JTSB Newsletter

Special edition
Marine Accidents

Japan Transport Safety Board

Introduction

Kanmon Kaikyo (Strait), located in the westernmost part of the Seto Inland Sea, links the latter with the outer sea. Most of it consists of the Kanmon Port Area—the regional center of commodity distribution. The port, which is divided into seven sections, has several passages and a large number of berths. Consequently, Kanmon Kaikyo serves as a vital spot for marine traffic. On the other hand, it is also known as a difficult strait for vessel navigation for such reasons as its restricted navigable width (It is only about one nautical mile at the widest point, and 500 meters at the narrowest.) and the presence of sharp bends and strong tidal streams.

Kanmon Kaikyo
(vicinity of the Kanmon Bridge)

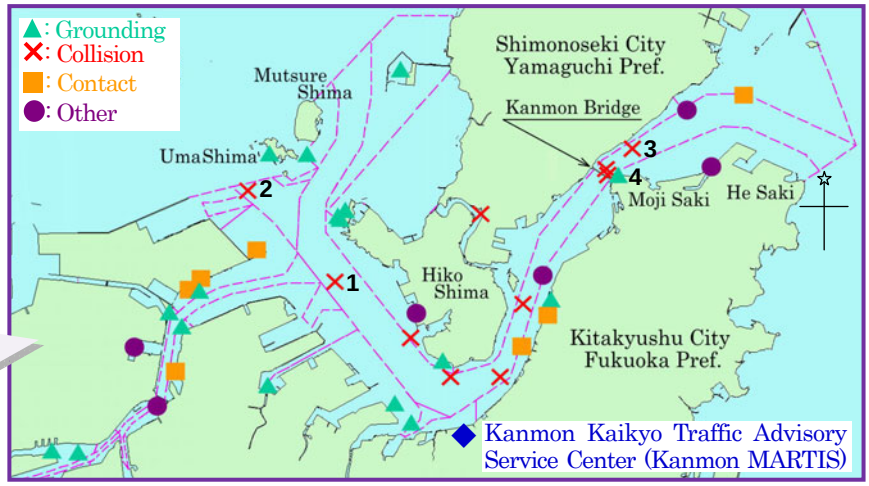
Of the marine accidents the Japan Transport Safety Board (JTSB) investigated since its establishment (in October 2008) till December 2009, 40 cases (involving 60 vessels) occurred in Kanmon Kaikyo. By the type of accident, they are divided into 17 groundings, 10 collisions, 7 contacts and 6 other types. By the type of ship, they are composed of 29 cargo ships/oil tankers, 8 pushers/tugs, 6 pleasure craft, 2 passenger ships, 2 fishing boats, and 13 other types. Of those, 18 were foreign-flag ships. It is worth mentioning that, in October 2009, in Hayatomo Seto, the narrowest part of Kanmon Kaikyo, a serious collision—which resulted in a closure of the passage—occurred between a destroyer of the Japan Maritime Self-Defense Force and a foreign-flag cargo ship.

In Kanmon Kaikyo, various safety measures have been taken, such as the extension of length and widening and deepening of passages, the establishment of the Kanmon Kaikyo Traffic Advisory Service Center (Kanmon MARTIS), and introduction of a navigation aid system using the AIS (automatic identification system). Still, accidents continue to occur, involving vessels unfamiliar with the special nature of Kanmon Kaikyo, including weather and sea conditions, and vessel navigational rules. In the present condition, new maritime traffic rules were put in place on July 1 this year. (See P. 18.)

With this situation in mind, we have decided to run major features on Kanmon Kaikyo in this special edition. Taking up accident cases which occurred there—from among the investigation reports the JTSB has publicized—we highlighted points which will help improve the safety of vessel navigation.

This year is the centenary of the commencement of the development of the Kanmon Passage. With this in mind, we hope that this special edition will help those concerned with maritime affairs deepen their understanding of vessel traffic rules in Kanmon Kaikyo and other relevant matters, leading to the prevention of marine accidents there.

Situation of marine accidents in Kanmon Kaikyo
(investigated cases which occurred from October 2008 to December 2009)



*The broken line marks the boundaries of Kanmon Port, port sections and passages.

*The numbers (1 to 4) show the case number taken up in this special edition.

Investigated accident case 1

Serious marine accident

Collision in the Kanmon Passage between a cargo ship proceeding northward from Tobata Passage to Kanmon Passage and another cargo ship proceeding eastward in the Kanmon Passage

Outline: Manned with a master and 19 crew members and guided by two pilots, Cargo Ship A, which left Seitetsu Tobata Hakuchi, Wakamatsu No. 5 Section, Kanmon Port, was proceeding in the Kanmon Passage, toward the east of Mutsure Shima Island. On the other hand, manned by a master and nine crewmembers, Cargo Ship B, which left an anchorage east of Mutsure Shima Island, was sailing in the Kanmon Passage toward Sakaigawa Hakuchi, Wakamatsu No. 5 Section, Kanmon Port. They collided with each other inside the Kanmon Passage about 30 seconds past 0742 hours on July 22, 2008. Vessel A sustained dent damage in the bow section, and Vessel B suffered flooding in the hold, causing her to list to the starboard side, as a result of cracks, in addition to dent damage, in the starboard shell plating. No personal injuries or deaths were incurred on board either vessel.

Events leading to the accident | Principal factors | Events leading to the accident

Vessel A (cargo ship)

Gross tonnage : 88,594 tons
L × *B* × *D :* 289.00 m × 45.00 m × 24.10 m
Flag state : The Republic of Panama
Crew members, etc : Master A (of the Republic of Korea) and 19 crew members ; Pilots A1 and A2
Load condition : No cargo

Vessel B (cargo ship)

Gross tonnage : 1,312 tons
L × *B* × *D :* 73.00 m × 11.50 m × 7.00 m
Flag state : The Kingdom of Cambodia
Crew members, etc : Master B (of the People's Republic of China) and 9 crew members
Load condition : Graphite

• Under the guidance of Pilot A1, Master A left Tobata Hakuchi, posting a deck officer to the engine control panel and a sailor to the steering wheel for manual steering.
• Pilot A1 posted four tugboats for shiphandling assistance, with Pilot A2 as his assistant.

[Weather and sea conditions]
The weather was fine. The tidal stream near the scene of the accident was a weak one flowing east north-eastward.

After weighing anchor from an anchorage east of Mutsure Shima Island, Master B proceeded, with a sailor posted as a helmsman for manual steering, toward Sakaigawa Hakuchi, Kanmon Port.

About 0722 hrs

She sailed southbound using Kanmon Passage No. 10 lightbuoy as a steering guide.

Special sailing rule on the basis of the Regulations for the Enforcement of the Act on Port Regulations

Right of way between a vessel sailing the Kanmon Passage and another one sailing the Tobata Passage

▶ When a vessel sailing the Kanmon Passage is expected to encounter another one sailing the Tobata Passage, the vessel sailing the Tobata Passage shall keep out of the way of the other sailing the Kanmon Passage.

Vessel A

Vessel B (after collision)

About 0730 hrs

Pilot A2 sighted Vessel B on his port bow for the first time and reported it to Pilot A1.

Pilot A2 obtained, from Kanmon MARTIS, information on westbound Vessel C in the vicinity of Kanmon Passage No. 19 lightbuoy.

Pilot A2 contacted Vessel C, which accepted the proposal that Vessel A would proceed ahead of Vessel C.

About 0732 hrs

The pilotage duty was transferred from Pilot A1 to Pilot A2.

About 0734 hrs

Pilot A2 put the engine harbour full ahead in preparation for entering the Tobata Passage.

About 0735 hrs

When Vessel B had closed to about 2,540 m on his port bow, Pilot A2 received a report, from one of the tugboats used for his assistance, that Vessel B was proceeding at a very slow speed to Sakaigawa.

Pilot A2 instructed the tugboat to request Vessel B to increase speed so as to cross ahead of Vessel A.

She was sailing along the Kanmon Passage and Master B believed that Vessel A would avoid his even when they encountered each other in the same passage.

Vessel A was proceeding at a low speed toward the Kanmon Passage.

Pilots would request cooperative action even from vessels sailing in the Kanmon Passage, as necessary, because it is difficult for large vessels, like Vessel A, to take avoiding action inside a passage.

Pilot A2 believed that, in response to his request, Vessel B would increase her sailing speed to pass ahead of vessel A.

Until then, vessels used to comply with such requests made via tugboats.

About 0732 hrs

While sailing southbound in the Kanmon Passage at a speed of 4.8 knots over the ground, he sighted Vessel A and the four assisting tugboats, for the first time, at a distance of about 3,140 m on his starboard bow.

About 0735 hrs

While sailing southward at a speed of 5.1 knots, when Vessel A closed to a distance of 2,540 m on his starboard bow, he turned the helm to port in order to put his vessel on the course of the leading lights.

Kanmon MARTIS announced to each vessel in English to the effect that Vessel A would leave the Tobata Passage and proceed toward the east of Mutsure Shima Island.

It is considered possible that Vessel B did not hear the announcement from Kanmon MARTIS.

To next page

From previous page

About 0736 hrs

Vessel A entered the Tobata Passage.

Pilot A2 took notice of a risk of collision with Vessel B and gave a warning signal on the whistle.

About 0739 hrs

Although he received a report from one of his tugboats that Vessel B was not increasing her speed, Pilot A2 still increased his own vessel speed.

Pilot A1 instructed one of the tugboats to request Vessel B to take all her way off by working the engine full astern and putting the rudder hard over to starboard.

About 0740 hrs - 0740.30hrs

After putting the rudder hard over to port, Pilot A2 gave instructions to stop the engine.

About 0741 hrs

She entered the Kanmon Passage.

Master A gave instructions to work the engine full astern, almost at the same time as Pilot A2 did so.

About 0742.30 hrs

On a heading of 019° and at an approximate speed of 7.2 knots, the bow of Vessel A collided with the starboard amidships section of Vessel B.

Pilots A1 and A2 were not aware, at a stage before entering the Tobata Passage, of Vessel B approaching them while involving risk of encounter.

They did not attempt to get such information as Vessel B's course, speed and name, by using the automatic radar plotting aid (ARPA) and the automatic identification system (AIS), nor communicate directly with her by VHF.

Vessel B, which was in sight under good visibility, accepted the request to increase her speed.

With the presence of tidal streams from his port side, Pilot A2 made allowance for her drift to starboard.

Pilot A2 took into account the fact that it was arranged for Vessel A to proceed ahead of westbound Vessel C.

She was almost fully laden.

Master B did not slacken his speed or take all way off since he was increasing it in response to a request from one of the tugboats assisting Vessel A.

Bearing in mind the presence of a lightbuoy on his starboard side and shallow waters outside the passage, Master B did not turn to starboard.

