# Chapter 5 Marine accident and incident investigations

## 1 Marine accidents and incidents to be investigated

**<Marine accidents to be investigated>**

**◎Paragraph 5, Article 2 of the Act for Establishment of the Japan Transport Safety Board**

(Definition of marine accident)

The term "Marine Accident" as used in this Act shall mean as follows:

1 Damage to a ship or facilities other than a ship related to the operations of a ship.

2 Death or injury of the people concerned with the construction, equipment or operation of a ship.

**<Marine incidents to be investigated>**

**◎Item 2, paragraph 6, Article 2 of the Act for Establishment of the Japan Transport Safety Board** (Definition of marine incident)

A situation, prescribed by Ordinance of Ministry of Land, Infrastructure, Transport and Tourism, where deemed to bear a risk of Marine Accident occurring.

**◎Article 3 of Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board**

(A situation, prescribed by Ordinance of the Ministry of Land, Infrastructure, Transport and Tourism, stipulated in item 2, paragraph 6, Article 2 of the Act for Establishment of the Japan Transport Safety Board)

1 The situation wherein a ship became a loss of control due to any of the following reasons:

(a) navigational equipment failure;

(b) listing of a ship; or

(c) short of fuel or fresh water required for engine operation.

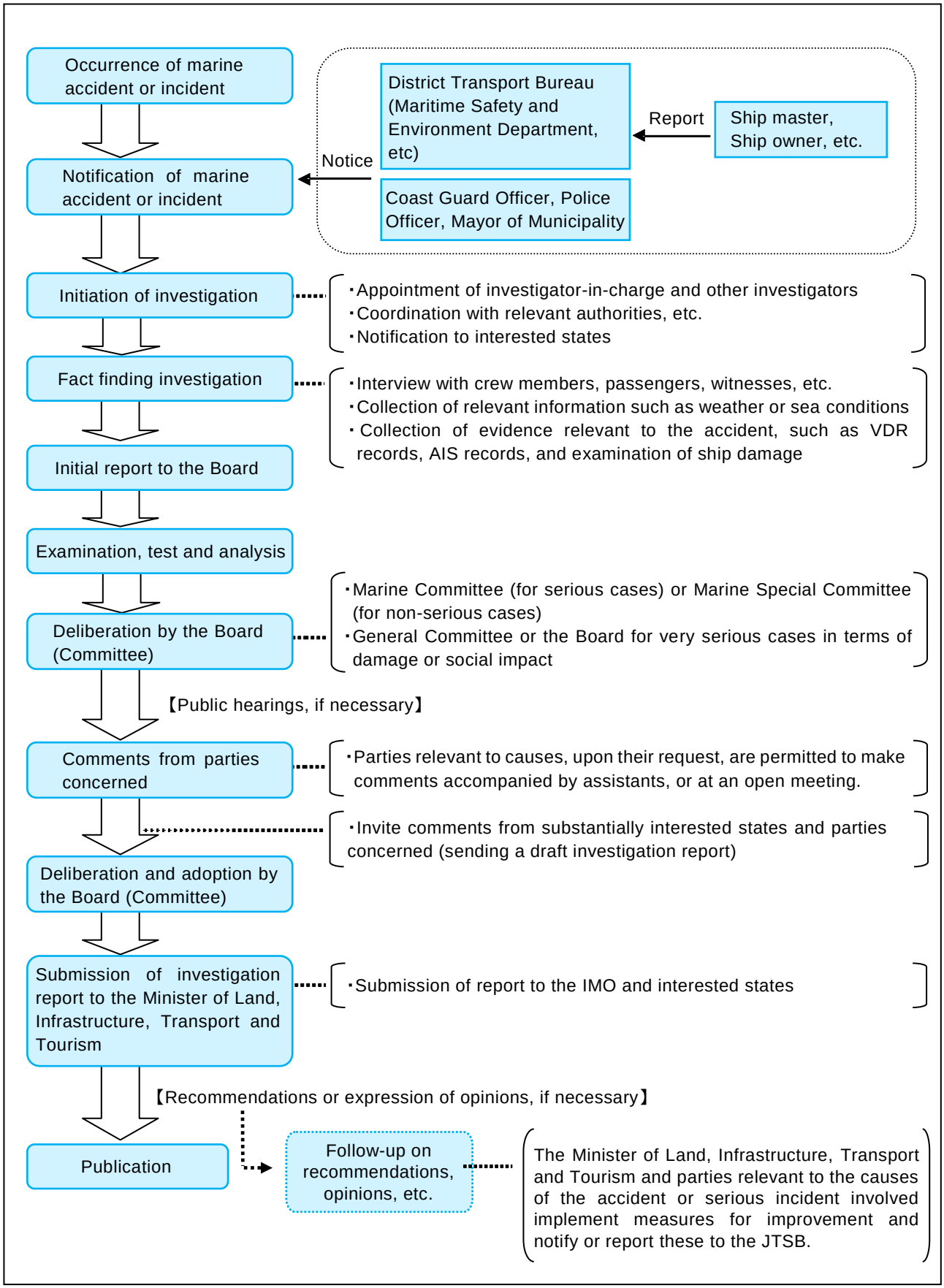
2 The situation where a ship grounded without any damage to the hull; and

3 In addition to what is provided for in the preceding two items, the situation where safety or navigation of a ship was obstructed.

