Pointers for working in the aquaculture industry

Those working in the aquaculture industry must be mindful of some of the same points as those working on vessels.

⇒ Please read points I. 3, and 4.

### 2. Safety measures for the aquaculture industry

**Case 1:** The floor of the oyster washing area was wet, but a worker ran across in a hurry. He slipped, fell, and broke his wrist. ④⑩

**Cause:** The floor was wet. The worker was running.

**Preventive measure:** Wet floors are a slipping hazard. Wear slip-resistant shoes and do not run.

**Case 2:** A piece of scrap got caught in the rotating part of a conveyor belt used to move shellfish. When a worker tried to remove it, his hand got caught in the machine. ④⑪

**Cause:** He tried to remove the obstruction without turning off the machine.

**Preventive measure:** Always turn off the machine before removing caught scraps or cleaning the machine.

