For recurrence prevention of leisure boat accidents

Kudaka Island

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Naha Office, Secretariat, Japan Transport Safety Board (JTSB)

Introduction

Japan Transport Safety Board (JTSB) is an organization established in October 2008 aiming at investigating causes of aircraft, railway and marine accidents and incidents ("accidents/incidents"), preventing recurrence of such accidents/incidents, and reducing damages caused by accidents.
Naha Office of the JTSB Secretariat takes charge of the areas covering Amami Islands in Kagoshima Prefecture and Okinawa prefecture, where there are many beautiful sea areas surrounded by coral reefs, and various marine leisure activities such as fishing and diving have been actively carried out. On the other hand, there are many accidents/incidents involving vessels for marine leisure activities (hereinafter "leisure boats") occurring every year.
In view of this, we have formulated into this leaflet summarizing leisure boat accidents/incidents (70 cases, 72 vessels) occurred in these areas, which were reported in the vessel accidents/incidents investigation reports published in a period between October 2008 and August 2012.

We would be very grateful if this leaflet could contribute to develop a deeper understanding of safe operations in people who are involved in boating in these areas, and thereby preventing similar accidents from occurring.

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1. Characteristics of marine leisure activities in surrounding sea areas of Okinawa, etc.

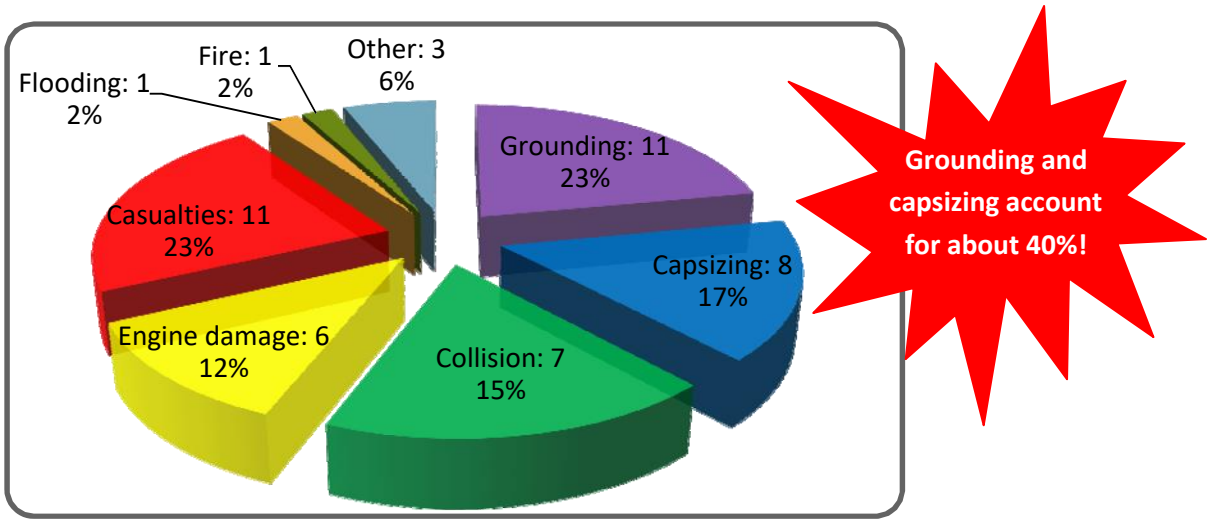
Many tourists visit islands in Okinawa and neighboring areas throughout a year, and may of them enjoy marine leisure activities and sports in the water. There are many facilities and companies which attract these tourists and actively provide services for them.
A number of tourists enjoy a wide variety of leisure activities while riding a rental boat in these facilities, or getting on a boat operated by these companies.
However, the sea areas around Okinawa and neighboring areas are generally exposed to strong winds, and coral reefs spread widely, which result in narrow sea areas left for ships to travel, and even people who are familiar with the operation of ships still require to use extra caution.

2. Current status of leisure boat accidents/incidents

Leisure boats are operated various ways. For example, a boat used for scuba diving is operated by a specialized company, but some tourists rent a boat to enjoy fishing. Further, boats which offer high speed and freedom of movement such as personal watercrafts are also available. In addition, these leisure boats are constantly operated in the surrounding sea areas of Okinawa, etc., without seasonal variation.
This leaflet introduces you information on leisure boat accidents/incidents from the accidents/incidents investigation reports published in a period between October 2008 and August 2012 based on the investigation conducted by JTSB.