Upon receiving a request — conveyed in English with a loudspeaker by an approaching tugboat for Vessel A — to immediately put the engine full ahead, he agreed to it.

About 0736 hrs

While sailing at an approximate speed of 5.2 knots, he increased the pitch from 16° to 20° for acceleration.

About 0740 hrs

Despite the increase of the pitch, she continued sailing at almost the same speed of 5.4 knots.

About 0741 hrs

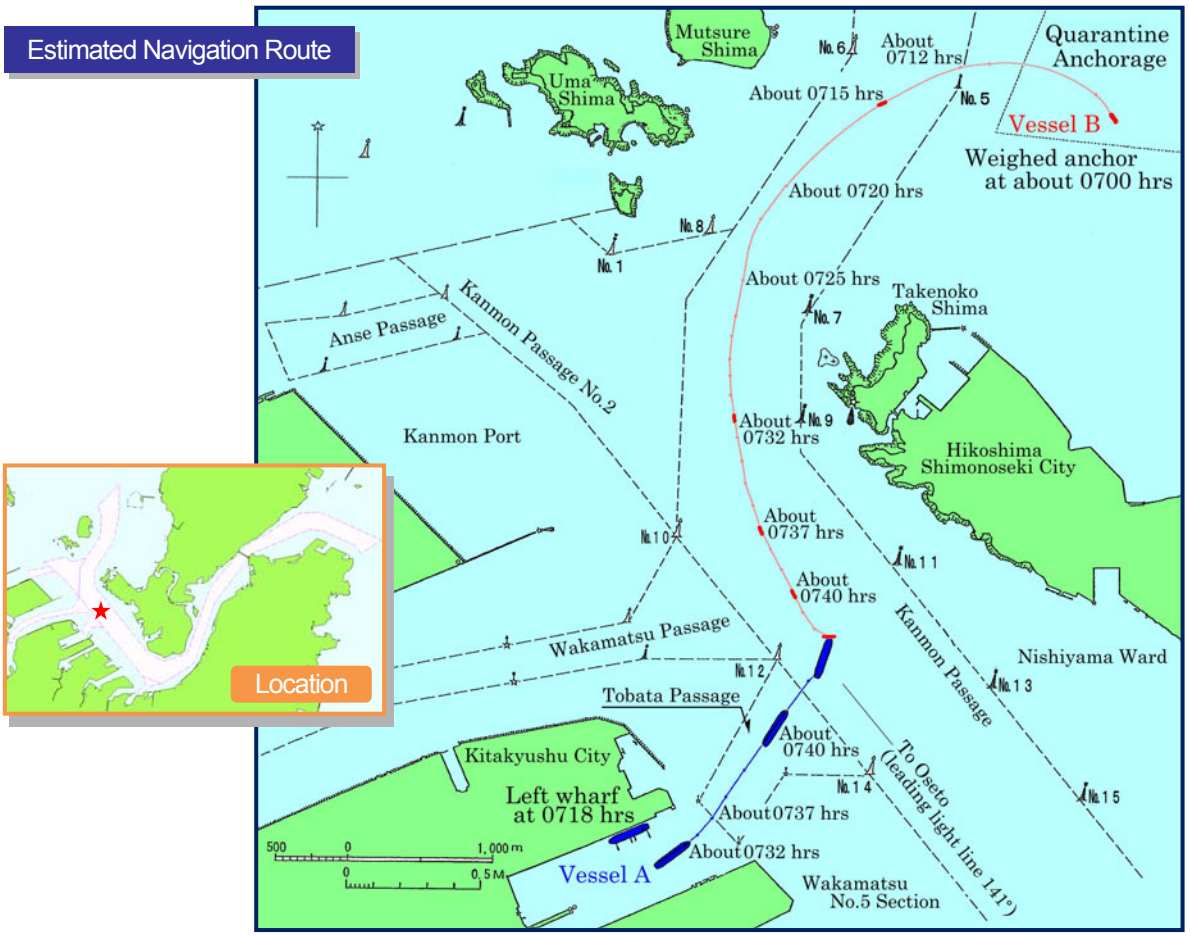
Although he received a request, from one of the tugboats, to work the engine full astern and put the rudder hard over to starboard, he put the rudder 30° to port when Vessel A had closed to a distance of about 670 m on his starboard bow.

About 0742.30 hrs

On a heading of 084° and at an approximate speed of 4.2 knots, she collided with Vessel A.

As a result of collision, she sustained a flooding in the cargo hold, forcing her to list to starboard.

Estimated Navigation Route



Analysis on the accident occurrence

In this accident, which occurred in Kanmon Port, it is considered probable that Vessel A—which was sailing northeastward from Tobata Passage to Kanmon Passage—did not keep out of the way of Vessel B—which was proceeding southeastward through the Kanmon Passage—when there was a risk of their encounter inside the Kanmon Passage, and continued increasing her speed while maintaining her course; and that Vessel B continued sailing almost at the same speed on a course almost along the general direction of the passage because she was not aware of the situation which required that she take action to avert collision since it could not be avoided by the action of Vessel A alone, which had already developed a close-quarters situation.

The report analyzes as follows about factors which contributed to the occurrence of the accident.

◆ Vessel A, which was sailing the Tobata Passage, was proceeding almost on a constant course while increasing her speed. Vessel B, which was following the Kanmon Passage, received a request to increase her speed, but could not comply with the request and sailed, in fact, maintaining the same speed and course, thus, resulting in both vessels approaching each other in such a manner as to involve risk of encounter inside the Kanmon Passage.

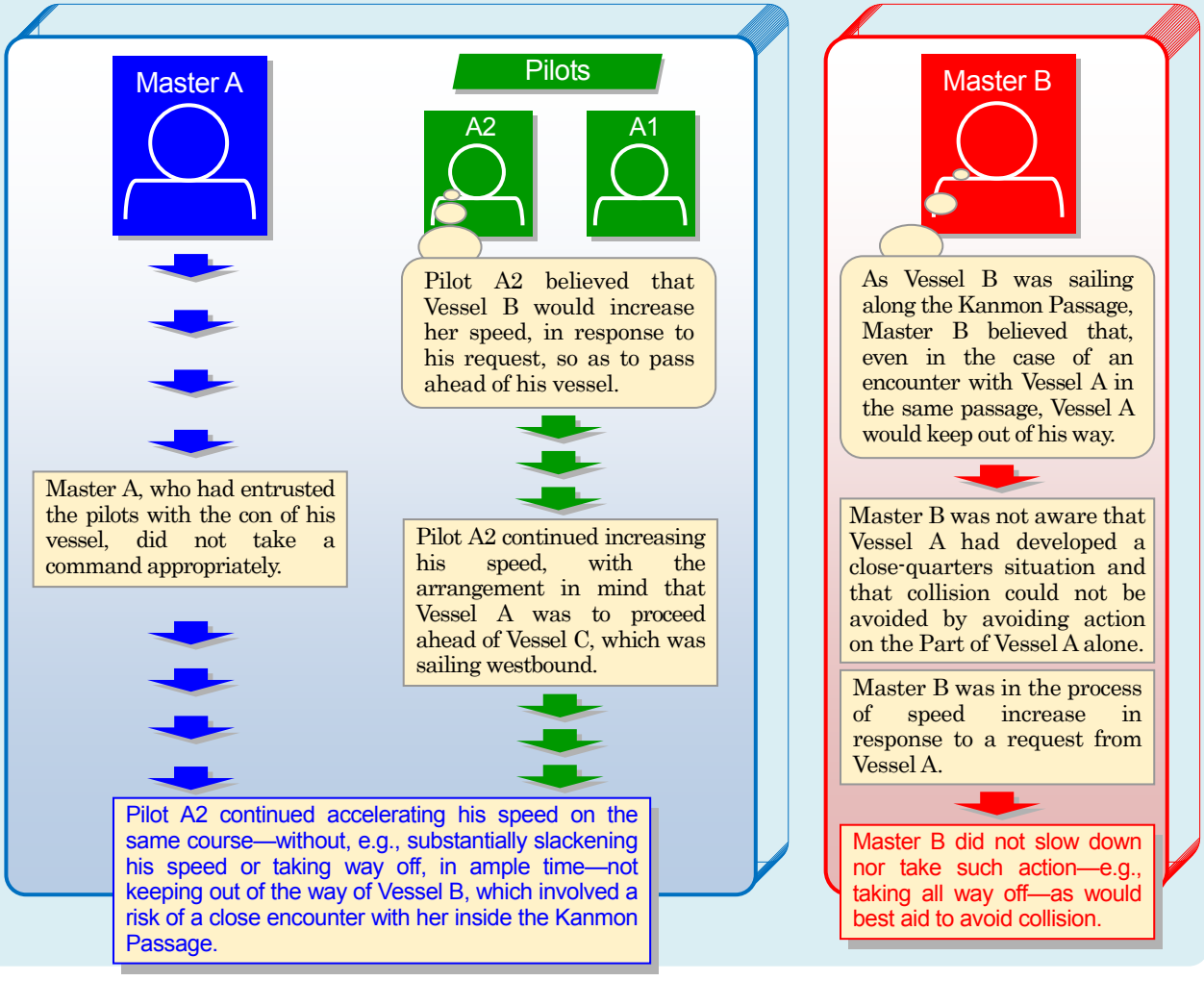
→ Vessel A, which was sailing the Tobata Passage, was required, in accordance with the provisions of the Regulations for the Enforcement of the Act on Port Regulations, to keep out of the way of Vessel B, which was sailing the Kanmon Passage. In addition, as the 'give-way vessel', as specified in the Act on Preventing Collision at Sea, she was obliged to take, so far as possible, early and substantial action.

→ Vessel B, as the 'stand-on vessel', as specified in the Act on Preventing Collision at Sea, was obliged to keep her course and speed, and, in addition, she should have taken such action as would best aid to avoid collision if she had found herself so close that collision could not be avoided by the action of Vessel A alone.

《Pilotage and master's authority to take command of the vessel in navigation》

◆ In the Pilotage Act, if a pilot has reported to a vessel, the master of the vessel is required to have the pilot guide her unless he has a justifiable reason to reject him. While his vessel is under the guidance of a pilot, the master is not supposed to construe that such act releases him, the master, from his responsibility to pursue safe navigation nor such act infringes upon his authority.

◆ In the Kanmon Straits & Harbour Pilot Association's service provision contract, the pilot is defined as a person who is supposed to provide pilotage services in good faith in the capacity of an advisor to the master, and, his presence on board does not change the master's authority or responsibility for safe navigation.



Analysis of coordination on the bridge of Vessel A

As indicated in the analysis of the accident, it is considered probable that Master A did not take the con of his vessel for appropriate shiphandling in this accident. The investigation report says that Master A's not taking the con for appropriate maneuvering is considered attributable to a lack of appropriate advice from the pilots, and the inappropriate use of information on the bridge, together with poor coordination among personnel on the bridge.

