

### 3. Cases of accidents due to pitching, etc.

#### Case 1: 2 anglers suffered from vertebral fractures who sit on the starboard front when the starboard bow pitched and rolled due to heavy surges

**Summary of the accident:** When a recreational fishing vessel (19 tonnes, 1 crew and 20 anglers, hereinafter referred to as “the Vessel”) was heading toward south-southeast and pitched due to heavy surges, 3 anglers who sit on fishing seats on the starboard front suffered from vertebral fractures, etc. after their bodies thrown into the air and fell to the deck. They hit their buttocks on fishing seats.

**Weather and see conditions:** Weather - sunny, Wind direction –southwest, Wind speed – approximately 4m/sec, Sight – clear, Wave height – approximately 0.5~1.0m, a high surf advisory was issued.

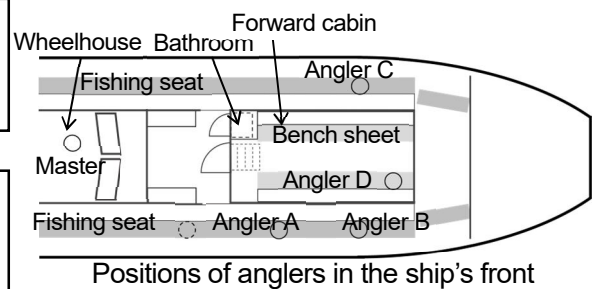
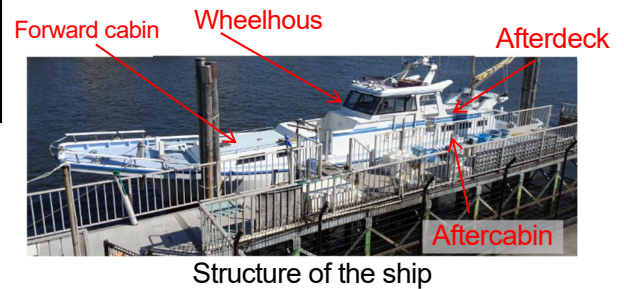
#### Process of the accident

The master did not explain precautions about pitching and rolling before setting sail, because the master thought that the anglers were aware of precautions.

While the ship was heading to south-southeast toward a fishing spot, the master reduced the speed to approximately 15 knots because of heavy surges and sailed, controlling the engine speed in accordance with heavy surges.

The master made an announcement prior to the arrival to a fishing spot. Angler A and Angler B moved to the fishing seat on the starboard front.

Angler A, Angler B, and Angler D hit their buttocks due to pitching and rolling approximately 5 minutes after the announcement prior to the arrival.



- Even after heavy surges were observed, the master **made an announcement prior to the arrival as usual** and allowed anglers to choose a waiting position, because the wave height was low and **heavy pitching and rolling were not felt after reducing the speed**.
- The master **could not feel heavy pitching and rolling at the bow** when the anglers were injured, because the master navigated the Vessel in the wheelhouse near the midship area and did not see how Angler A and Angler B on the starboard front.

**Cause:** In this accident, it is supposed that Angler A and Angler B who sit on the fishing seat on the starboard front were lifted up and then fell and their buttocks hit the fishing seat, because the starboard bow of the Vessel, while heading toward south-southeast at the speed of approximately 15 knots, pitched due to heavy surges.

#### Safety Actions (measures to prevent accidents) Opinions about the Fisheries Agency are included

- The masters and operators of recreational fishing vessels must **set standards for moving anglers to the stern side from the midship such as wind direction, wind speed, wave direction, and wave height (with respect to the vessel speed)**.
- If the standards are exceeded while sailing, the masters and operators of recreational fishing vessels must **ensure safety by stopping to sail or reducing the speed sufficiently and then move anglers to the stern side from the midship**.
- The masters and operators of recreational fishing vessels must obtain information on winds and waves of sea areas where they plan to sail. If the standards are exceeded, the masters and operators of recreational fishing vessels must **set sail after verifying that anglers have moved to the stern side from the midship**.
- The masters of recreational fishing vessels, etc. must **comply with the operational rules (regulations on prevention of accidents involving injuries due to pitching and rolling)**.

The investigation report of this accident is available on the Board's website (published on February 16, 2023).

[https://www.mlit.go.jp/jtsb/ship/rep-acci/2023/MA2023-2-8\\_2022yh0025.pdf](https://www.mlit.go.jp/jtsb/ship/rep-acci/2023/MA2023-2-8_2022yh0025.pdf)

## Case 2: 3 anglers on the forward deck suffered from vertebral fractures, etc. when the ship pitched

**Summary of the accident:** When a recreational fishing vessel (4.3 tonnes, 1 crew and 12 anglers, hereinafter referred to as “the Vessel”) was heading toward northwest and pitched by waves, 3 anglers who sit on the fishing seat on the starboard front suffered from vertebral fractures, etc. after their bodies were thrown into the air and fell to the deck.

**Weather and sea conditions:** Weather - cloudy with occasional rain, Wind direction – south-southeast, Wind speed – approximately 5-6m/sec, Sight – clear, Wave height – approximately 1.0m, a high surf advisory was issued

### Process of the accident

The Vessel started to return after anglers enjoyed fishing and headed toward west-northwest at the speed of approximately 15 knots.

The master observed waves in the traveling direction and those waves reflected toward different directions off the breakwater and company’s dock near the entrance to the waterway continuing to the dock where the Vessel was going to be docked at. The wave height was approximately 1.0m.

3 anglers who sit on coolers, etc. on the forward deck were thrown into the air due to pitching of the Vessel’s body and fell to the deck. They felt pain in the low back.



State of the Sea Area

- The master **has a lot of experience in sailing the Sea Area and knew that waves are higher than the coast.**
- According to the master’s experience, no angler on the forward deck has been injured in the past while sailing on the Sea Area.
- The master **thought that it was possible to safely sail by reducing the speed and did not move the anglers on the forward deck to the afterdeck.**

When waves hit a cliff coast or artificial breakwaters, it is possible that waves are bounced back and change their direction. This phenomenon is called reflection. In this case, **if the top of incident waves and that of reflective waves overlap, the height of waves can reach nearly twice as high as the original wave height.** (Japan Meteorological Agency’s website)

**Cause:** In this accident, the master continued to sail with 3 anglers on the forward deck, while the ship headed toward northwest on the Sea Area. The body of 3 anglers was hit on the deck when wave directions varied and the ship’s body pitched by receiving waves of approximately 1.0m.

### Safety Actions (measures to prevent accidents)

- The masters of recreational fishing vessels must **check the ocean surface** while sailing and strive to control pitching and rolling due to waves by **sufficiently reducing the speed** or by other means. If waves are generated in a **sea area surrounded by breakwaters and docks**, it is possible that **wave directions vary due to reflection and the wave height rises.**
- The masters of recreational fishing vessels must **move anglers to the cabin or afterdeck** if pitching and rolling are expected.
- The masters of recreational fishing vessels must **promptly check** if there is any injured passenger, and **immediately take appropriate measures such as calling an ambulance** in cases where it is confirmed that any passenger is injured.

The investigation report of this accident is available on the Board’s website (published on March 24, 2022).

[https://www.mlit.go.jp/jtsb/ship/rep-acci/2022/MA2022-3-14\\_2021kb0081.pdf](https://www.mlit.go.jp/jtsb/ship/rep-acci/2022/MA2022-3-14_2021kb0081.pdf)