(1) Motorboat and sailboat accidents/incidents

The graph on the next page shows types of accidents/incidents (48 cases, 50 vessels) involving motorboats, sailboats, etc.
Since these boats sail in the sea areas where there are many coral reefs, the rate of grounding accidents or capsizing accidents accounts for about 40% of the total, which is the characteristics of the surrounding sea areas of Okinawa, etc.
Motorboats, sailboats, etc. are often operated by tourists themselves for their marine leisure activities, but they are not familiar with weather conditions in the Okinawa area, i.e., heavy winds, and the sea conditions with many coral reefs, because of which not a small number of these tourist cause accidents/incidents.
Some other typical causes of accidents are due to an inadequate lookout of the surroundings, such as preparing for fishing or enthusiastically talking with others while operating the boat.



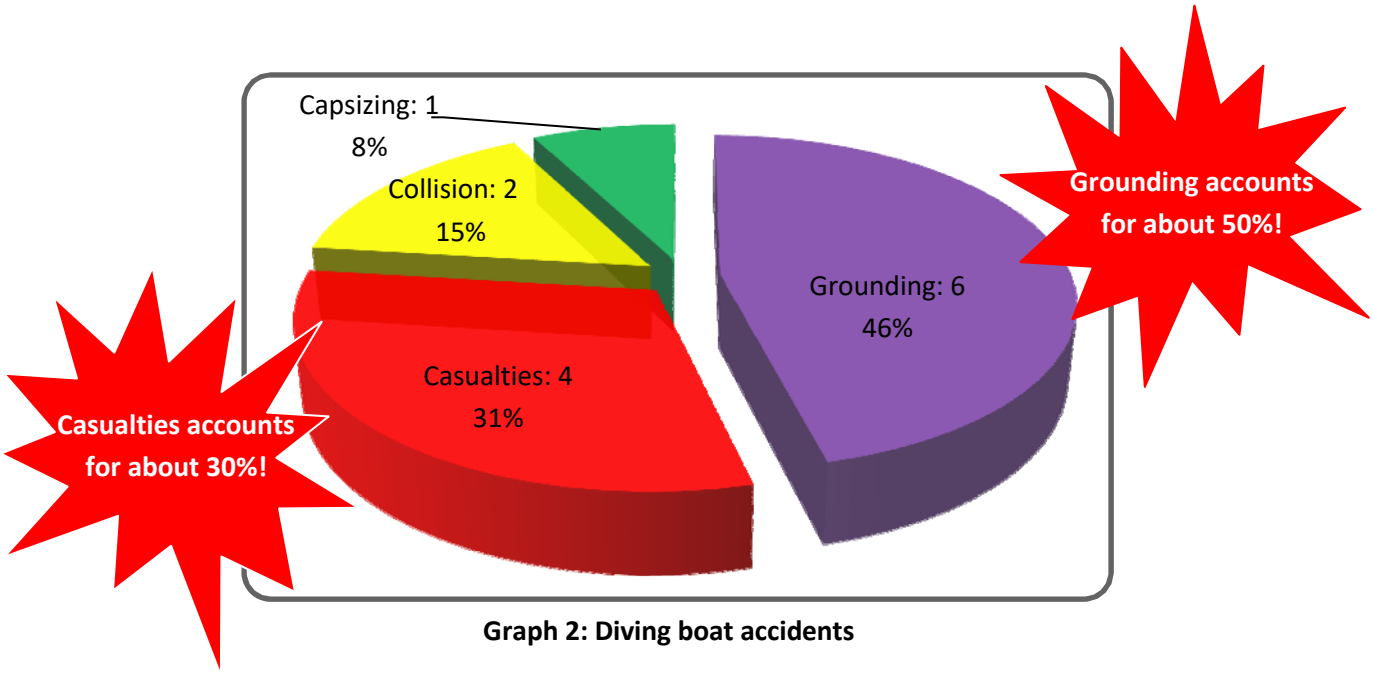
Graph 1: Motorboat and sailboat accidents/incidents

(Note) Casualties (deaths and injuries) do not include those resulted from grounding or collision.

(2) Diving boat accidents

The following graph shows types of accidents involving diving boats (13 cases, 13 vessels). The major cause of diving boat accidents is grounding, which accounts for about 50% of the total. Scuba diving for leisure requires to release internal gas underwater near the surface, in order to prevent the diver from developing a diving disorder.