Master A

Master A let the pilots handle his vessel and did not take the con for appropriate shiphandling, without having an appropriate understanding of their intended maneuvers.

Master A did not post a crew member to the radar.

Pilots A1 and A2 did not report, to Master A, the method to keep out of the way of Vessel B, alongside other relevant matters. They also did not give him appropriate advice.

Until he gave an order to put the engine full astern before collision, Master A did not give any instructions in relation to shiphandling.

Pilots

A2

Pilot A2 did not instruct Pilot A1 to check Vessel B's speed, and other information, by ARPA etc.

A1

Pilot A1 had some hesitation in piloting because of the presence of Pilot A2, who was more experienced in pilotage services.

Pilot A1 did not report to Pilot A2 necessary matters, including Vessel B's speed.

Pilot A1 did not provide appropriate assistance to Pilot A2.

Inside the bridge of Vessel A

On board Vessel A, the pilots and the bridge team did not appropriately use or share information (available from ARPA, AIS, etc.) through a lack of cooperation.

With a view to preventing recurrence

The JTSB has conducted the following analysis with a view to preventing a recurrence of a similar accident.

Analysis for the prevention of a recurrence of a similar accident

- ◆ The operation of a vessel is under the master's authority and he is required to monitor, as the commander of his vessel, whether the pilot is maneuvering his vessel appropriately without jeopardizing the safety of navigation.
- ◆ In order for Master A to take the con for appropriate maneuvers, he was required to understand information provided by Kanmon MARTIS, communications with tugboats and Vessel C, and mutual conversation between the pilots. For that purpose, the pilots should have given such information to Master A, as necessary.
- ◆ It is effective for pilots to communicate with other vessels via assisting tugboats. However, it is sometimes desirable for both vessels to communicate directly via VHF, as necessary so that pilots fully understand a foreign vessel's intention and avoid any misunderstanding, which can be caused by transferring messages.

◆Important points for safe navigation in the western section of Kanmon Kaikyo are shown on Page 14.

The investigation report of this accident is publicized on the website of the JTSB(issued on May.28, 2010)

http://www.mlit.go.jp/jtsb/ship/report/MA2010-5-1_2008tk0003.pdf (Japanese version only)

Investigated accident case 2

Collision between two cargo ships, both southbound, in restricted visibility because of thick fog, in the vicinity of the northwestern end of the Kanmon Passage No. 2

Outline: Cargo Ship A was proceeding toward Shimonoseki Section, Kanmon Port, from Busan, the Republic of Korea; Cargo Ship B was sailing to Nagoya from Gwangyang Port, the Republic of Korea; on the other hand, Vessel C was proceeding northward through the Kanmon Passage No. 2, in order to enter the Anse Passage. At around 0708 hours on May 27, 2008, Vessels A and B collided with each other at the northwestern end of the Kanmon Passage No. 2. As a result of the collision, Vessel A sustained damage in the bow section with Vessel B suffering damage in the port bow section below the water line. However, there were no fatalities, or even injuries, on board either vessel.

Events leading to the accident | Principal factors

Vessel A (cargo ship)

Gross tonnage : 2,745 tons
L × *B* × *D* : 90.81 m × 15.30 m × 7.50 m
Flag state : The Republic of Korea
Crew members, etc : Master A (of the Republic of Korea) and 13 crew members
Load condition : Containers

Vessel B (cargo ship)

Gross tonnage : 2,498 tons
L × *B* × *D* : 94.00 m × 14.00 m × 7.00 m
Flag state : The Republic of Korea
Crew members, etc : Master B (of the Republic of Korea) and 12 crew members
Load condition : Steel coils

Vessel C (cargo ship)

Gross tonnage : 5,174 tons
L × *B* × *D* : 100.61 m × 19.00 m × 10.30 m
Flag state : Japan
Crew members, etc : Master C and 12 crew members
Load condition : No cargo

About 0650 hrs

The prevailing foggy condition had reduced the visibility to between 500 and 600 m.

Master A sailed southbound in a fairway located to the west of Mutsure Shima Island, toward the Kanmon Passage No. 2, posting the officer as his assistant and a sailor for manual steering.

She sailed at a speed over the ground of about 13.1 knots (full speed), without giving fog signals.

About 0655 hrs

Recognizing Vessel B, by radar, sailing in the same direction at a distance of about 1,100 m ahead, he communicated with the same vessel for the first time.

About 0650 hrs

The prevailing foggy condition had reduced the visibility to between 600 and 700 m.

Master B sailed southbound in a fairway located to the west of Mutsure Shima Island, toward the Kanmon Passage No. 2, posting the deck officer as his assistant and a sailor for manual steering.

While sounding fog signals, she sailed at a speed over the ground of about 11.3 knots.

About 0655 hrs

By communication from Vessel A, he learned that Vessel A was sailing in his direction about 1,100 m behind him.

About 0640 hrs

Posting two deck officers to the radar for keeping a lookout and for communication by VHF, and two sailors as a helmsman for manual steering and as a lookout, Master C left an anchorage east of Mutsure Shima Island for Anse Hakuchi, Kanmon Port.

He recognized, on the radar screen, Vessels A and B in waterways west of Mutsure Shima Island.

About 0650 hrs

She sailed southwestward through the Kanmon Passage, while sounding fog signals, at a speed over the ground of about 10.2 knots.

About 0656 hrs

She turned to starboard and entered the Kanmon Passage No. 2 at an approximate speed of 7.2 knots.

[Weather and sea conditions] Visibility had dropped to about 50 to 100 m because of thick fog at the material time.

About 0700 hrs

Vessel B had closed to a distance of about 850 m.

About 0701 hrs

He received information from Kanmon MARTIS to the effect that: The visibility was less than 1,000 m and, because of the presence of a vessel (Vessel C) intending to enter the Anse Passage, he should pay attention to the movement of that vessel.

About 0704 hrs

Vessel C turned to port toward the Anse Passage from the Kanmon Passage No. 2 and increased her speed. Vessel A, however, continued sailing without reducing her speed.

Master A was distracted by the scheduled berthing time coming soon.

About 0700 hrs

He confirmed, by radar, Vessel A sailing behind him.

He was informed by Kanmon MARTIS of the visibility being less than 1,000 m. He was also advised to pay attention to Vessel C, which was sailing westward.

About 0700 hrs

She slowed down to about 4.8 knots.

About 0702 hrs

Reducing his speed to about 3.4 knots, he sailed northwestward along the Kanmon Passage No. 2, while monitoring the movement of Vessels A and B.

About 0704 hrs

He was advised from Kanmon MARTIS to suspend his entry into the Anse Passage for some time because of the presence of two southbound vessels (Vessels A and B).

Despite the receipt of advice to wait, he turned to port toward the Anse Passage and accelerated his speed to about 5.0 knots.

He considered that it was alright for him to enter the Anse Passage because he had already reported his intention to Vessels A and B via Kanmon MARTIS.

To next page

From previous page

About 0705 hrs

When she reduced her speed to about 12.1 knots, the distance to Vessel B had closed to about 550 m.

About 0705 hrs

She slowed down to about 9.9 knots.

Although Vessel A had closed to a distance of about 550 m from behind, he forgot her presence as he was distracted by the movement of Vessel C.

Faced with a potential encounter situation, at the entrance to the Anse Passage, with Vessel C, which had made a port turn, he received a request from Kanmon MARTIS to keep out of the way of Vessel C.

About 0706.30 hrs

After turning to port, slightly before reaching the north end of the Kanmon Passage No. 2, she ended up heading in the direction of Vessel A.

About 0706 hrs

In a situation to make an encounter with Vessels A and B at the entrance to the Anse Passage, he received a request from Kanmon MARTIS to continue making a port turn and reverse his heading.

After accepting the request from Kanmon MARTIS, he continued turning to keep out of the way of Vessels A and B.

About 0707 hrs

- Masters A and B received information from Kanmon MARTIS to the effect that Vessel C—which, after having turned to port, was to enter the Anse Passage, while speeding up—would take evasive action by reversing her heading.
- Vessel B was requested by Kanmon MARTIS to make a starboard turn.

Having received no reply from Vessel B to their request to make a starboard turn, Kanmon MARTIS informed her that Vessel C had made a port turn.

Having noticed that Vessel B had neared to a close range on his starboard side, he made a large turn to port.

She entered the Kanmon Passage No. 2.

Although he received information from Vessel A, following Kanmon MARTIS, to the effect that Vessel C was making a port turn, he did not make a starboard turn and continued sailing on the same course, without making a reply.

He noticed that Vessel A had closed to a short distance on his port quarter.

Damage (bow section) suffered by Vessel A

Damage (port side) suffered by Vessel B

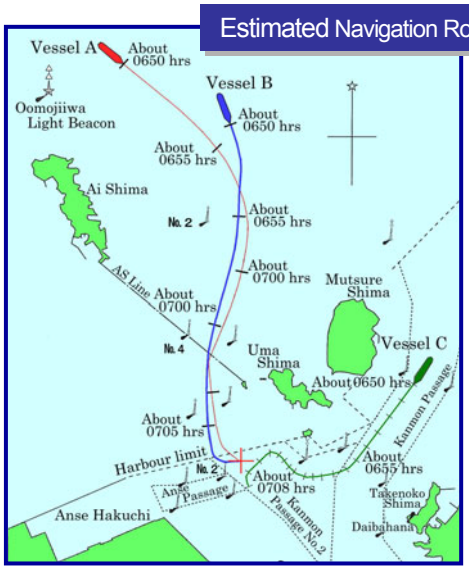
About 0708 hrs

On a heading of about 132°, at a speed of about 11.8 knots, the bow of Vessel A collided with the port bow of Vessel B.