**<Category of marine accident and incident>**

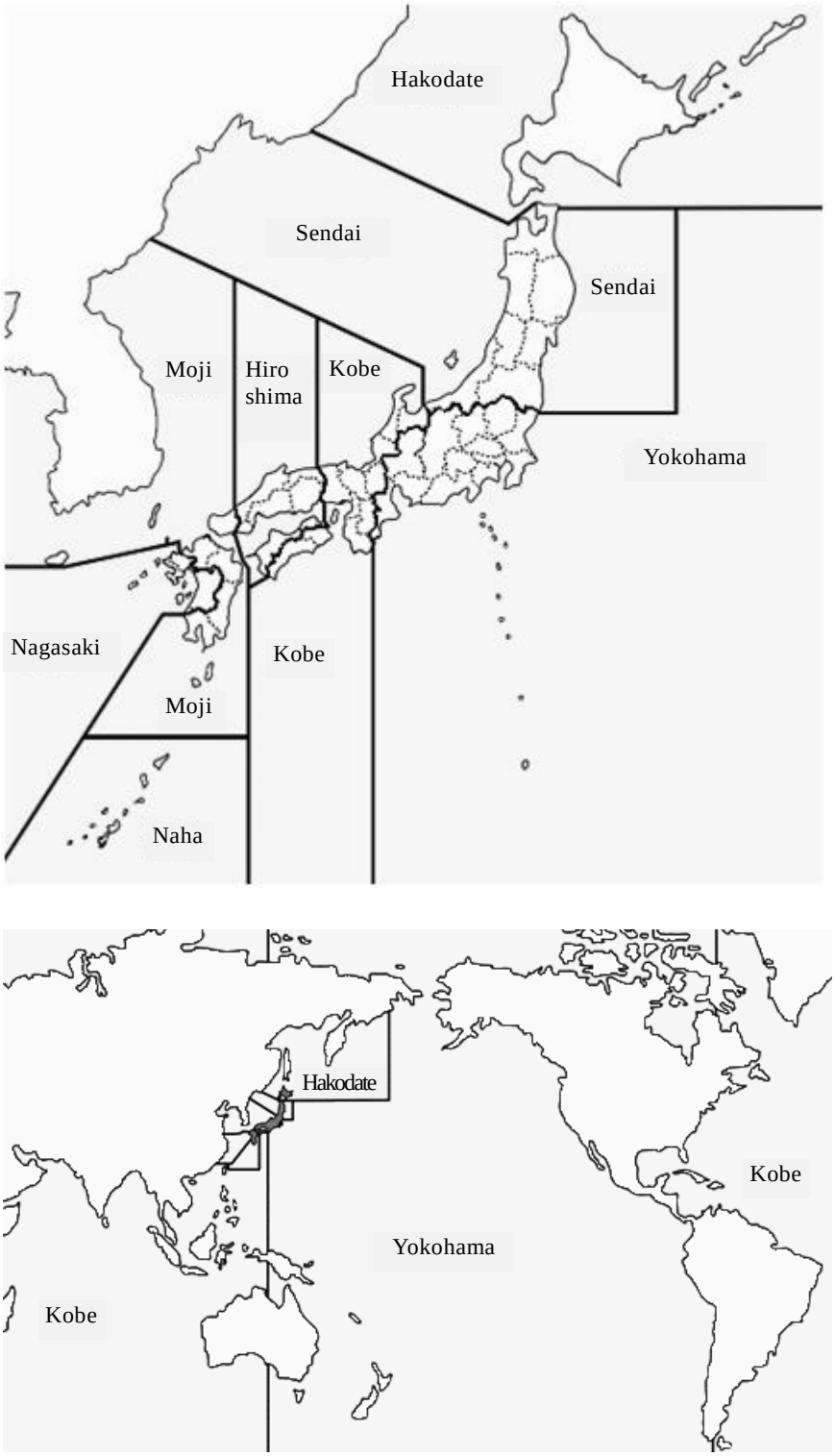
| Marine accident and incident to be investigated | | Type of marine accident and incident |
|---|---|---|
| Marine accident | Damage to ships or other facilities involved in ship operation | Collision, Grounding, Sinking, Flooding, Capsizing, Fire, Explosion, Missing, Damage to facilities |
| | Casualty related to ship structures, equipment or operations | Death, Death and injury, Missing person, Injury |
| Marine incident | Navigational equipment failure | Loss of control (engine failure, propeller failure, rudder failure) |
| | Listing of ship | Loss of control (extraordinary listing) |
| | Short of fuel or fresh water required for engine operation | Loss of control (fuel shortage, fresh water shortage) |
| | Grounding without hull damage | Stranded |
| | Obstruction of ship safety or navigation | Safety obstruction, Navigation obstruction |

## 2 Procedure of marine accident/incident investigation



## 3 Jurisdiction of the Offices over marine accidents and incidents

For the investigation of marine accidents and incidents regional investigators are stationed in the regional offices (eight offices). Our jurisdiction covers marine accidents and incidents in the waters around the world, including rivers and lakes in Japan. The regional offices are in charge of investigations in the respective areas shown in the following map. Marine accident investigators in the Tokyo Office (Headquarters) are in charge of serious marine accidents and incidents.




**Jurisdiction map**

## 4 Role of the Offices and Committees according to category of accident and incident

Serious marine accidents and incidents are investigated by the marine accident investigators in the Headquarters, and are deliberated in the Marine Committee. However, particularly serious accidents are deliberated in the General Committee, and extremely serious accidents are deliberated in the Board.

Non-serious marine accidents and incidents are investigated by regional investigators stationed in the eight regional offices, and deliberated in the Marine Special Committee.

(For the deliberation items of the Board and each Committee, refer to page 2 of the Appendixes)

<table>
<tr><td>Serious marine accidents and incidents</td><td>Office in charge of investigation: Marine accident investigators in the Headquarters<br>Committee in charge of deliberation and adoption: Marine Committee</td></tr>
<tr><td colspan="2">Definition of ”serious marine accidents and incidents”<br>•Cases where a passenger died or went missing, or two or more passengers were severely injured.<br>•Cases where five or more persons died or went missing.<br>•Cases involved a vessel engaged on international voyages where the vessel was a total loss, or a person on the vessel died or went missing.<br>•Cases of spills of oil or other substances where the environment was severely damaged.<br>•Cases where unprecedented damage occurred following a marine accident or incident.<br>•Cases which made a significant social impact.<br>•Cases where identification of the causes is expected to be significantly difficult.<br>•Cases where essential lessons for the mitigation of damage are expected to be learned.</td></tr>
<tr><td>Non-serious marine accidents and incidents</td><td>Office in charge of investigation: Regional investigators in the regional offices<br>Committee in charge of deliberation and adoption: Marine Special Committee</td></tr>
</table>

## 5 Statistics of investigations of marine accidents and incidents (As of end of February 2016)

The JTSB carried out investigations of marine accidents and incidents in 2015 as follows:

Investigations into 688 accidents had been carried over from 2014, and 793 accident investigations newly launched in 2015. Investigation reports on 862 accidents were published, and thereby 613 accident investigations were carried over to 2016.

Investigations into 87 incidents had been carried over from 2014, and 106 incident investigations newly launched in 2015. Investigation reports on 126 incidents were published, and thereby 66 incident investigations were carried over to 2016.

Investigations of marine accidents and incidents in 2015

(Cases)

| Category | Carried over from 2014 | Launched in 2015 | Not applicable | Transferred to Tokyo Office | Total | Publication of investigation report | (Recommendations) | (Safety recommendations) | (Opinions) | Carried over to 2016 | (Interim report) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Marine accident | 688 | 793 | △6 | 0 | 1,475 | 862 | (0) | (0) | (0) | 613 | (0) |
| Tokyo Office (Serious cases) | 24 | 8 | △1 | 2 | 33 | 18 | | | | 15 | |
| Regional Offices (Non-serious cases) | 662 | 785 | △5 | △2 | 1,442 | 844 | | | | 598 | |
| Marine incident | 87 | 106 | △1 | 0 | 192 | 126 | (0) | (0) | (0) | 66 | (0) |
| Tokyo Office (Serious cases) | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | |
| Regional Offices (Non-serious cases) | 87 | 106 | △1 | 0 | 192 | 126 | | | | 66 | |
| Total | 775 | 899 | △7 | 0 | 1,667 | 988 | (0) | (0) | (0) | 679 | (0) |

Note 1. The figures for “Launched in 2015” includes cases which occurred in 2014 or earlier, and which the JTSB was notified of in 2015 as subjects of investigation.