A diving boat coming to pick up a diver often sails in a shallow sea area, which is considered to be one of the background factors of grounding accidents. In addition, the captain of the boat also acts as the scuba diving instructor in many cases, which makes it difficult to constantly observe the change in the conditions of the surrounding area, thereby resulting in an accident. Besides the above, many divers have been killed or injured by being struck by screw propellers.



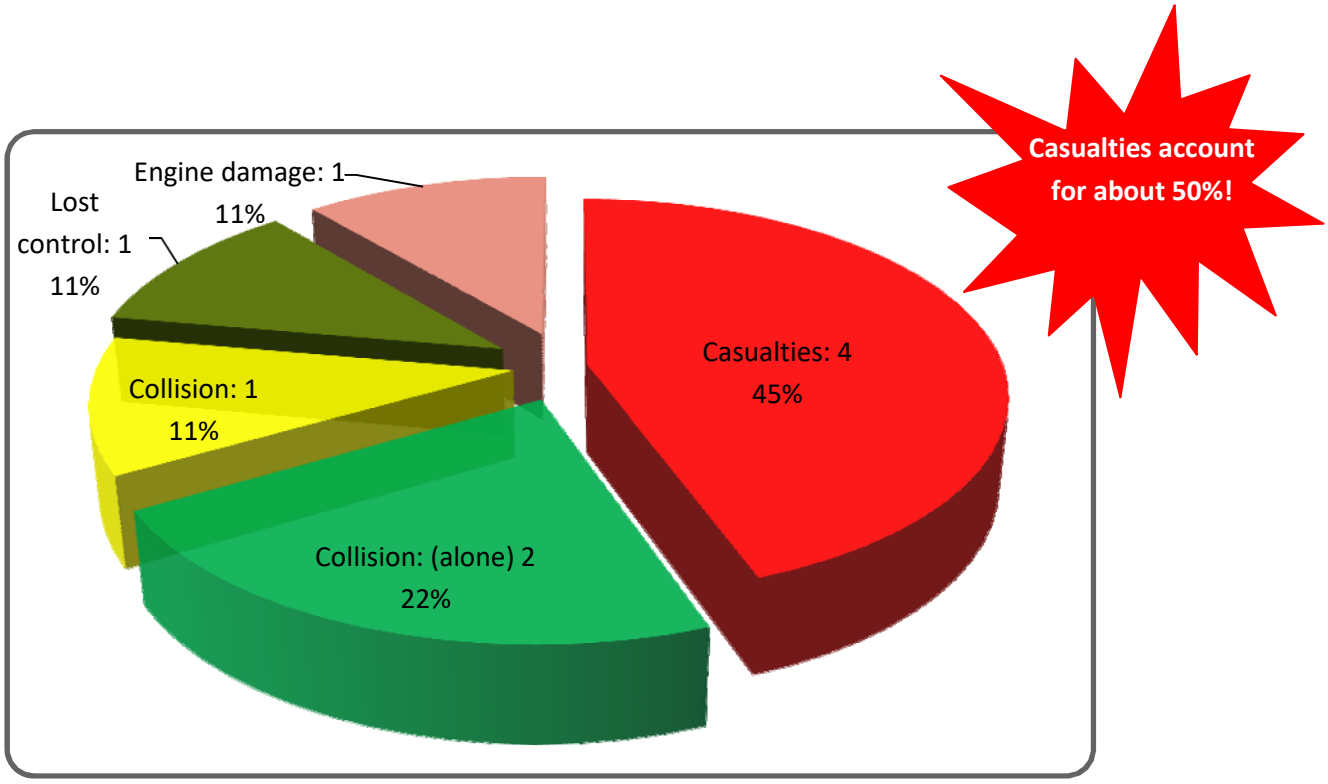
Graph 2: Diving boat accidents

(3) Personal watercraft accidents/incidents

The following graph shows the types of accidents/incidents involving personal watercrafts (9 cases, 9 vessels).

People enjoy activities with personal watercrafts mainly by the tourists who rent them to sail around the surrounding sea areas, or the operators of a boat towing a float on which tourists are sitting.

Largely because of the characteristics of personal watercrafts (in terms of the structure, performance, operation, etc.), accidents causing injury or death are the majority, accounting for about 50" of the total, with 1 death and 5 injured.



Graph 3: Personal watercraft accidents/incidents

3 Accident case example 1

On the way to return to the port after fishing, the captain attempted to take a short cut to sail in the shallow reef area, which caused capsizing by sudden surfs.