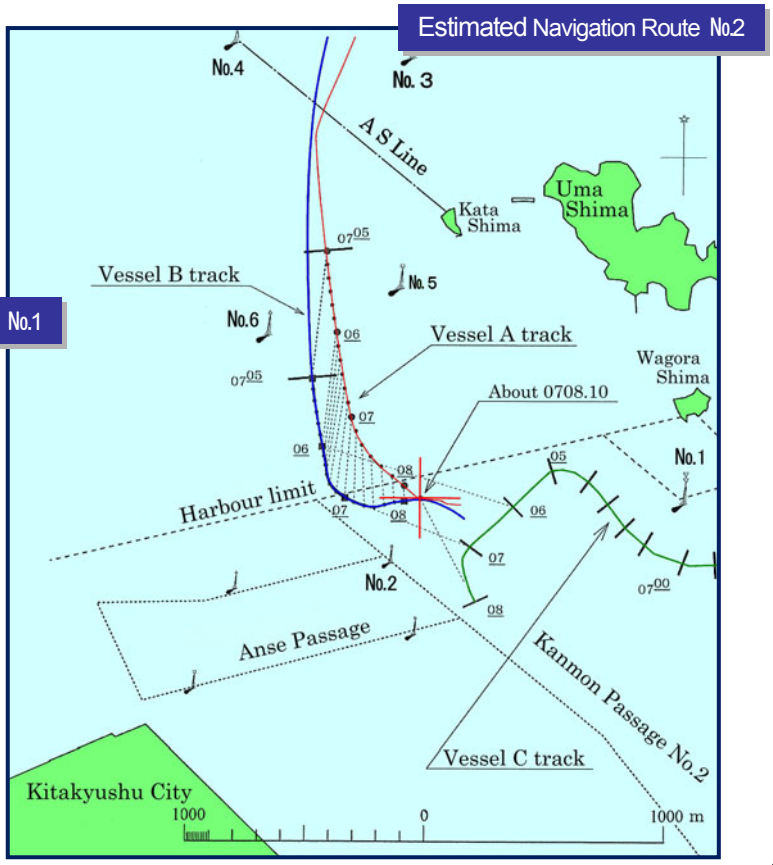
About 0708 hrs

With a heading of about 081°, at a speed of about 7.9 knots, she collided with Vessel A.

Estimated Navigation Route №1



Estimated Navigation Route №2



Analysis on the accident occurrence

This accident occurred in the vicinity of the northwestern end of the Kanmon Passage No. 2, in restricted visibility due to thick fog. It is probable that, when Vessels A and B were proceeding southward, in tandem, in the waterway west of Mutsure Shima Island, and Vessel C was sailing northwestward through the Kanmon Passage No. 2, with the intention to enter the Anse Passage, each of them detected, by radar, the presence of the other two vessels, but did not maintain an appropriate radar lookout and continued sailing, without taking notice that they were developing a close-quarters situation, which resulted in the accident.

The investigation report conducts an analysis, as follows, about factors which contributed to the occurrence of the accident.

◆ Vessels A, B and C were sailing, in restricted visibility, in the vicinity of the Kanmon Passage and Kanmon Passage No. 2, with heavy vessel traffic.

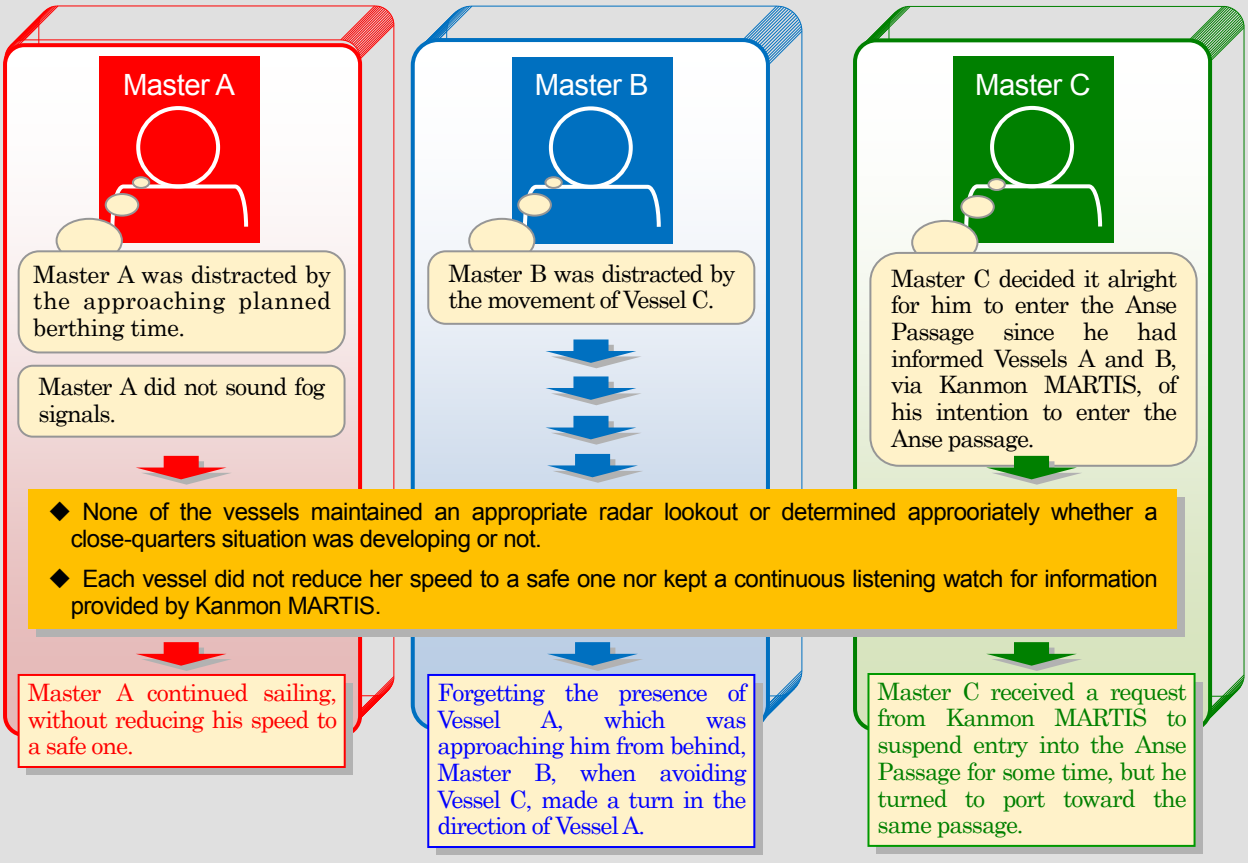
Restricted visibility condition

According to the provisions of the Act on Preventing Collision at Sea:

→ Each vessel should have determined if a close-quarters situation was developing and/or risk of collision existed. If so, they should have taken avoiding action in ample time.

→ Each vessel should have sounded fog signals and proceeded at a safe speed.

◆Kanmon MARTIS provided Vessels A, B and C with information about the movement of each vessel.



◆ None of the vessels maintained an appropriate radar lookout or determined approoriately whether a close-quarters situation was developing or not.

◆ Each vessel did not reduce her speed to a safe one nor kept a continuous listening watch for information provided by Kanmon MARTIS.

With a view to preventing recurrence

The JTSB has conducted the following analysis with a view to preventing a recurrence of a similar accident.

Analysis for the prevention of a recurrence of a similar accident

When sailing, in restricted visibility, in congested waters near the Kanmon Passage and the Kanmon Passage No. 2, where the navigable width is constrained, the vessels should have kept an appropriate radar lookout for the purpose of fully grasping the movement of other vessels around them, and, complied with the sailing rules specified in the Act on Preventing Collision at Sea, while taking full advantage of information provided by Kanmon MARTIS.

◆Important points for safe navigation in restricted visibility are shown on Page 17.

The investigation report of this accident is publicized on the website of the JTSB (issued on Jan. 29, 2010).

http://www.mlit.go.jp/jtsb/ship/report/MA2010-1-29_2008mj0006.pdf (Japanese version only)

Investigated accident case 3

Collision in Hayatomo Seto, in Kanmon Passage, between a westbound cargo ship and an eastbound pusher/barge unit in strong tidal streams

Outline: Manned by a master and 17 crew members, Cargo ship A, which left Tsukumi Port, Oita Prefecture, was proceeding westward in the Kanmon Passage, and, on the other hand, manned by a master and three crew members, Pusher B, after leaving a dredging area west of Mutsure Shima Island, was engaged in pushing a barge (Vessel C) eastward through the Kanmon Passage to a mud-and-sand dumping ground off Kanda Port, Fukuoka Prefecture. Vessels A and C collided about 37 seconds past 1446 hours on October 13, 2008, in Hayatomo Seto. Vessel A sustained cracks to the bottom shell plating in the bow section. On the other hand, Vessel B suffered damage and Vessel C sank. There were no fatalities, or even injuries, on board either vessel.

Events leading to the accident

Vessel A (cargo ship)

Gross tonnage : 9,872 tons
L ×*B* ×*D :* 134.93m×23.00m×11.50m
Flag state : The Republic of Panama
Crew members, etc. : Master A (of the Republic of the Philippines) and 17 crew members
Load condition : No cargo

About 1401.13 hrs

He received information from Kanmon MARTIS to the effect that the tidal stream under the Kanmon Bridge had reached a speed of 7 knots and was increasing its speed.

Posting, on the bridge, two deck officers as his assistants and a sailor as a helmsman for manual steering, and, stationing, on the bow, the boatswain and a sailor as an anchor team, Master A (*1) sailed westward at full speed through the Kanmon Passage.

About 1442.03 hrs

She overtook Vessel D—which was sailing in the same direction—at a speed over the ground of 9.9 knots, on the port side of the other.

As a result of the overtaking of Vessel D, she ended up sailing in the middle part of the Kanmon Passage.

About 1442.10 hrs

After overtaking Vessel D, he first sighted the pusher/barge unit of Vessel B, in the vicinity of the Kanmon Bridge.

Vessel A

Principal factors

[Weather and sea conditions]

The weather was fine at the material time. In Hayatomo Seto the tidal stream was flowing eastward at its peak speed of about 7 knots. Vessels might encounter tidal streams ranging from 3 to 7 knots, depending on the location of the area. Circulating currents (see *2 on Page 10) appeared in waters in the vicinity of Moji Saki.

Although Master B was under the instruction to sail at a speed no more than 6 knots with a following tide, the tidal stream at the time was in excess of 6 knots.

With experience of passage under the Kanmon Bridge in tidal streams flowing at a speed of 6 to 7 knots, Master B did not expect any problem.

*1 Master A's knowledge of Kanmon Kaikyo

- As to precautions about passage through Kanmon Kaikyo, he had not consulted the relevant Sailing Directions other than reading the explanations entered in the relevant charts.
- He did not have any knowledge that, during a period of eastgoing tidal streams, eastbound vessels might be driven toward the side of Shimonoseki (Dannoura) when sailing in waters off Moji Saki.
- Although he had experienced passage in head currents, the encounter with a tidal stream reaching 7 knots was his first experience.

Only because he did not see, by sight, any other vessel ahead, Master A believed that there was no on-coming vessel.

He did not obtain information on vessels in transit from the automatic identification system (AIS) or Kanmon MARTIS.

Events leading to the accident

Vessel B (pusher)

Gross tonnage : 93 tons
L ×*B* ×*D :* 28.4m×7.0m×3.2m
Flag state : Japan
Crew members, etc : Master B and 3 crew members

Vessel C (barge)

L ×*B* ×*D:* 60.0m×14.0m×4.1m
Loaded cargo: Dredged mud

The electrical display board at the Daibahana Tidal Current Signal Station showed that, at Hayatomo Seto, a tidal stream was flowing eastward at a speed of about 7 knots, indicating that the vessel was to sail with a strong, following current.