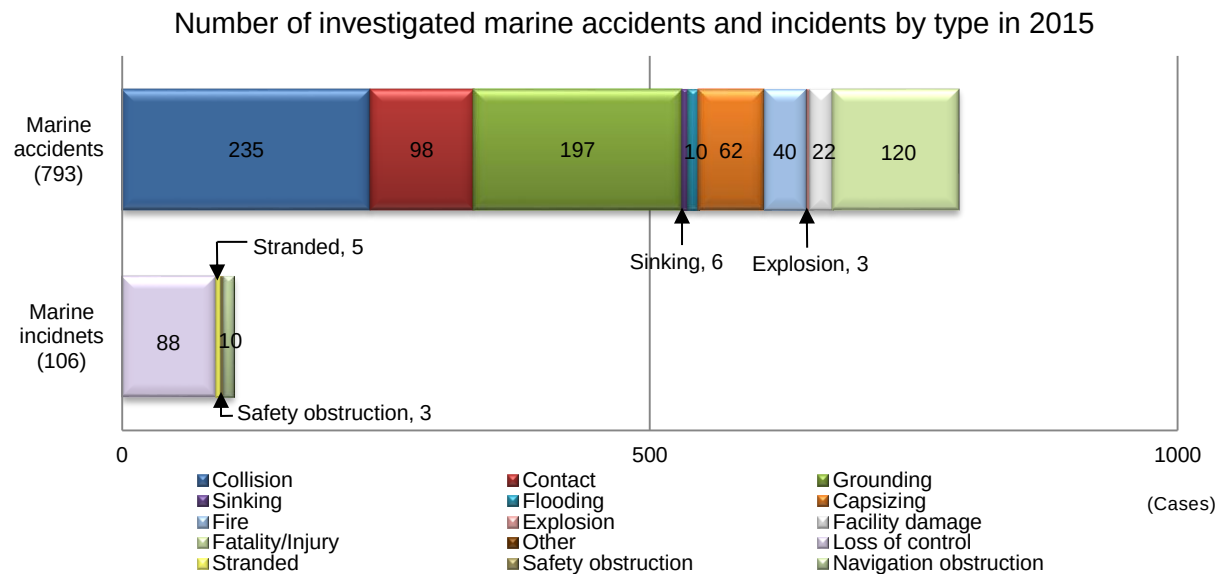
Note 2: The column “Not applicable” shows the number of cases which did not come under the category of accident or incident as defined in Article 2 of the Act for Establishment of the Japan Transport Safety Board.

Note 3: The column “Transferred to Tokyo Office” shows the number of cases where the investigation found out that it was serious and the jurisdiction was transferred from the regional office to the Tokyo Office.

## 6 Statistics of investigations launched in 2015 (As of end of February 2016)

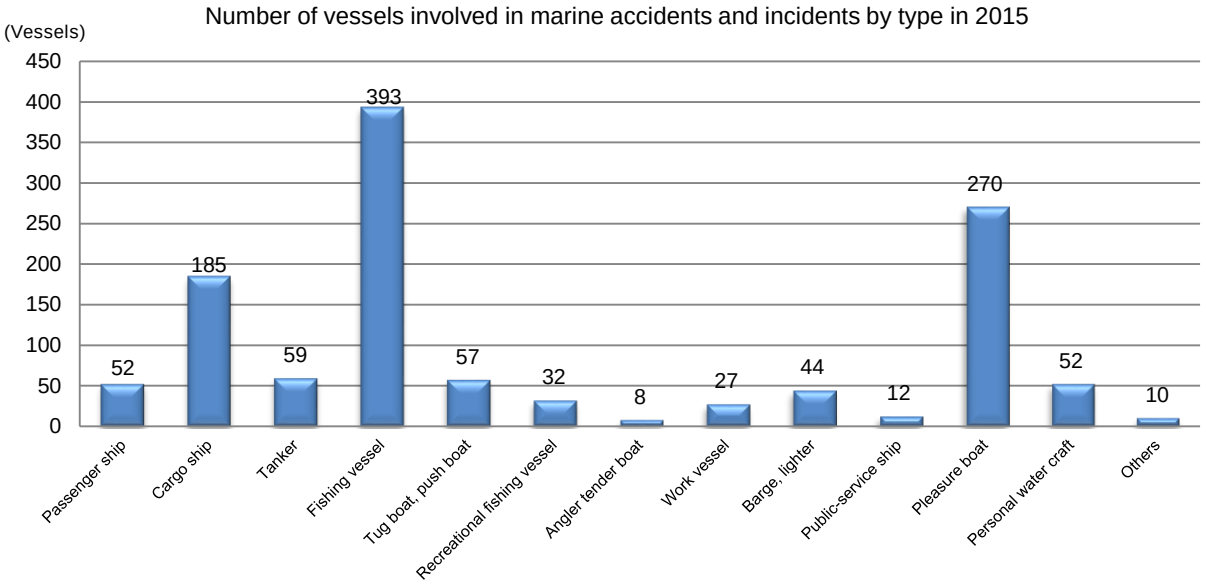
### (1) Types of accidents and incidents

The 899 investigations launched in 2015 are classified by types as follows: With regard to marine accidents, there were 235 cases of collision, 197 cases of grounding, 120 cases of fatality/injury (not involved in other types of accidents), and 98 cases of contact. With regard to marine incidents, there were 88 cases of loss of control, 10 cases of navigation obstruction, and five cases of stranded. The objects of contact were quays in 24 cases, breakwaters in 21 cases, and light beacon in nine cases.




(2) Types of vessels

The number of vessels involved in marine accidents and incidents is 1,201. Those vessels are classified by type as follows: 393 fishing vessels, 270 pleasure boats, 185 cargo ships, 59 tankers, and 57 tug boat, push boats.




The number of foreign-registered vessels involved in marine accidents and incidents was 86, and they were classified by accident type as follows: 47 vessels in collision, 16 vessels in grounding, and 11 vessels in contact. As for the flag of vessels, 19 vessels were registered in Panama, 17 vessels in South Korea, 12 vessels in Cambodia, seven vessels in Hong Kong. The number of vessels registered in Asian countries or regions was accounting for a half of the accidents and incidents.

Number of foreign-registered vessels by flag

(Vessels)

| | | | | | |
|---|---|---|---|---|---|
| Panama | 19 | Viet Nam | 4 | Sierra Leone | 2 |
| South Korea | 17 | Bahamas | 4 | Belize | 2 |
| Cambodia | 12 | Liberia | 4 | Malta | 2 |
| Hong Kong | 7 | Singapore | 3 | Others | 10 |

(3) Number of casualties

The number of casualties was 395, consisting of 80 deaths, 15 missing persons, and 300 injured persons. By type of vessel, 130 persons in pleasure boats and 123 persons in fishing vessels. By type of accident, 143 persons in casualties, 114 persons in collision, 54 persons in contact, 45 persons in capsizing, and 22 persons in grounding.