Accident overview

Time & Date : Around 1530 hours, Saturday, July 14, 2012

Overview : When pleasure motorboat A ("Boat A") which was operated by the captain alone with one guest onboard, was returning to the port after fishing offshore southwesterly from the Bunase Cape, Onna village, Okinawa prefecture, the captain attempted to take a short cut to sail a shallow reef area, which resulted capsizing due to sudden surfs.
The captain and the guest were rescued by a person sailing a personal watercraft who witnessed the capsizing.
Boat A was damaged on the bow, etc. with scratches and wet damages on an external machine, but no casualties (the captain and the guest were wearing a life jacket).

Weather and water conditions: Cloudy, wind scale 4, south wind, clam surface.

A sudden wave called "surf" may be caused near the coast or coral reef.

This accident was resulted from the captain's careless act of approaching to coral reefs.

Other matter : The captain used the dock in Nakama district of Onna village, and was taught by the local people about the water route to enter and leave the dock, and was sailing accordingly. However, at the time of the accident, there was not much fuel left, so the captain sailed the shallow reef area to short cut, instead of the water route being taught.

Causes

The cause of this accident is considered that when the ship was sailing south-south west offshore Bunase Cape, the captain sailed the shallow reef area, and the ship was struck by a surf and capsizing.

Accident case example 2

Since the captain forgot to gear the clutch lever to neutral, the diving boat was slowly move backward, a diving guest was struck by rotating propellers.

Accident overview

Time & Date : Around 1200 hours, Saturday, October 11, 2008

Summary : The diving boat had the captain, 24 diving guests and 4 instructors onboard, and got underway from Naha Port of Okinawa prefecture to offshore the west coast of Kuba Island in Kerama Islands in the prefecture for diving. At the diving site, the captain had diving guests dive into the sea while the clutch lever geared backward, and both knees of one of the diving guests were struck by the propellers to cause severe injuries.

Weather and water conditions : Clear, wind scale 4, north wind, moderate waves and a weak northerly current.

In this case example, the captain forgot that the clutch lever was geared backward and signaled for entry to diving guests, and a diving guest was struck by rotating propellers. When having diving guests enter the water, whether the propellers are rotating must be checked in advance.

Causes

The cause of this accident is considered that, when the captain had divers enter the water from the stern of the boat at a diving site offshore the west coast of Kuba Island in Zamami village, Okinawa prefecture, the boat was slowly moving backward, because of which a diver entered the water was struck by rotating propellers.

The captain geared the clutch lever of the engine backward in order to stop forward inertia, and left the helm to check how close the ship's starboard quarter was to the reefs that go underwater during high water, which allowed the boat move backward.

It is considered to be probable that when the captain was asked by an instructor whether or not entry would be possible, he forgot about the clutch lever being geared backward, and gave an affirmative signal without checking safety, for the clutch lever.

Accident case example 3

Since the captain was inexperienced with the boat's operation, the ship lost control under the influence of the wind and wave, and collided with the breakwater.

Accident overview

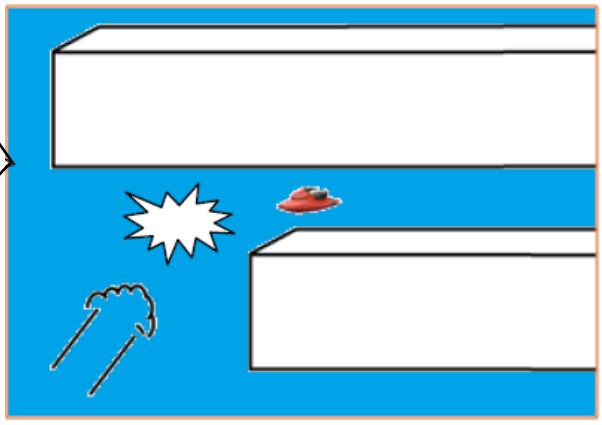
Time & Date : Around 1600 hours, Monday, June 6, 2011

Summary : Personal watercraft A ("Boat A") had the captain, and 2 guests onboard and got underway from the marina, and immediately after passing by the west breakwater in the Ginowan port in Ginowan City, Okinawa prefecture, Boat A was hit by the wind and lost control, resulting in a collision to the north breakwater in the Ginowan port.
At the time of the accident, it was first time for the captain to sail the boat after he obtained the license.
Boat A was towed to the marina by a personal watercraft that came to help the boat.
Boat A was damaged on the starboard bow with cracks, etc., and the captain and one guest were injured (all of the guests were wearing a life jacket).

