

# No more crash accidents with divers or swimmers!

-- Crash accidents with a small vessels during diving and snorkeling --

! Be alerted to the fact we had the following accident recently:

In June 2017, a passenger ship crashed into swimmers snorkeling in the area.

Summary: The captain was the only person onboard, and was sailing on the sea off the west shore of Toubarisaki, Iriomote, Okinawa Prefecture, on the way swimmers to pick up passengers and a tour guide, when his ship crashed into a snorkeling swimmer.

The swimmer was seriously injured, such as open wounds in the right forearm, fractures in the right shoulder blade and multiple fractured ribs.

-- From Japan-Marine Accident Risk and Safety Information System (J-MARISIS) --



Report URL: [http://www.mlit.go.jp/jtsb/ship/rep-acci/2018/MA2018-2-37\\_2017nh0028.pdf](http://www.mlit.go.jp/jtsb/ship/rep-acci/2018/MA2018-2-37_2017nh0028.pdf)

## Introduction

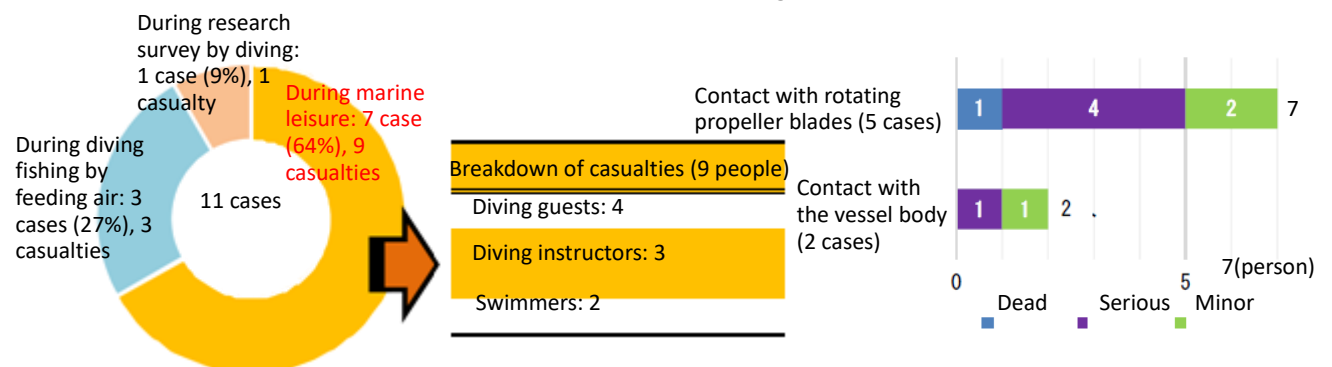
Okinawa Prefecture offers the environment that is good for people who are keen to enjoy marine leisure such as diving all the year round. The number of tourists who come here for that purpose is not small. If an accident as exemplified above takes place, it will ruin the fun moment.

This leaflet summarizes statistical information on accidents occurred in Okinawa Prefecture in which divers or swimmers were struck by small vessels which was published in vessel accidents investigation reports by JTSB during a period between October 2008 and July 2018 and points to note in order to prevent similar accidents from occurring, and presents matters to be alerted by people in the diving industry as well as people who steer the vessel in the sea areas where diving activities are carried out.

## Statistical information on the occurrence of crash accidents involving small vessels and divers or swimmers

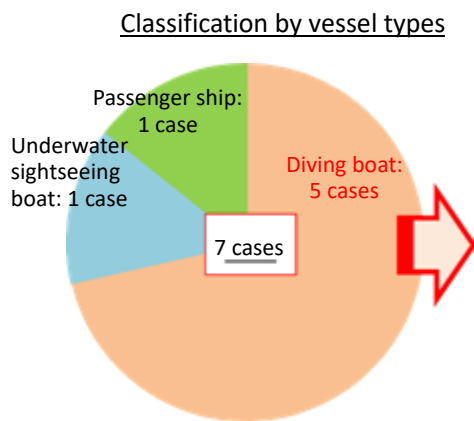
There were 11 accidents which injured or killed divers or swimmers, and 7 of them occurred during marine leisure (9 casualties), which can be further classified by two direct causes: "contact with rotating propeller blades", and "contact with the vessel body". The former, "contact with propeller blades", causes serious injuries in most of the cases, and serious consequences such as death.