With regard to persons dead or missing, 51 persons were involved in fishing vessel accidents, 24 persons in pleasure-boat accidents, indicating dead or missing cases occurred frequently in fishing vessels.

Number of casualties (marine accident)

(Persons)

| 2015 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vessel type | Dead | | | Missing | | | Injured | | | Total |
| | Crew | Passengers | Others | Crew | Passengers | Others | Crew | Passengers | Others | |
| Passenger ship | 2 | 1 | 0 | 0 | 1 | 0 | 3 | 19 | 3 | 29 |
| Cargo ship | 5 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 13 |
| Tanker | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| Fishing vessel | 41 | 0 | 0 | 10 | 0 | 0 | 71 | 0 | 1 | 123 |
| Tug boat, push boat | 3 | 0 | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 9 |
| Recreational fishing vessel | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 13 | 0 | 17 |
| Angler tender boat | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 |
| Work vessel | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 4 |
| Barge, lighter | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Public-service ship | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 3 | 9 |
| Pleasure boat | 12 | 0 | 10 | 2 | 0 | 0 | 32 | 0 | 74 | 130 |
| Personal water craft | 0 | 0 | 2 | 0 | 0 | 1 | 16 | 0 | 31 | 50 |
| Others | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| Total | 64 | 3 | 13 | 13 | 1 | 1 | 150 | 37 | 113 | 395 |
| | 80 | | | 15 | | | 300 | | | |

## 7 Summaries of serious marine accidents and incidents which occurred in 2015

The serious marine accidents which occurred in 2015 are summarized as follows: The summaries are based on information available at the initial stage of the investigations and therefore, may change depending on the course of investigations and deliberations.

(Marine accident)

| | | |
|---|---|---|
| 1 | Date and location of accident | Vessel type and name, accident type |
| | March 27, 2015<br>Near the area 1.5 km to the east of Sumiyoshi Fishing Port, Hakodate City, Hokkaido | Tug boat MEIYU No. 18 (Ship A)<br>Towed barge SK-106 (Ship B)<br>Capsize |
| | Summary | Ship A, with four crew members onboard, and Ship B, which was being towed, capsized.<br>Two of the crew members of Ship A died, and one crew member went missing. |
| 2 | Date and location of accident | Vessel type and name, accident type |
| | April 12, 2015<br>In Oge Port, Oge Island, Imabari City, Ehime Prefecture | Passenger ship FUNADA<br>Fire |
| | Summary | The ship caught fire in Oge Port, Oge Island, Imabari City, and foundered.<br>One of the passengers died, and one went missing. |
| 3 | Date and location of accident | Vessel type and name, accident type |
| | July 31, 2015<br>Near the area about 55 km off the coast of Tomakomai, Hokkaido | Passenger ferry SUNFLOWER DAISETSU<br>Fire |
| | Summary | While the ship was sailing from the Port of Oarai in Ibaraki Prefecture to the Port of Tomakomai, a fire broke out in the vehicle deck, near the area about 55 km off the coast of Tomakomai.<br>One crew member died. |
| 4 | Date and location of accident | Vessel type and name, accident type |
| | August 4, 2015<br>Off the southwestern tip of Azuchi-Oshima Island, Hirato City, Nagasaki Prefecture | Fishing vessel EBISUMARU No. 6<br>Fatality of fishing passenger |
| | Summary | The ship, with the skipper on board, boarded two fishing passengers, and while it was anchored for fishing off the southwestern tip of Azuchi-Oshima Island, one fishing passenger fell into the water and died. |
| 5 | Date and location of accident | Vessel type and name, accident type |
| | H27.10.14<br>October 14, 2015<br>No.5 Wharf in Soma Port, Soma City, Fukushima Prefecture | Cargo Ship ASIAN INFINITY (Panama)<br>Fatal accident involving a crew member |
| | Summary | The crew menber fell down to a cargo hold and died when cleaning the cargo hold after discharging cargo while the ship was at berth alongside No.5 Wharf in Soma Port, Soma City, Fukushima Prefecture. |
| 6 | Date and location of accident | Vessel type and name, accident type |
| | H27.10.17<br>October 17, 2015<br>Off the east of Mutsure-jima Island, Shimonoseki City, Yamaguchi Prefecture | Chemical Tanker SULPHUR GARLAND (Ship A, Panama)<br>Oil Tanker WAKO MARU NO. 2 (Ship B)<br>Collision |
| | Summary | Ship A and Ship B collided with each other off the east of Mutsure-jima Island, Shimonoseki City, Yamaguchi Prefecture. Consequently, some oil spilled from Ship B into the sea. |
| 7 | Date and location of accident | Vessel type and name, accident type |
| | H27.10.19<br>October 19, 2015<br>Higashinada Tomen Silo Quay, Higashinada Ward, Kobe City, Hyogo Prefecture | Cargo Ship TRITON SWAN (Panama)<br>Fatal accident involving a person concerned with cargo operation |
| | Summary | While the ship was moored at the above quay, the person concerned with cargo operation was found collapsed in a cargo hold by another person concerned with cargo operation. He was recovered from the hold by a fire and rescue team, but was confirmed dead. |
| 8 | Date and location of accident | Vessel type and name, accident type |
| | October 24, 2015<br>Off the coast of Yamada Bay, Iwate Prefecture | Fishing vessel KAISHUMARU<br>Fatality of fishing passenger |

| | | |
|---|---|---|
| | Summary | Immediately after beginning fishing off the coast of Yamada Bay, Iwate Prefecture, a fishing passenger who could not be located on board was discovered floating on the water face-down and was pulled back on board, but was confirmed to be dead. |

(Marine incident)

No marine incident occurred in 2015.

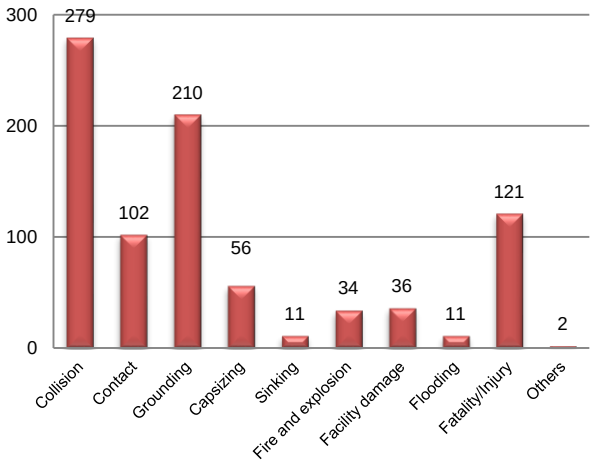
## 8 Publication of investigation reports

The number of investigation reports of marine accidents and incidents published in 2015 was 988 composed of 862 marine accidents (among them, 18 were serious) and 126 marine incidents.