Master B posted a sailor to the helm for manual steering and proceeded eastward through the Kanmon Passage.

When sailing waters about 400 m short of reaching the Kanmon Bridge, he sighted, for the first time, Vessels A and D coming from ahead in the vicinity of Kanmon Passage No. 31 lightbuoy.

About 1443.01 hrs

He passed under the Kanmon Bridge at a speed over the ground of 8.9 knots (the maximum speed before collision was 10.3 knots).

Vessel B

To next page

From previous page

About 1445.55 hrs

Thinking that there was a danger of collision with the pusher/barge unit of Vessel B, Master A put the rudder hard over to starboard.

About 1446.02 hrs

She stopped the engine.

About 1446.03 hrs - 1446.11 hrs

With the pusher/barge unit of Vessel B closing to a distance of about 400 m, he stopped starboarding and reversed the helm hard over to port.

About 12 seconds past 1446 hours, Kanmon MARTIS requested vessels in transit to change the VHF channel in order to announce, in English, information on the strong tidal stream in Hayatomo Seto.(*3)

About 1446.37 hrs

On a heading in a range from 232° to 236° at a speed of 8 to 9 knots, the bow of Vessel A collided with the port side of Vessel C.

Despite his effort to put the rudder hard over to starboard, his vessel did not respond to it and the pusher/barge unit of Vessel B was drawing closer and closer from dead ahead.

Master A intended to pass Vessel B (integrated pusher/barge unit) starboard to starboard.

With a strong, head current, he did not keep a sufficient distance away from Vessel D.

With Vessel D close to his starboard quarter, he did not have the freedom to put the rudder to starboard.

Her starboard turn off Moji Saki was too late.

He paid attention not to enter an area of circulating currents (*2) which would make course-keeping difficult.

She was driven by the strong, following tidal stream.

Vessel B was sailing near the center line of the Kanmon Passage.

Sensing a danger of collision with Vessel A, Master B put the rudder hard over to starboard.

*2 The Sailing Directions for Seto Naikai (issued in March 2009 by Japan Coast Guard) says: A circular flowing current is formed south of a line connecting Moji Saki and Kanmon Passage No. 32 lightbuoy and, during the period of an eastgoing tidal stream, east-bound vessels with the intention to approach Tanoura Wharf may find it difficult to maintain their course since they may take a sheer to starboard when the bow section is exposed to this circular flowing current.

About 1446.15 hrs

When Vessel A closed to a distance of about 300 m, she worked the engine full astern while giving sound signals on the whistle.

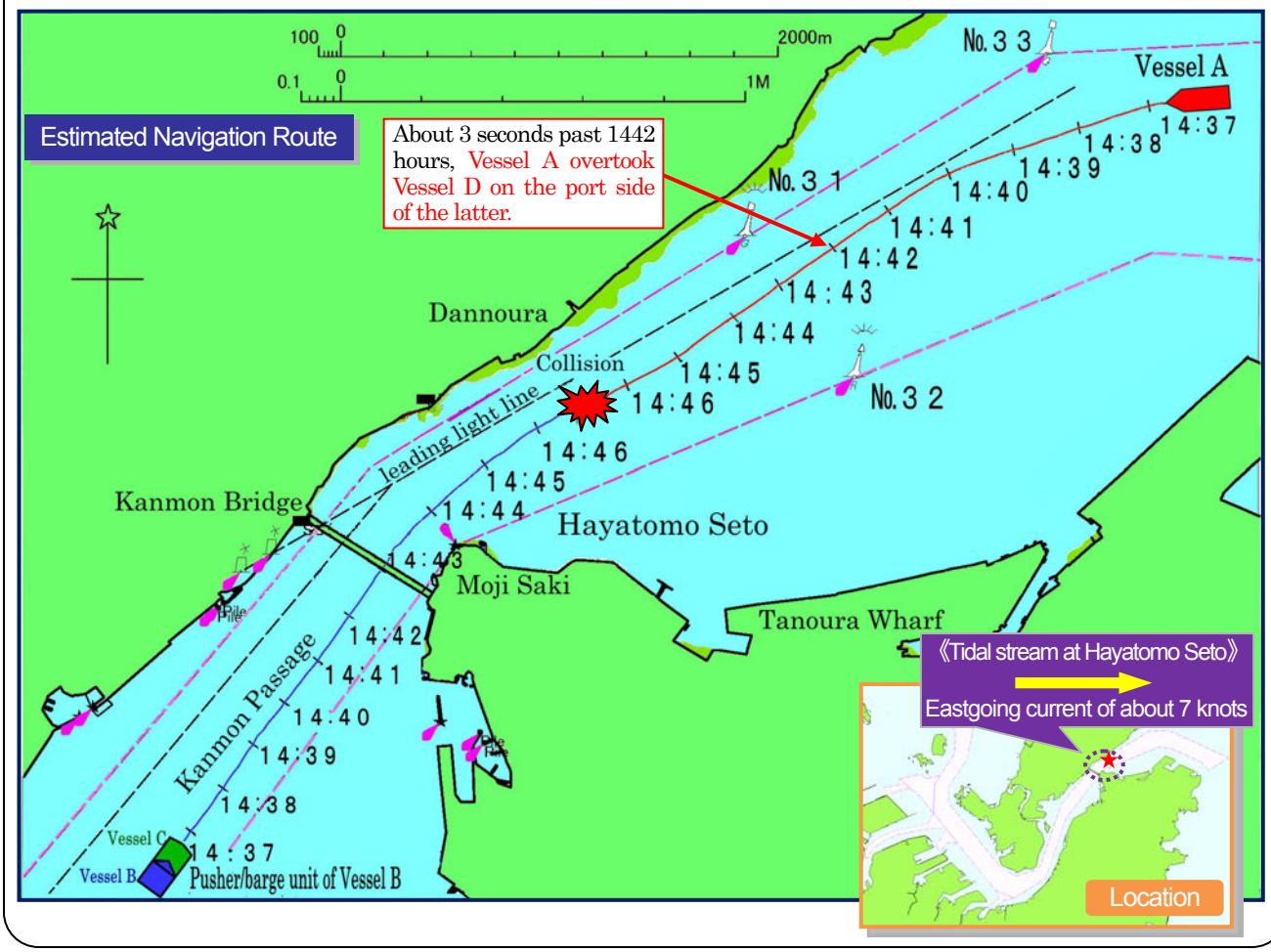
About 1446.37 hrs

On a heading of 106° and a course over the ground of 53.4°, at a speed of 7.5 knots, Vessel C collided with Vessel A.

Sinking Vessel C

*3 Provision of information by Kanmon MARTIS

◆ When the velocity of the tidal stream in Kanmon Kaikyo is equal to or more than 7 knots, Kanmon MARTIS broadcasts, by VHF, at intervals of 30 minutes, general information about tidal streams which may affect vessels to sheer.



Analysis on navigation rules

In Kanmon Port, vessels are supposed to observe special sailing rules as specified in the Regulations for the Enforcement of the Act on Port Regulations. To Vessel A and the pusher/barge unit of Vessel B, the sailing rules for 'overtaking' and 'keeping to the starboard side' apply. It is considered probable that they did not comply with these rules.

Special sailing rule on the basis of the Regulations for the Enforcement of the Act on Port Regulations

Sailing rules related to 'overtaking'

- In the Kanmon Passage
  A vessel may overtake the other vessel only if both of the following conditions are met:
  Considering the surrounding situation,
  (1) if such other vessel does not need to take any action for the safe passage of the overtaking one; and
  (2) if such other vessel can safely keep out of the way of vessels other than the overtaking one.
- For overtaking another vessel
  (1) When a vessel intends to overtake another one on the starboard side of the latter, she shall sound a prolonged blast on the whistle or siren, followed by a short one.
  (2) When a vessel intends to overtake another one on the port side of the latter, she shall sound a prolonged blast on the whistle or siren, followed by two short ones.

Sailing rule related to the 'Keep-to-the-right rule'

- When sailing the Kanmon Passage or Kanmon Passage No. 2, motor vessels are required to sail on the starboard side of the passage as far as practicable.

It was not apparent, in the event of Vessel A overtaking Vessel D, whether Vessel A could keep safely out of the way of the oncoming vessel since, with Vessel D close to her starboard quarter, she did not have the freedom to quickly shift to the starboard side of the passage. Consequently, she should not have overtaken Vessel D.

Both Vessels A and the pusher/barge unit of Vessel B intended to sail on the starboard side of the passage.

Master A was not aware of the special sailing rule concerning 'overtaking'.

Vessel A overtook Vessel D on the port side of the latter.

The pusher/barge unit of Vessel B was driven away from her course by the strong, following tidal stream.

Both Vessels A and B (pusher/barge unit) ended up sailing in the middle part of the Kanmon Passage.

With a view to preventing recurrence

This accident occurred between westbound Vessel A and the eastbound pusher/barge unit of Vessel B in Hayatomo Seto, Kanmon Passage, when an eastgoing tidal stream was flowing at a speed of about 7 knots.

It is considered probable that Vessel A, which overtook Vessel D, and the pusher/barge unit of Vessel B, which was driven away from her course by strong tidal streams, were forced to sail in the middle part of the passage, resulting in their inability to keep out of the way of the other.

The JTSB has conducted the following analysis with a view to preventing a recurrence of a similar accident.

Analysis for the prevention of a recurrence of a similar accident

1. Without overtaking another vessel in Hayatomo Seto, Vessel A should have sailed, forming a line after another vessel ahead, (*) so far as practicable, while following the relevant leading lights and leading line.
2. The pusher/barge unit of Vessel B should have obtained information about tidal streams so as to be able to sail at an appropriate speed.
3. Both vessels should have used the AIS to obtain information about other vessels and, where possible, communicated with each other by VHF to exchange their intentions.
4. Both vessels should have actively obtained, from Kanmon MARTIS, information on vessel traffic in the vicinity of Moji Saki.

* For westbound vessels, the leading lights situated in the vicinity of the north side of the Kanmon Bridge over Hayatomo Seto and the leading line marked on the relevant chart, are available.

◆Important points for safe navigation in Hayatomo Seto are shown on Page 15.

The investigation report of this accident is publicized on the website of the JTSB(issued on Feb. 26, 2010).

http://www.mlit.go.jp/jtsb/ship/report/MA2010-2-16_2008mj0033.pdf (Japanese version only)

Investigated accident case 4

Grounding, in Hayatomo Seto, Kanmon Passage, of a cargo vessel which was proceeding northeastward in restricted visibility because of thick fog, when she tried to avoid a vessel sailing ahead of her

Outline: Manned by a master and six crew members, Cargo Vessel A, which was sailing northeastward through the Kanmon Passage, Kanmon Port, for Tsukumi Port, Oita Prefecture, grounded on the west side of Moji Saki about 23 seconds past 0643 hours on December 10, 2008. Vessel A suffered dent damage to the shell plating but no fatalities nor personal injuries.