Weather and water conditions : Clear, wind scale 4, west-southwest wind, calm surface

In this case example, since the captain was inexperienced with the operation, and the boat lost control under the influence of the wind and collided with the breakwater.

Before operating a personal watercraft, the operator needs to be trained



Causes

The cause of this accident is considered that, when the boat got underway from the marina in Gino Port, since the captain was inexperienced with the operation of the boat, the ship lost control under the influence of the wind, and collided with the north breakwater in Gino Port.

4. Tips for preventing accidents

(1) Presence of surfs

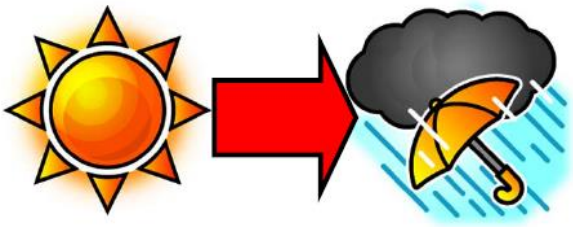
Even if the surface looks calm, a big wave may be suddenly generated in a shallow water area. This is called "surf", which is caused by waves from offshore due to the reduction of the water depth. Due to the existence of many coral reefs in the sea areas surrounding Okinawa, etc., the capsizing accidents caused by surfs are constantly occurring on ships sailing near the coast.

Even local people who know where surfs are easily generated may cause an accident if they are not careful enough.

When operating a vessel for sightseeing or fishing, you should gather information on the points where surfs are easily generated before getting underway, and use extra caution when sailing in a shallow reef area or near a coral reef.

(2) Collecting weather information

Before getting underway, collect weather information such as from weather forecast.



The sea areas surrounding Okinawa, etc. do not have many weather observation spots, unlike other sea areas, and thus, a forecast may be suddenly changed.

At present, local weather information can be obtained at once by a mobile phone, etc.

When getting underway in surrounding sea areas of Okinawa, etc., it is not enough to check weather forecast once in the morning. It is necessary to frequently obtain weather information.

(3) Using your own judgment on changing conditions

If you encounter the situation "there were many ships around my ship, but suddenly they all started leaving for the port", this generally means that captains of those ships decide to return to the port, perceiving signs of changing weather based on the changes of winds and temperature, etc.

If you notice that other ships are going back to the port in an unfamiliar location, you should also go back to the port as soon as possible.

On the other hand, you may consider that "the forecast says that the wind is getting stronger from now, but there are still ships around my ship, so it's too early to return to the port", and may not be able to evacuate timely.

Some ships may stand stormy weather, but some may not, and risks of accidents vary depending on the experiences of the captain.

If you visit Okinawa or the surrounding areas for sightseeing, you may feel like spend the limited time as effectively as possible, but if you encounter an accident, the good time you have spent turns to a bitter experience. If you are not familiar enough to the water and the ship, you should place "safety first" when making a decision.

(4) Wearing a life jacket

People who get on board a small ship must wear a life jacket without exception. It has been well-known that the survival rate of the people who wear a life jacket is significantly higher than those who are not.

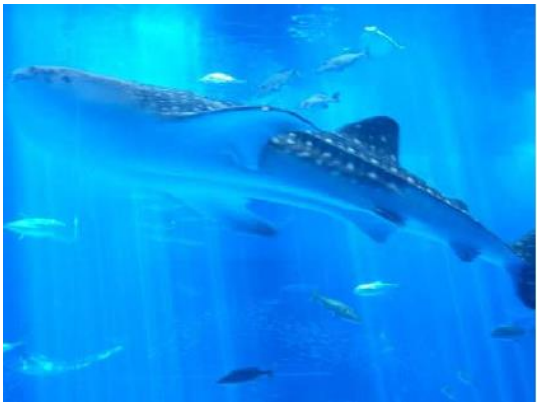
Not only the captain, but also anyone who are onboard to enjoy marine leisure activities should wear an appropriate life jacket (for adult, child, infant).

It is the captain's responsibility to have the people onboard wear a life jacket.

Conclusion

- **Check any dangerous areas in advance!**
- **Collect weather information before getting underway!**
- **Keep looking out the surrounding while sailing!**
- **The captain has the duty to have people onboard wear a life jacket!**

Contact Office



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