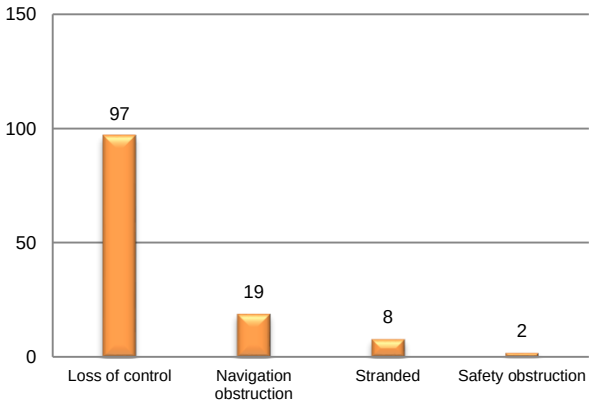
Looking those accidents and incidents by type, there were 279 cases of collision, 210 cases of grounding, 121 cases of fatality/injury, and 102 cases of contact in marine accidents. Whereas in marine incidents, there were 97 cases of losses of control, (including 95 cases of navigational equipment failure and two cases of out-of-fuel), 19 cases of navigation obstruction, and eight cases of stranded.

As for the objects of contact, 25 were breakwaters, 19 were quays, and seven were light buoys.

Marine accidents (862 cases): reports publicized in 2015




Marine incidents (126 cases): reports publicized in 2015




The number of vessels involved in marine accidents and incidents was 1,354. Looking at those vessels by type, the vessels involved in marine accidents were 394 fishing vessels, 216 cargo ships, 215 pleasure boats, and 69 tug boats and push boats. The vessels involved in marine incidents were 49 fishing vessels, 32 pleasure boats, 18 cargo ships, and 15 passenger ships.

Number of vessels by type involved in marine accidents and incidents for which reports were publicized in 2015

(Vessels)

| Classification | Passenger ship | Cargo ship | Tanker | Fishing vessel | Tug boat, push boat | Recreational fishing vessel | Angler tender boat | Work vessel | Barge, lighter | Public-service ship | Pleasure boat | Personal water craft | Others | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Marine accident | 47 | 216 | 64 | 394 | 69 | 39 | 7 | 34 | 50 | 14 | 215 | 58 | 19 | 1,226 |
| Marine incident | 15 | 18 | 6 | 49 | 3 | 0 | 0 | 1 | 2 | 1 | 32 | 1 | 0 | 128 |
| Total | 62 | 234 | 70 | 443 | 72 | 39 | 7 | 35 | 52 | 15 | 247 | 59 | 19 | 1,354 |
| % | 4.6 | 17.3 | 5.2 | 32.7 | 5.3 | 2.9 | 0.5 | 2.6 | 3.8 | 1.1 | 18.2 | 4.4 | 1.4 | 100.0 |

The published investigation reports on serious marine accidents and incidents in 2015 can be found on JTSB website at:

http://www.mlit.go.jp/jtsb/marrep.html

## 9 Actions taken in response to recommendations in 2015

There were no actions taken in response to recommendations in 2015.

## 10 Provision of factual information in 2015

There were no cases of provision of factual information in 2015.

Column

## Environmental Regulations and the IoT

**Marine Accident Investigator**

Currently, there is great attention being placed on new environmental regulations and technological trends which could conceivably affect marine accident investigations in the future.

The management of ballast water is the subject of one such new environmental regulation, with International Maritime Organization (IMO) treaties related to it nearing the completion of the conditions for its enactment. The objective of this regulation is to prevent ecosystems from being impacted when microorganisms in ballast water for ships are released into marine areas where they do not normally live, and then propagate in those waters. Personally, I enjoy eating hard-shell clams, but generally such introduced species are very troublesome. Under this regulation, for the time being it will be necessary for ships to replace their ballast water offshore before entering ports, and in the future to be equipped with ballast water treatment equipment. Any errors in the replacement procedures for ballast water could cause ship hulls to list, and though most treatment equipment uses filters and ultraviolet (UV) light, some types use chemical agents, and so safe operation of such equipment will be a necessity.

Another environmental regulation specifies the use of fuel with low sulfur content. This regulation is intended to prevent the destruction of forests due to acid rain caused by sulfur oxide in the air. Fuel with low sulfur content has a lower viscosity than C heavy oil, and since it is more watery, it affects the conditions of wear and degradation of pumps equipped with engines and their parts. Measures such as cooling the fuel in advance in order to raise its viscosity are being taken to address this, but even still, the number of accidents involving power failure occurring off the coast of California as noted in Lloyd's List has been increasing since 1 to 2 years ago. Also, the number of ships using LNG for their fuel, as a type of new fuel that does not include sulfur, has been rising. The "International Code of Safety for Ships using Gases or other Low-flashpoint Fuels" (IGF code) has been created to indicate safety requirements such as the distance required between external hull plating and LNG fuel tanks, and is scheduled to become mandatory, but there will be a need in the future to prepare responses to address unforeseen risks as well.

As a form of new technology, the IoT (Internet of Things) for ships has also become the subject of much recent attention. Currently, information is gathered on ships using voyage data recorders (VDRs) or engine data loggers. Such information is transmitted to land-based destinations using high-capacity satellite telecommunications, and shipping agents or other parties on land use the Internet to acquire and analyze the information, introducing services such as giving advice on ship speed or navigation plans with consideration for fuel efficiency, detecting abnormal engine conditions, and providing recommendations on maintenance content. Conventionally, investigators have been given training on procedures to obtain objective data from VDRs or other equipment that required learning methods of identifying data that were different for each manufacturer, and when accidents occurred, they would board ships to extract the data before the accumulated information was overwritten. The advancement of IoT technology could possibly lead to the ability in the future to collect data from land without having to wait for ships to enter ports.

Although environmental protection measures such as these are undoubtedly important, it will also be necessary to consider new environmental regulations as background elements in marine accidents, to minimize any safety-related issues that could be their by-products, and to utilize information obtained from new technology in accident investigations. As a marine accident investigator, I would like to continue to conduct flexible investigations while gaining a first-hand understanding of the trends occurring in regulations and technology.