## Statistical information on the occurrence of crash accidents involving small vessels and divers or swimmers



## Situations where diving boat accidents occurred

The 7 cases during marine leisure can be classified by vessel types, and diving boats are the most common, and 4 of them occurred when the boat moved backward.



## What people were doing when the accidents occurred

<p><b><u>Diving boat (in backward move)</u></b></p> <ul style="list-style-type: none"> <li>- Diving guests and diving instructor were instructed to dive from the aft.</li> <li>- It approached to the divers with backward move faster than usual.</li> </ul>	<p><b><u>Divers or swimmers</u></b></p> <ul style="list-style-type: none"> <li>- During anchoring operation (1 case) <ul style="list-style-type: none"> <li>▲ Accident case example 1</li> </ul> </li> <li>- During entry (2 case) <ul style="list-style-type: none"> <li>▲ Accident case example 2</li> </ul> </li> <li>- During diving (1 case)</li> <li>- During stand-by on the surface (1)</li> </ul>
<p><b><u>Captain</u></b></p> <ul style="list-style-type: none"> <li>- Leaving the steering wheel, he moved to the rear end of the flying bridge.</li> <li>- He was focused on selecting the anchoring position.</li> <li>- In order to pick up the divers as quickly as possible, he moved backward faster than usual.</li> <li>- In order to depart early so that the guests will not get wet by rain, he did not check the surroundings of the boat.</li> </ul>	

Elements common to all 5 cases of the diving boat accidents are **absence of onboard lookout or supervisor other than the operator**, and **absence of equipment such as a propeller guard**.

### **Accident case example 1: Diving boat**

#### **Rotating propeller blades contacted with the diving instructor engaged in anchoring operation**

Summary: The people onboard included the captain, 5 instructors and 7 diving guests. During anchoring operation at the diving site in Agonoura Port, Zamami village, Okinawa Prefecture, rotating propeller blades contacted the instructor who dived into the sea from the port quarter in order to anchor to the seabed.

-- From Japan-Marine Accident Risk and Safety Information System (J-MARISIS) --



#### **Development until the accident occurs**

The captain started anchoring operation at the diving site, and had instructor A dive into the sea and anchored by winding the anchoring cable from the stem around a rock on the seabed.

→ The captain geared backward the clutch lever of the engine at both sides of the boat in order to extend the anchoring cable from the stem.

→ The captain was **focused on selecting an anchoring position for the next anchor of the port quarter, and forgot to gear the clutch lever of the engine to neutral**.

→ The captain, when the anchoring cable of the stem was extended about 10 m by the backward movement of the boat, sent a signal by hand to instructor B who carried an anchor and was waiting for a signal at the ladder of the port quarter, in order to anchor the anchor of the port quarter.

→ Instructor B carrying an anchor dived into the sea from the port quarter, and then struck by the propeller blades.

→ Killed

# When diving, stop the engine as a basic rule.

# Install propeller guards or the like in case of accidents.

Report URL:

[http://www.mlit.go.jp/jtsb/ship/rep-acci/2011/MA2011-7-1\\_2011tk0006.pdf](http://www.mlit.go.jp/jtsb/ship/rep-acci/2011/MA2011-7-1_2011tk0006.pdf)

## Accident case example 2: Diving boat

### Rotating propeller blades hit a diving guest at the entry

Summary: The captain was onboard alone, and then let 24 diving guests and 4 instructors 4 onboard. When they were staying on the sea without dropping an anchor off the west coast of Kuba Island of Kerama Islands in Okinawa Prefecture, one of the diving guests who dived into the sea from the aft hit rotating propeller blades.

-- From Japan-Marine Accident Risk and Safety Information System (J-MARISIS) --



### Development until the accident occurs

After the captain had Group 1 and Group 2 enter the water, the boat was drifted away being influenced by the wind. The captain geared backward to move the ship to the entry point, and then, in order to stop forward inertia, geared the clutch lever backward for both sides of the engine and kept idling.

→When the captain was about to move to the rear end of the flying bridge to check how close the ship's starboard quarter was to the reefs that go underwater during high water, the instructor of Group 3 asked him whether entry was possible. Then the captain signaled that the entry was possible, but he completely forgot about the clutch lever geared backward for the both sides.

→The instructor checked that forward inertia was still left to the boat, and signaled for entry to the diving guests.

→The instructor realized immediately after the entry that the boat was slowly moving backward, and called out to the captain with a loud voice about it. Then, the captain geared the clutch lever neutral for the both sides, but the rotating propeller blades on the port side hit the diving guest.