Events leading to the accident

Vessel A (cargo ship)

Gross tonnage : 699 tons
L ×*B* ×*D :* 68.61m × 11.50m × 5.00m
Flag state : Japan
Crew members, etc : Master A and 6 crew members
Loaded cargo : Limestone

At 0600 hours, Kanmon MARTIS announced, by VHF etc., to vessels in transit, a message of fog with a visibility of no more than 1,000 m for the eastern and southeastern parts of the Kanmon Passage.

Master A proceeded northeastward through the Kanmon Passage, posting the deck officer to the helm and the chief engineer to the engine control panel.

About 0622.24 hrs

When sailing in the vicinity of Kanmon Passage No. 26 lightbuoy, he obtained, from Kanmon MARTIS, information that the visibility had dropped to 0.35 nautical mile in the vicinity of the Kanmon Bridge.

With the visibility information obtained from Kanmon MARTIS, he still continued sailing at a speed of 7.6 knots over the ground.

About 0631.24 hrs

When sailing near Kanmon Passage No. 30 lightbuoy, he observed, by radar, Vessel B (*), which was sailing from the west coast of Moji-ku in the direction of the Kanmon Passage.

She followed Vessel B, which was sailing in the same direction.

About 0640.45 hrs

When sailing at a position about 0.25 nautical mile short of reaching the Kanmon Bridge, he lost track of Vessel B.

On the radar screen, Vessel B was obscured by the Kanmon Bridge.

About 0642.14 hrs

Sighting the lights of Vessel B about 50 m off on his port bow, he stopped the main engine and put the helm 70° to starboard.

She was sailing while closing to Vessel B.

He lost track of Vessel B, but did not slacken his speed.

About 0642.57 hrs

When his speed had dropped to 5.8 knots, he observed house lights and put the rudder 70° to port.

About 0643.23 hrs

She went aground on the west side of Moji Saki at a speed of 4.1 knots.

Principal factors

[Weather and sea conditions]

The weather at the material time was foggy, with visibility reduced to about 200 m, and the tidal stream flowing westward at a speed of about 6 knots. The time of sunrise on that day was 0710 hours.

Safety management manual established by the operator of Vessel A

In the event of a visibility reduced to 1,000 m or less, the master shall:
- reduce his vessel speed to a safe one appropriate to the situation; and
- take measures, as necessary, such as taking all way off, anchoring outside buoyed channels, or changing the sailing route.

He did not slacken his vessel speed.

He did not take such measures as anchoring outside the passage, waiting for the situation to improve.

He was in a hurry because of a large delay in port entry.

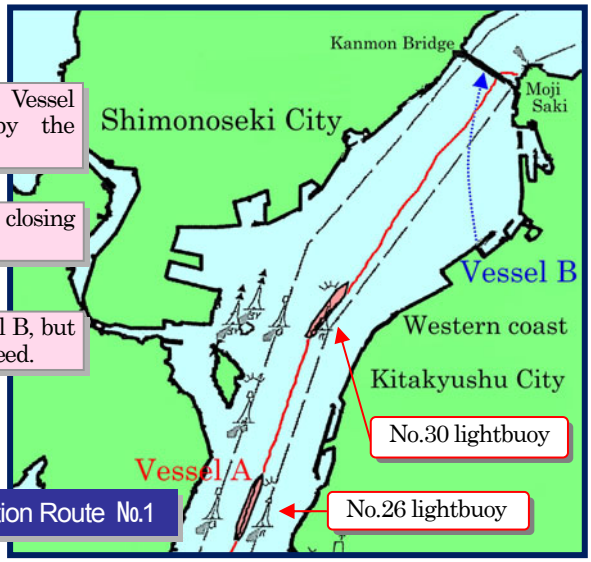
He believed that he might take a sheer because of the head current.

[Situation of the scene of the accident]

It is the narrowest part of Kanmon Kaikyo, with a navigable width of about 500 m. Over the area the Kanmon Bridge spans, with a height of about 62 to 63 m above the water.

*Movement of Vessel B

The master of Vessel B (a tugboat of 181 tons) states:
- She left the western coast of Moji-ku at about 0630 hours.
- Observing, by radar, Vessel A sailing northeastward in the vicinity of No.30 lightbuoy, He sailed toward the center of the right half of the Kanmon Bridge at a speed of about 5 knots.
- Just before reaching the Kanmon Bridge, his view was completely blocked by the fog. He slowed down to about 4 knots and headed for the center of the Kanmon Bridge by steering to the north in order to give more sea room on the starboard side for Vessel A, which was closing from astern.
- In the vicinity of the Kanmon Bridge when Vessel A had closed to a distance of about 50 m, she turned to starboard, suddenly, and he continued sailing as before.



Estimated Navigation Route No.1

With a view to preventing recurrence

It is considered probable that this accident occurred, in the Kanmon Passage in a restricted visibility condition because of thick fog, as follows: While sailing northeastward and, at the same time, closing to Vessel B from behind, Vessel A lost track of Vessel B on the radar screen when her radar image was covered by that of the Kanmon Bridge; whereupon Vessel A did not slacken her speed; as a result, she drew closer and at the moment when lights of Vessel B were sighted, the latter was at a distance of about 50 m off on the port bow of Vessel A; and, in order to avoid collision, Vessel A turned to starboard.

The JTSB has conducted the following analysis with a view to preventing a recurrence of a similar accident.

Analysis for the prevention of a recurrence of a similar accident

It is considered probable that: As visibility had dropped to below 1,000 m, Vessel A should have taken shelter at an anchorage in a safe area or other means, by complying with the relevant safety management manual; although, after having observed Vessel B on the radar screen, she continued sailing at such a speed as would bring her closer to the other, she should have slackened her speed to a safe one.

◆Important points for safe navigation in Hayatomo Seto are shown on Page 15.
◆Important points for safe navigation in restricted visibility are shown on Page 17.

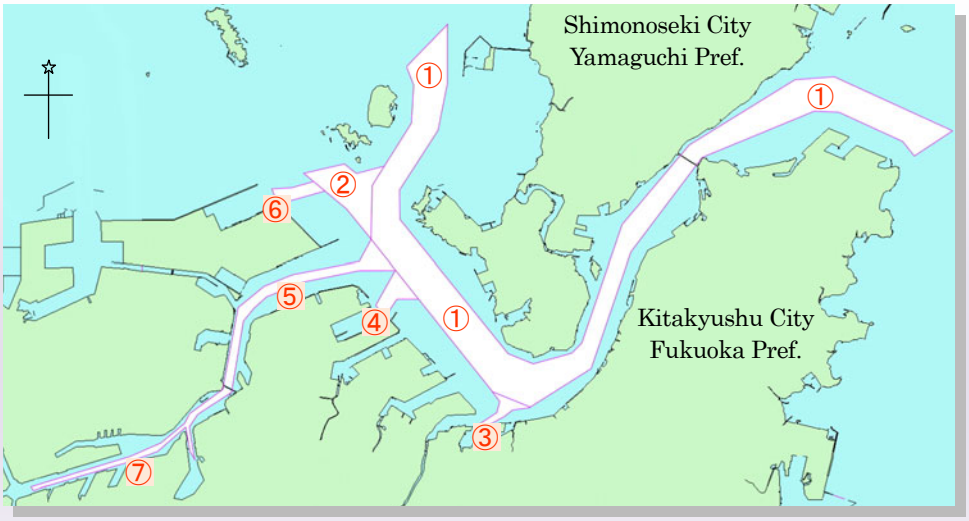
The investigation report of this accident is publicized on the website of the JTSB(issued on Feb. 26, 2010).

http://www.mlit.go.jp/jtsb/ship/report/MA2010-2-17_2008mj0081.pdf (Japanese version only)

Important points for safe navigation《relationship of priority between various passages》

In Kanmon Kaikyo several passages have been established and the relationship of priority of one passage over another has been specified by the Regulations for the Enforcement of the Act on Port Regulations. Vessels sailing a passage shall keep out of the way of other vessels sailing another passage which has priority over the former.

Special sailing rule on the basis of the Regulations for the Enforcement of the Act on Port Regulations

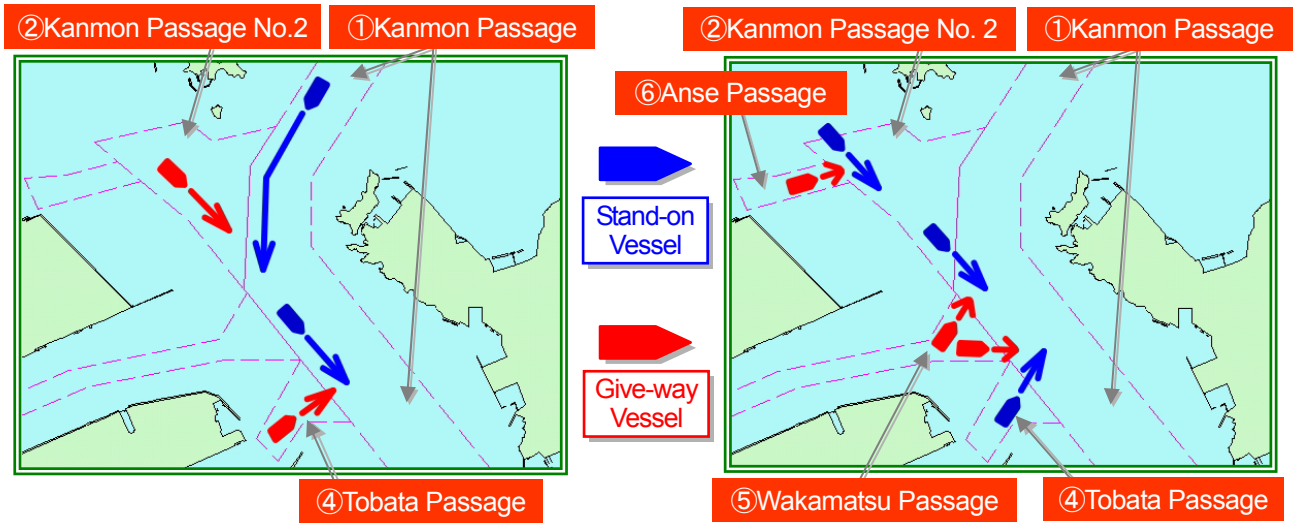


①	Kanmon Passage	⑤	Wakamatsu Passage【a vessel shall keep out of the way of another sailing in ①,②and④.】
②	Kanmon Passage No.2【a vessel shall keep out of the way of another sailing in ①.】	⑥	Anse Passage【a vessel shall keep out of the way of another sailing in ②.】
③	Sunatsu Passage【a vessel shall keep out of the way of another sailing in ①.】	⑦	Okudokai Passage【a vessel shall keep out of the way of another sailing in ⑤.】
④	Tobata Passage【a vessel shall keep out of the way of another sailing in ①.】		

Relationship of priority between passages in the western part of Kanmon Kaikyo

In the western part of Kanmon Kaikyo, the Kanmon Passage is connected with the Kanmon Passage No. 2 and other passages, making the relationship of priority complicated. This water area is congested with numerous vessels, ones transiting the strait and others entering/leaving various passages. In such a situation, vessels sometimes find themselves on a collision course.