## 11 Summaries of major marine accident investigation reports (Case studies)

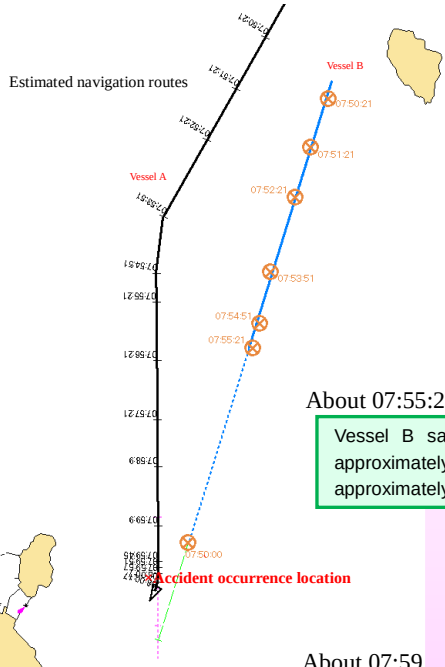
# Collision of large Self-Defense Force ship with small pleasure boat, resulting in two fatalities

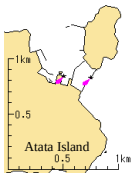
# Collision between tank landing ship OSUMI and pleasure boat TOBIUO

**Summary:** The OSUMI (Vessel A, standard displacement of 8,900 tons), with the master, chief navigator, and 120 crew members onboard, was proceeding southward from Kure Port, Kure City in Hiroshima Prefecture toward Tamano City in Okayama Prefecture. The TOBIUO (Vessel B, length: 7.60 m), with the skipper and three acquaintances of skipper onboard, was proceeding south-south-west from Hiroshima City, Hiroshima Prefecture, toward the coast of Kabuto Island, located south of Atata Island, Otake City, Hiroshima Prefecture. The two ships collided off the eastern coast of Atata Island.

For Ship B, the skipper and one passenger died, and one other passenger sustained injuries. In addition, there were abrasions and other damage to the starboard side of the ship, and the ship capsized.

For Ship A, there were abrasions extending from the center part of the port side to the stern, but there were no fatalities.




About 07:54

Vessel A veered to 180° and sailed at a speed of approximately 17 kn.

About 07:55:21 – 58:40

Vessel A sailed while maintaining its course and speed.

07:58:40 – 48sec

The chief navigator gave orders to lower the speed one level to proceed all ahead at high speed.

07:59:13

The skipper gave orders to lower the speed one level further, to proceed all ahead at normal speed.

About 07:59:37

The skipper gave orders to proceed all ahead at slow speed.

07:59:40 – 43sec

The skipper gave orders to stop both propellers, sound an alarm signal, and put the rudder hard to starboard.

About 07:59:51

Vessel A began to reduce its speed and turn to starboard, but approached further.

About 07:55:21 – 59min

Vessel B sailed with an average course of approximately 197° and an average speed of approximately 16.4 kn.

About 07:59

Vessel B gradually changed course to starboard

About 07:59:46 – 55sec

Vessel B made preparations to head for Atata Fishing Port and approached Vessel A.

After 07:59:55

Vessel B approached to within 15 m of the side of Vessel A's port bow, and reduced speed or stopped, but approached further.

***Collision (about 08:00)***

**Probable causes:** It is probable that this accident occurred because off the eastern coast of Atata Island, when Vessel A was proceeding south and Vessel B was proceeding south-southwest, Vessel A sailed while maintaining its course and speed, and Vessel B changed course to starboard from ahead of the port side of Vessel A, approaching close to the bow of Vessel A, and when Vessel A attempted to avoid it by reducing its speed and turning to starboard, both ships approached even closer to each other and collided.

For details, please refer to the investigation report. (Published on February 9, 2015)
http://www.mlit.go.jp/jtsb/ship/rep-acci/2015/MA2015-2-1_2014tk0001.pdf

# Collision in no-passing zone in the area near the Kurushima Strait Traffic Route Naka Suido south entrance

## Collision between passenger ferry Ferry Fukuoka 2 and cargo ship RYOFU

**Summary:** A passenger ferry, Ferry Fukuoka 2 (Vessel A, gross tonnage: 9,788 tons), with a master, 23 crew members and 427 passengers onboard, and a cargo ship RYOFU (Vessel B, gross tonnage: 4,464 tons), with a master and 13 crew members onboard, collided in the vicinity of the Naka Suido south entrance at around 0253 on January 12, 2013, while sailing northwest in the Kurushima Strait Traffic Route.

vessel A had dents and scratches on the aft part of the starboard shell plate and vessel B had scratches on the port side fore, but there were no fatalities or injuries on both vessels.

Watchkeeping Arrangement
- Master: Conn
- Chief Officer: Conn assistance
- Able/ordinary seaman: Lookout
- Able/ordinary seaman: Helmsman
- Chief Engineer: Engine operation

Watchkeeping Arrangement
- Chief Officer: Tasks other than helm (lookout, steering order, speed adjustment, communication on VHF, etc.)
- Able seaman: Helm

**At around 0242**
It is considered highly probable that the vessel A, after overtaking the vessel B, entered the Kurushima Strait Traffic Route at a speed of approximately 12.5 kn and sailed toward the Naka Suido.

**At around 0244**
The master confirmed by radar that the Vessel B behind it was heading for the area near the Naka Suido south entrance and was increasing its speed.

**At around 0246**
The vessel A made a starboard turn along the Kurushima Strait Traffic Route.

**At around 0248**
The master monitored an instruction from Kurushima MARTIS to Vessel B, instructing it not to overtake Vessel A (to sail while maintaining its speed)

**At around 0251**
The vessel A started to turn to starboard toward the Naka Suido south entrance.

**At around 0252**
The master took a starboard turn in order to make a stern kick to avoid collision.

**At around 0242**
The vessel B started to turn to starboard after the vessel A overtook the vessel B.

**At around 0243**
The vessel B entered the Kurushima Strait Traffic Route at a speed of approximately 13 kn, sailed northwest toward the Naka Suido south entrance.

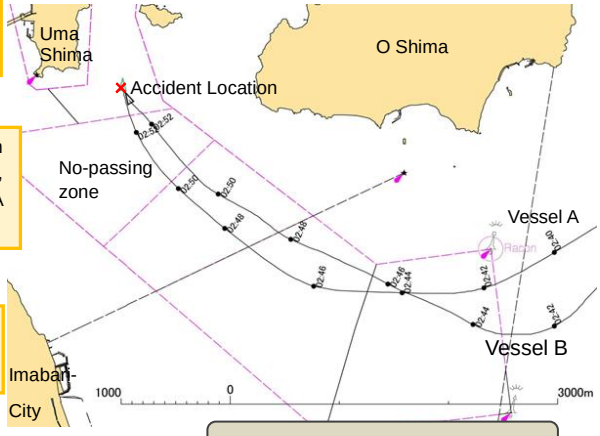
**At around 0244**
Then gradually increased the speed.

**At around 0248**
Vessel B received instructions from Kurushima MARTIS that it would soon be entering a no-passing zone, to reduce speed and follow Vessel A, and that it must not overtake Vessel A, but it did not carry out suitable operations to reduce speed and after this it continued to approach Vessel A.

**At around 0250**
When the distance to the vessel A was approximately 300 m, the vessel B took 10° to starboard and started to turn to starboard.

**At around 0252**
Vessel B put the rudder hard to starboard.

Navigation Tracks of the Vessels




Tide: Middle of falling tide
North-going current of approximately 8 kn

**Collision *At around 0253***

**Probable Causes:** It is considered probable that this accident occurred because, as the speed reduction of the officer B of the vessel B was inadequate, the vessel B continued to approach the vessel A and the vessels collided while both the vessel A and the vessel B were sailing northwest in the no-passing zone in the vicinity of the Naka Suido south entrance in the Kurushima Strait Traffic Route at night.