→Seriously injured

# When diving, stop the engine as a basic rule.

# Install propeller guards or the like in case of accidents.

Report URL:

[http://www.mlit.go.jp/jtsb/ship/rep-acci/2009/MA2009-6-24\\_2008nh0021.pdf](http://www.mlit.go.jp/jtsb/ship/rep-acci/2009/MA2009-6-24_2008nh0021.pdf)

## Accident case example 3: Underwater sightseeing boat

### A sightseeing cruise ship hit swimmers snorkeling in the surrounding area

Summary: The captain was onboard alone, and let 7 tourists onboard, and while showing the tourists coral reefs in the sea, he steered the helm to make a right turn at a position south easterly off the shore from Ikema Island, Miyakojima City, Okinawa Prefecture, and the ship's port bow hit one of the swimmers.

-- From Japan-Marine Accident Risk and Safety Information System (J-MARISIS) --



### Development until the accident occurs

The captain found, in the sea area near coral reefs present south easterly off the coast of Ikema Island, a rubber boat of snorkeling tour anchored there and multiple swimmers wearing goggles on the sea surface in the surrounding area of the boat. # The captain was wearing sunglasses.

→Although the visibility was not very good due to the sunlight reflecting on the sea surface, the captain assumed that the rubber boat was letting the swimmers swim in the area foreside of the boat as they usually do. Then, when the captain steered his ship to make a right turn in order to keep a distance from swimmers who were visible in the sea area foreside of the boat, he realized that there were 2 swimmers ahead of his ship and geared neutral for the engine, but the ship's port bow hit one of the swimmers.

→Slightly injured

# Do not act on assumptions.

Report URL:

[http://www.mlit.go.jp/jtsb/ship/rep-acci/2013/MA2013-4-71\\_2012nh0034.pdf](http://www.mlit.go.jp/jtsb/ship/rep-acci/2013/MA2013-4-71_2012nh0034.pdf)

## Summary

### To prevent causing death or injury to divers or swimmers hit by small vessels

#### ☞ Points to note

Divers or swimmers are not easily viewable from the operator's position.

- When sailing into sea areas where coral reef observation points are available, the boat requires to have a person adequately lookout the surroundings, being conscious of possible presence of divers or swimmers as well.
- If there is sunlight reflection on the sea surface, lookout the surroundings more carefully than usual.
- Stop the ship's engines if divers are near the ship. To resume, first thoroughly check the surroundings.
- The diving industries should have a person dedicated to supervising on the diving boat other than the operator, so that the positions and movements of the divers can be precisely understood
- The diving industries should provide equipment that makes it difficult for propeller blades to easily contact the divers, such as propeller guards, on the body of the diving boats.

☞ Regarding the points above, there are something that divers and swimmers can do.

The operator of the ship may not be aware that you are in the sea.

The ship may look stay still, but its propeller may be rotating.

- If the ship moves toward you, watch out the movement of the ship until you are sure that the ship is making evasive maneuver.
- If there is a difficulty in communicating with people onboard, do not move toward the ship.

#### -- Information on collection of analysis published by Naha Office --

- No more small vessels' flooding accidents!

-- Back to basics --

- Main cause of dozing off at the helm is lack of sufficient sleep and fatigue!

-- Toward prevention of dozing off at the helm of fishing boats in the sea areas surrounding Okinawa --

- Analysis on overturning accidents in the coral reef sea areas

- Analysis on fishing boats running on in the coral reef sea areas

- For preventing accidents similar to the leisure boats accidents from occurring

- Analysis on passenger ship accidents running on in the sea areas surrounding Okinawa

The collection of analysis is viewable from the following URL:

Analysis by JTSB Regional Offices Search

[http://www.mlit.go.jp/jtsb/bunseki-kankoubutu/localanalysis/localanalysis\\_new.html](http://www.mlit.go.jp/jtsb/bunseki-kankoubutu/localanalysis/localanalysis_new.html)

Japan Transport Safety Board, Secretariat, Naha Office

2-11-1, Minato-machi, Naha city, Okinawa,

900-0001, Japan

Tel: +81-98-868-9335 Fax: +81-98-862-8156

URL <http://www.mlit.go.jp/jtsb/>

Accidents, risks and safety information retrievable from a map

Japan-Marine Accident Risk and Safety Information System (J-MARISIS) Search

<https://jtsb.mlit.go.jp/hazardmap/>

Mobile site →