The junction between the Kanmon Passage and the Kanmon Passage No. 2 requires special caution for navigation because vessels converge here from various directions: southbound vessels sailing through the Kanmon Passage, westbound ones heading for the Kanmon Passage No. 2 after crossing the Kanmon Passage, and eastbound ones from the Kanmon Passage No. 2 to the Kanmon Passage.



◆When sailing this area, it is important to pay attention to the movement of other vessels—with the relationship of priority between passages in mind—and, communicating with each other by VHF, etc., as necessary, take avoiding action in sufficiently ample time so as to avoid a situation involving risk of collision.

◆ Kanmon MARTIS may sometimes provide information concerning on-coming vessels, etc. by VHF. Accordingly,vessels are requested to make sure to keep a listening watch on VHF (16 Ch).

Important points for safe navigation《in the vicinity of Hayatomo Seto》

Hayatomo Seto, located in the eastern section of Kanmon Kaikyo, forms the narrowest part of the strait, where numerous vessels converge and strong tidal streams occur. The passage bends near Moji Saki and, therefore, mariners are requested to con their ships with caution, taking into account the effects of tidal streams. Of Hayatomo Seto, the Sailing Directions for Seto Naikai(*) gives descriptions as follows and special sailing rules are specified on the basis of the Regulations for the Enforcement of the Act on Port Regulations.

* Issued by the Japan Coast Guard in March 2009; an English version is also available.

- This Seto, where many vessels of various sizes are encountered, is the most difficult part of Kanmon Kaikyo.
- The strait bends at the narrowest part and the tidal stream is strong. The boundaries of strong river-like streams can be distinguished from on board vessels.
- At the spring in summer and winter seasons, the strongest tidal stream may exceed 9 knots.
- Concentrations of fishing vessels and pleasure fishing boats are encountered when the stream is weak, and numerous large vessels are also observed concentrated close to the time of slack water.
- Slack water lasts only a few minutes in the middle part of the strait.

Special sailing rule on the basis of the Regulations for the Enforcement of the Act on Port Regulations

Navigation rule in Hayatomo Seto

- Motor vessels sailing against tidal streams shall maintain a sailing speed in excess of 3 knots over the tidal stream.

* The Kanmon Straits & Harbour Pilot Association requires as a criterion for accepting a vessel that she is capable of maintaining a speed over the ground of 5 knots or more, in the period of adverse tidal currents.

The Sailing Directions for Seto Naikai show the following ranges of area which experience the strongest tidal streams in Hayatomo Seto:

During the period of eastgoing current:

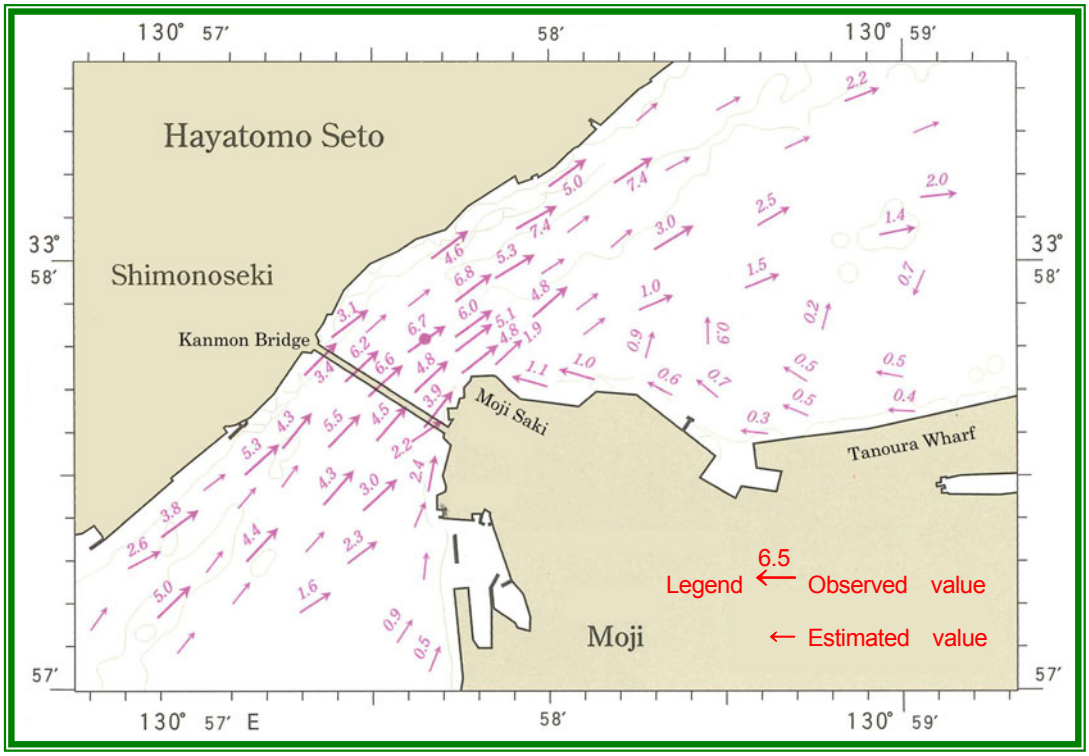
Area which extends northeastward about 1200 m long and 200 to 300 m wide, from the vicinity of Moji Saki, along the Kanmon Passage, but slightly closer to the side of Shimonoseki from its center

During the period of westgoing current:

Area which extends southwestward about 2,000 meters long and 150 to 300 meters wide, from the vicinity of Moji Saki, along the Kanmon Passage, but slightly closer to the side of Shimonoseki from its center

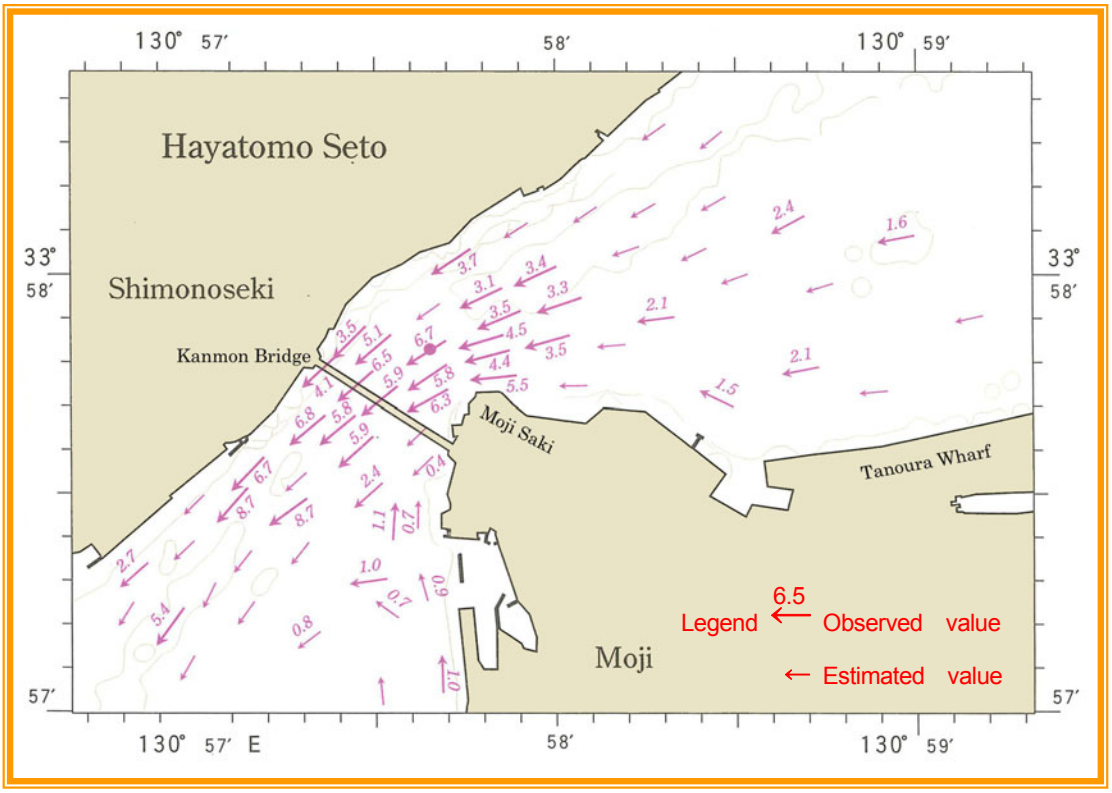
In both easterly and westerly currents, the strongest stream area extends from the vicinity of Moji Saki along the Kanmon Passage but slightly closer to Shimonoseki. When sailing during a period of strong tidal streams, both eastbound and westbound vessels are required to bear in mind that, regardless of the direction of the tidal stream, they may take a sheer toward the side of Shimonoseki.

(Reference)Tidal current chart at Hayatomo Seto at the peak of eastgoing currents



Source data: Tidal Current Chart in Kanmon Kaikyo (issued by Japan Coast Guard in February 2006)

(Reference)Tidal current chart at Hayatomo Seto at the peak of westgoing currents



Source data: Tidal Current Chart in Kanmon Kaikyo (issued by Japan Coast Guard in February 2006)

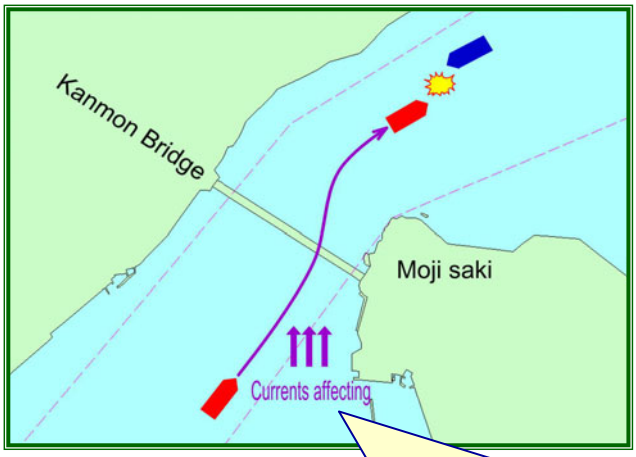
◆ During strong tidal streams, east- and westbound vessels are required to bear in mind that, regardless of the direction of the tidal stream, they may take a sheer toward the side of Shimonoseki.