It is considered somewhat likely that speed reduction by the officer B was inadequate, because the officer B had to carry out all the tasks other than helming without help as the watchkeeping arrangement of the vessel B for safe navigation, such as master's attendance on the bridge and conning the vessel was not ensured during the passage through the Kurushima Strait Traffic Route which is narrow and congested with vessels.

For details, please refer to the investigation report. (Published on July 30, 2015)
http://www.mlit.go.jp/jtsb/ship/rep-acci/2015/MA2015-8-1_2014tk0016.pdf

# Grounding without recognizing navigation toward shallow areas, while avoiding groups of fishing vessels

## Grounding of passenger ferry OCEAN EAST

**Summary:** The vessel (gross tonnage: 11,523 tons) had a skipper, an able seaman, and 19 other crew members on board. It boarded 43 passengers, and while proceeding east from Tokushima-Komatsushima Port, Tokushima Prefecture, to Keihin Port Tokyo-ku, it ran aground at about 12:05 on July 18, 2014, at Okinose off the east of Tokushima-Komatsushima Port.

Although the vessel suffered damage consisting of a hole and buckling damage at the bottom of its starboard side, as well as water damage to the passenger cars loaded onto it, there were no casualties.

**About 11:40**

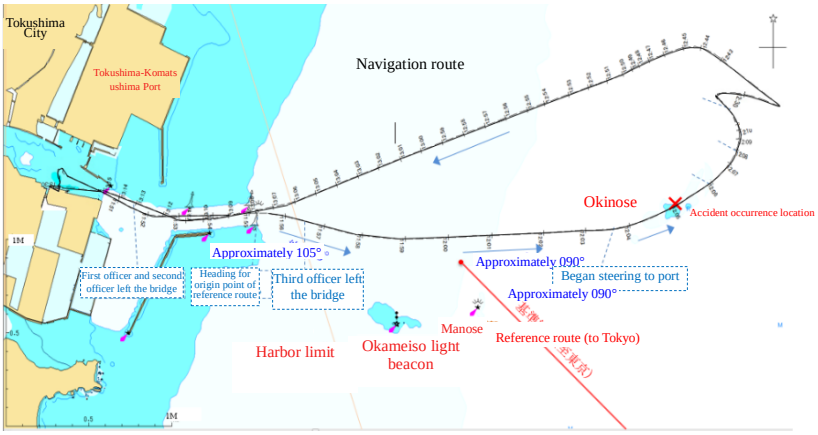
The vessel left the Tokushima-Komatsushima Port ferry berth.
(Draft: bow - approximately 5.75 m, stern - approximately 6.45 m)

**About 11:55**

It began to increase speed and assumed a course of approximately 105°.

**About 11:56**

The third officer from among the duty officers was ordered to leave the bridge, and after this no officers or lookouts were assigned.




**About 11:58**

The skipper confirmed 3 batch groups in the path ahead, and attempted to sail between the 2nd and 3rd batch groups.

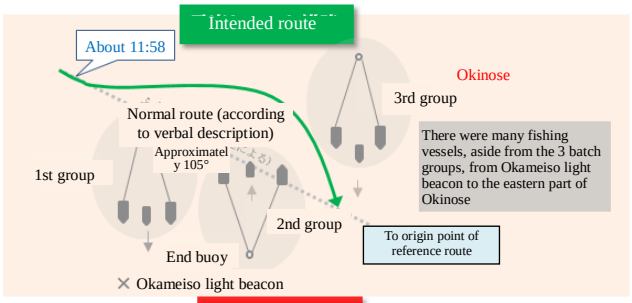
**About 11:59**

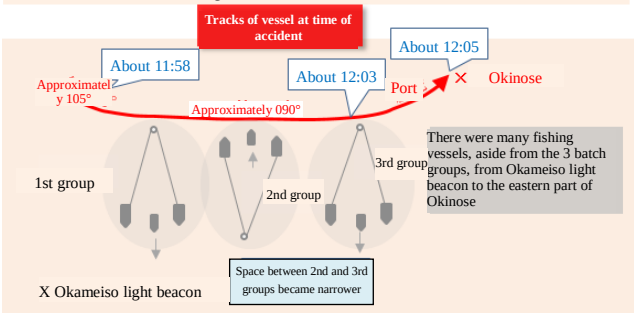
It assumed a course of approximately 090° to pass behind the 1st batch group, and after this, the space between the 2nd and 3rd batch groups narrowed, so the skipper abandoned the course of sailing between them.

**About 12:03**

The skipper intended to avoid the 3rd batch group, ordering the able seaman to put the rudder 7° to port. He then focused his attention on confirming the movement of the groups of fishing boats using binoculars, and had not confirmed the vessel's position.

***Grounding (about 12:05)***




**Probable causes:** It is probable that this accident occurred because in the area off the east of Tokushima-Komatsushima Port, while proceeding east among approximately 100 fishing and other vessels, when the vessel turned to port to avoid the 3rd of the "groups of 3 vessels, each including 2 fishing vessels using trawl nets to catch young sardines" ("batches") on the path ahead, the skipper was not confirming the vessel's position, failing to realize that it was sailing toward Okinose and resulting in the ship grounding at Okinose.

It is probable that the reason the vessel's position was not confirmed was that the vessel's skipper was focusing his attention on confirming the buoy marking the end of the 3rd batch's net and the movement of the fishing vessels in the surrounding area.

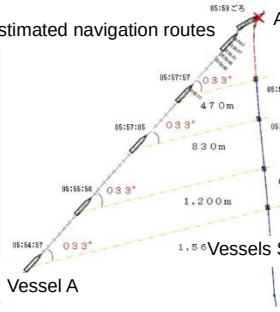
It is possible that the situation where, in waters congested with other vessels, the skipper of the vessel ordered the third officer from among the duty officers to leave the bridge, leaving the skipper to conn the vessel, keep a lookout, and perform other tasks by himself, contributed to the occurrence of this accident.

For details, please refer to the investigation report. (Published on September 17, 2015)
http://www.mlit.go.jp/jtsb/ship/rep-acci/2015/MA2015-10-1_2014tk0013.pdf

# Collision of a container ship which had a pilot on board, with two fishing vessels forming a group alongside each other

## Collision of container ship WAN HAI 162 with fishing vessels SEINAN MARU No.7 and SEINAN MARU No.8

**Summary:** The WAN HAI 162 (Vessel A, gross tonnage: 13,246 tons), with a master and twenty other crews onboard, sailing northeast toward the Osaka section of Hanshin Port under the pilotage of a pilot, and the fishing vessels SEINAN MARU No.7 (Vessel B, gross tonnage: 9.7 tons) and SEINAN MARU No.8 (Vessel C, gross tonnage: 9.7 tons), both with a master and one other crew onboard, tied together by wire ropes at bow and middle of the hull, starboard side of Vessel B alongside of the port side of Vessel C, sailing north toward fishing grounds, collided each other(Vessels S) at about 05:59 on February 25, 2013, off the coast to the west of Kansai International Airport.
The master of Vessel B was killed and the vessel had a hole in the stern part of the vessel. Crew of Vessel C was killed and the stern part of the vessel was torn apart.
The Vessel A suffered scratches on the fore part of the vessel, but no one was injured.




(Image)

At about 05:55

The pilot visually confirmed 5 or 6 fishing vessels, including the Vessels S, proceeding north in the direction of the starboard bow.

At about 05:56 to 05:57,

Master noticed Vessels S heading directly toward the bow of Vessel A, and told Pilot A to exercise caution and take action to avoid a collision because Vessels S were cutting across the path of Vessel A.

The pilot thought that changing course or speed would bring Vessel A close to the surrounding fishing vessels, and was unable to decide on a way of avoiding a collision with Vessels S, and sailed while maintaining the vessel's course and speed.

At about 05:58:44

Pilot directed Ordinary Seaman to turn hard to starboard.

At about 05:58:51

Vessel A began turning around to starboard.

before 05:57

Master B noticed Vessel A and put the rudder to starboard, and informed Vessel C by radio to put the rudder to starboard as Vessel A was approaching.

Master C kept lookout ahead, monitoring the display of the GPS plotter and focusing his attention on maintaining a north heading, and did not notice the approach of Vessel A or the radio message.

until 05:57:57

Master C put the rudder to port in order to counteract the effect of Vessel B being steered to the starboard, to maintain the north heading.

Vessels S sailed while maintaining their course and speed until they drew near to Vessel A.

At about 05:58 to 05:59

Master B began to steer hard to starboard

Master C noticed that Vessel A was approaching and put the rudder hard to starboard.

*Collision (At about 05:59)*

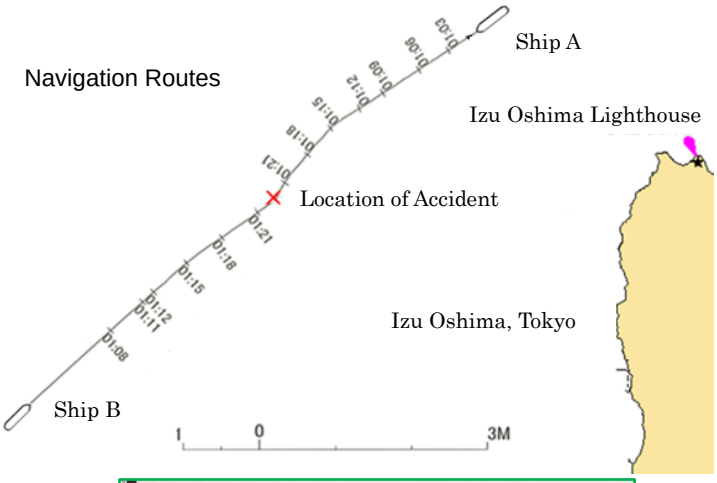
**Probable Causes:** It is probable that the accident was occurred as, while, both Vessel A was sailing northeast under the pilotage of Pilot A and Vessels S was sailing north, both Vessel A and Vessels S sailed maintaining the their courses and speeds until coming close each other, at night off the west coast of Kansai International Airport.
It is probable that Vessel A maintained its course and speed until coming close to Vessels S because Pilot A thought that changing course or speed would bring Vessel A come close to the surrounding fishing vessels, and Pilot A was unable to decide on a way of avoiding a collision with Vessels S.
It is somewhat likely that Vessels S maintained its course and speed until coming close to Vessel A because, although Master B noticed of Vessel A and steered Vessel B to starboard and talked to Vessel C over the radio, Master C did not notice the approach of Vessel A and the radio communication from Master B, Master C was concentrated on maintaining Master C heading toward north as instructed by the consort vessel's master, and was steering to port in order to maintain the north bearing by counteracting the effect of Vessel B being steered to the starboard.

For details, please refer to the investigation report. (Published on October 29, 2015)
http://www.mlit.go.jp/jtsb/eng-mar_report/2015/2013tk0004e.pdf

# Collision of cargo ships with each other, resulting in one ship capsizing and fatalities of all of its crew members

## Collision between cargo ship JIA HUI and cargo ship EIFUKU MARU No.18

**Summary:** The cargo ship JIA HUI (Vessel A, gross tonnage: 2,962 tons) with the master, the officer of the watch and 11 other crew members on board sailing southwest to Busan, South Korea, and the cargo ship EIFUKU MARU No.18 (Vessel B, gross tonnage: 498 tons) with the master, the chief officer and 4 other crew members on board sailing northeast to Chiba port, Chiba prefecture collided off the west of Izu Oshima, Tokyo at about 1:22 on September 27, 2013.
Vessel B capsized and all 6 crew members were killed dead, and Vessel A had damage on the bow but no one was injured or killed dead.




01:06:02 to 01:13:02

Vessel A was proceeding off at a heading of about 235° and at a speed of about 9.3kn.

Officer attempted to pass Ship B with the starboard facing it, by turning to the port even though the bearing of Ship B located at the port bow has altered to about 1.6° to the port.

At around 01:13:30

Officer was in a situation to recognize Ship B at about 2° to the port bow by turning about 5° to the port

At around 01:14:30

Officer was in a situation to recognize Ship B at about 7° to the starboard bow by turning about 10° to the port.

At around 01:20

The bearing of Vessel B had been changed approximately 3° to port, but the Officer thought that he could pass in front of Ship B and did not confirm the change of bearing of Vessel B with a compass (did not notice the course alteration of Vessel B).

Officer turned to the port about 10° toward the front side of Ship B which approached about 0.9M.

At about 01:15:31

Ship B proceeded at the speed of 055° 12.1kn for the course over the ground.

At around 01:16

Chief Officer approached to about 2.2M to Vessel A, altered the course to about 5° to the starboard, and then proceeded almost the same course and speed.

***Collision (At around 01:22)***

**Probable Causes:** It is probable that this accident occurred by the collision of both ships at night off the west of Izu Oshima Island, because when Vessel A proceeded to southwest and Ship B proceeded to northeast, Officer A of Vessel A attempted to pass Ship B with the starboard facing it and continued to proceed by repeatedly veering to the port, and Chief Officer B of Ship B proceeded almost the same course and speed.
The reason why Officer A of Vessel A continued to proceed by repeatedly veering to the port by attempting to pass Ship B with the starboard facing it was that he thought that he could pass in front of Ship B and did not confirm the change of bearing of Ship B with a compass. It is probable that he did not notice the bearing of Ship B turning to port.

For details, please refer to the investigation report. (Published on November 26, 2015)
http://www.mlit.go.jp/jtsb/eng-mar_report/2015/2013tk0026e.pdf