Currents affecting the navigation of eastbound vessels

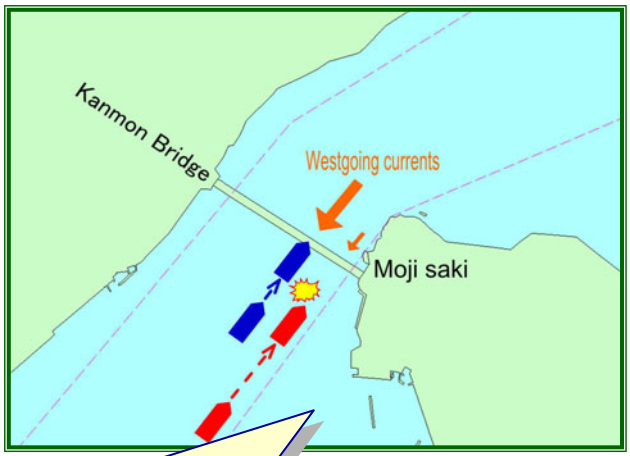
Eastbound vessels may sometimes unintentionally take a sheer toward the center line of the passage because of tidal currents, resulting in developing a close-quarters situation with westbound vessels. In such a circumstance, as indicated in Investigated Accident Case No. 3, vessels tend to end up colliding with each other because they cannot understand the intention of the other and, as a result, they fail to take appropriate avoiding action. It is important for east- and westbound vessels, when encountering each other, to check in ample time, where possible, the intention of maneuvers of the other vessel by communicating by VHF etc.

Reduction in distance between ships

When sailing against adverse tidal streams, vessels may experience a drastic speed reduction in the vicinity of Hayatomo Seto. Therefore, mariners are required to pay special attention to keep a sufficient distance from another vessel sailing ahead in the same direction. In waters close to Moji Saki, the influence of tidal streams is rather small as compared with other areas. For this reason, during westgoing tidal streams, vessels sailing in waters closer to Moji Saki may find themselves, unintentionally, developing a close-quarters situation with, or overtaking without sufficient space, another vessel sailing closer to the center line of the passage. They are requested to take due precautions against such a tendency.



◆Eastbound vessels are required to pay special attention to tidal currents which may drive them toward the center line of the passage.
◆Attention to the distance from another vessel sailing ahead in the same direction.

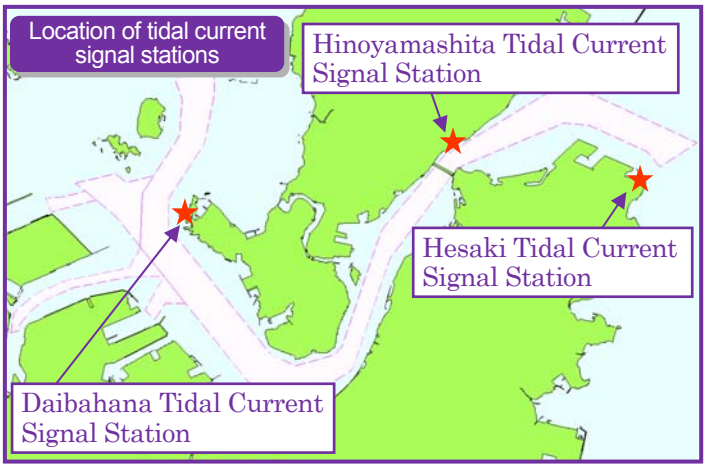


◆ Attention to the distance from another vessel sailing ahead in the same direction.
◆Caution is required, in the vicinity of Hayatomo Seto, not to end up overtaking another vessel without sufficient space.

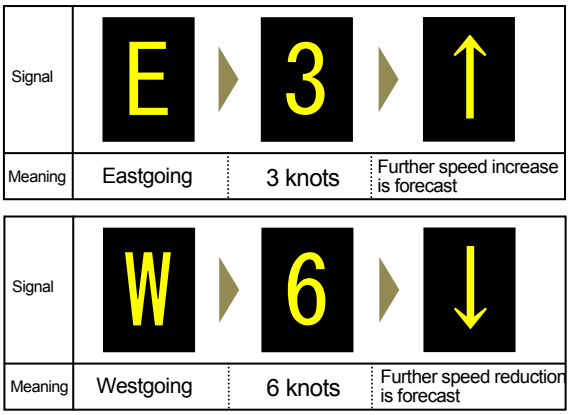
How to get information on tidal currents in Hayatomo Seto

In Kanmon Kaikyo tidal current information in Hayatomo Seto is provided by the Japan Coast Guard. In addition to the three tidal current signal stations which show tidal current information on electrical display boards, tidal current information can be obtained by radio broadcasts and the website of Kanmon MARTIS.

When a vessel intends to sail through Hayatomo Seto, it is vital to acquire tidal information in ample time by using these methods and adopt appropriate operational measures (waiting for tide, selection of appropriate course and speed) depending on the situation.



Example of a tide signal on the electrical display board of a tidal current signal station



Other means for providing information

Radio broadcasts (in Japanese; frequency 1,625 .5kHz), telephone (in Japanese; tel. No. 083-222-8810), VHF (in the event of a tidal stream of 7 knots or more), Kanmon MARTIS website (in Japanese; http://www6.kaiho.mlit.go.jp/kanmon/),etc.

Important points for safe navigation 《 in restricted visibility 》

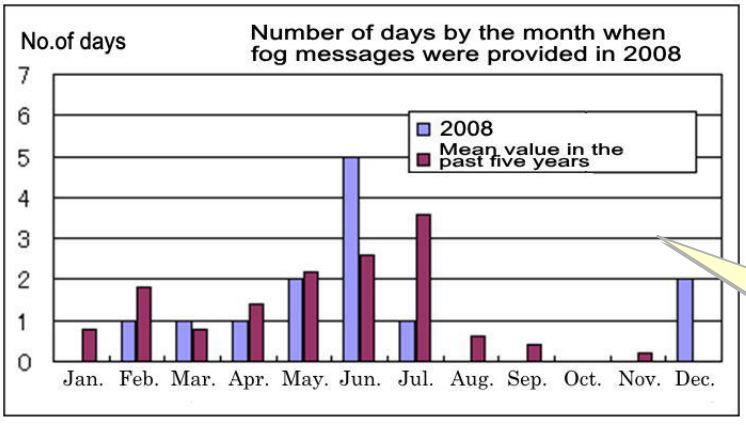
Every year, in Kanmon Kaikyo, fog starts to occur in February and becomes frequent in the period from April to July. When a visibility of 500 m or less is expected to last for some time, the harbourmaster of Kanmon Port issues a recommendation for the suspension of entry into the passage, in which event navigation will be restricted as follows:

Vessels intending to enter the Kanmon Passage	They shall suspend entry into the passage and take shelter in a safe area, as promptly as practicable, and wait for the improvement of the situation.
Vessels sailing through the Kanmon Passage	They shall either continue sailing through the passage with sufficient caution or take shelter in a safe area outside the passage and report, to Kanmon MARTIS, the name of the vessel, the location of the shelter, and other relevant information.

The Japan Coast Guard provides information by VHF etc., when it issues or cancels a recommendation for the suspension of entry into the passage, or when the visibility has dropped down to 2,000 m or less. In the event of a drop in visibility, mariners are requested to attempt to obtain such information and get their vessel ready for navigation in restricted visibility by raising the level of vigilance by posting additional lookouts and reducing the sailing speed to a safe one.

Provision of information in the event of restricted visibility

VHF (16ch), automatic identification system (AIS) , Radio broadcasts (in Japanese; frequency 1,651kHz／in English; frequency 2,019kHz), Kanmon MARTIS website (in Japanese; http://www6.kaiho.mlit.go.jp/kanmon/),etc.



【Reference】Number of days by the month when fog messages were provided for the Kanmon Passage (in 2008)

Kanmon MARTIS issues fog messages by classifying visibility into such divisions of 2000 m or less, 1000 m or less, and 500 m or less.

Source data: Kanmon MARTIS website

New maritime traffic rules

As a result of amendments to the Act on Port Regulations, new vessel traffic rules have been introduced in Kanmon Kaikyo since July 1, 2010. We will give you here an outline of the rules only. We recommend you to check the details on the website of the Japan Coast Guard.

For your information, the Maritime Traffic Safety Act, which prescribes traffic rules in Tokyo Bay, Ise Bay and the Seto Inland Sea, was also amended at the same time and new maritime traffic rules have been introduced in these waters, as well, since July 1.

Japan Coast Guard website (Japanese): http://www.kaiho.mlit.go.jp/syoukai/soshiki/toudai/navigation-safety/news-houan4.htm

Japan Coast Guard website (English): http://www.kaiho.mlit.go.jp/syoukai/soshiki/toudai/navigation-safety/en/news.htm

Kanmon MARTIS website (English): http://www6.kaiho.mlit.go.jp/kanmon/html/english.htm

It has become compulsory for vessels to keep a listening watch for information provided by the Japan Coast Guard.

It has become compulsory for specified vessels (with gross tonnage exceeding 300 tons) to keep a listening watch for **information provided by the Japan Coast Guard (harbourmaster) (*)** when sailing in the waters illustrated below (waters of compulsory listening watch).

- The harbourmaster may issue an advice for the purpose of preventing dangers.
- Information and advice are provided in Japanese or English, mainly by using the international VHF radio telephone.
- Such information and advice do not have such a nature as to give specific instructions for shiphandling.

《* Information provided by Japan Coast Guard 》

- Information on traffic rules;
- Information on traffic obstacles;
- Information on dangerous sea areas;
- Information on vessels restricted in their ability to maneuver;
- Information on other specified vessels in a close-quarters situation ;and
- Other information as necessary for safety.

Vessels may be instructed to wait outside a passage in restricted visibility or other cases.

In order to ensure the safety of vessel traffic in visibility restricted by fog or in other cases, the harbourmaster may instruct vessels to wait outside a passage.

- The criterion of restricted visibility is 500 m or less.
- He may instruct such a vessel as may not be able to develop a speed in excess of 3 knots over the expected velocity of the tidal stream, to wait outside a passage.

The entry of AIS data about the destination has become compulsory.

It has become obligatory for vessels equipped with an AIS transceiver to enter their destination in the AIS destination field, in accordance with the method (alphabetical code) recommended by the International Maritime Organization (IMO).

Vessels may be ordered to leave the port, or may be advised for evacuations, in the event of abnormal weather or sea conditions.

The harbourmaster may give vessels inside the port, orders to leave the port or advice for evacuation in the event of a large scale typhoon or other abnormal weather or sea conditions, or a marine accident.

For inquiries, contact:

Japan Transport Safety Board

2-1-2, Kasumigaseki, Chiyoda-ku, Tokyo, 100-8918 Japan

E-mail: jtsb_analysis@mlit.go.jp

URL: http://www.mlit.go.jp/jtsb/english.html