Transport Accident Investigation Commission

Final Preliminary Report

Tuhinga Whakamutunga – Mō Tēnei Wā

Maritime inquiry MO-2022-206
***Charter fishing vessel* i-Catcher**
Capsize
Goose Bay, Kaikōura, New Zealand
10 September 2022

August 2023

The Transport Accident Investigation Commission
Te Kōmihana Tirotiro Aituā Waka

No repeat accidents – ever!

"The principal purpose of the Commission shall be to determine the circumstances and causes of accidents and incidents with a view to avoiding similar occurrences in the future, rather than to ascribe blame to any person."

Transport Accident Investigation Commission Act 1990, s4 Purpose

The Transport Accident Investigation Commission is an independent Crown entity and standing commission of inquiry. We investigate selected maritime, aviation and rail accidents and incidents that occur in New Zealand or involve New Zealand-registered aircraft or vessels.

Our investigations are for the purpose of avoiding similar accidents in the future. We determine and analyse contributing factors, explain circumstances and causes, identify safety issues, and make recommendations to improve safety. Our findings cannot be used to pursue criminal, civil, or regulatory action.

At the end of every inquiry, we share all relevant knowledge in a final report. We use our information and insight to influence others in the transport sector to improve safety, nationally and internationally.

Commissioners

Chief Commissioner	Jane Meares
Deputy Chief Commissioner	Stephen Davies Howard
Commissioner	Paula Rose, QSO
Commissioner	Richard Marchant (until 31 October 2022)
Commissioner	Bernadette Roka Arapere (from 1 December 2022)
Commissioner	David Clarke (from 1 December 2022)

Key Commission personnel

Chief Executive	Martin Sawyers
Chief Investigator of Accidents	Naveen Kozhuppakalam
Lead Investigator	Jeremy Dann
Commission General Counsel	Cathryn Bridge

Notes about Commission reports
Kōrero tāpiri ki ngā pūrongo o te Kōmihana

Nature of this report

This preliminary report is made under section 9 of the Transport Accident Investigation Commission Act 1990. The Commission may make preliminary reports and recommendations to transport regulators as may be necessary for transport safety.

The Commission issued this preliminary report in the initial stages of the investigation. It follows the identification of particular facts and circumstances that the Commission believes have made it necessary to issue an urgent safety recommendation for transport safety.

Final report

Upon the completion of the full investigation, which may include further engagement with the preliminary safety issue, the Commission will issue a final report on the accident. That report will contain an analysis of the facts of the accident, findings and possible further recommendations, including on this preliminary safety issue (if any).

Photographs, diagrams, pictures

The Commission owns the photographs, diagrams and pictures in this report unless otherwise specified

Verbal probability expressions

For clarity, the Commission uses standardised terminology where possible.

One example of this standardisation is the terminology used to describe the degree of probability (or likelihood) that an event happened, or a condition existed in support of a hypothesis. The Commission has adopted this terminology from the Intergovernmental Panel on Climate Change and Australian Transport Safety Bureau models. The Commission chose these models because of their simplicity, usability, and international use. The Commission considers these models reflect its functions. These functions include making findings and issuing recommendations based on a wide range of evidence, whether or not that evidence would be admissible in a court of law.

Terminology	Likelihood	Equivalent terms
Virtually certain	> 99% probability of occurrence	Almost certain
Very likely	> 90% probability	Highly likely, very probable
Likely	> 66% probability	Probable
About as likely as not	33% to 66% probability	More or less likely
Unlikely	< 33% probability	Improbable
Very unlikely	< 10% probability	Highly unlikely
Exceptionally unlikely	< 1% probability	

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Figure 1: *i-Catcher*

(Credit: Fish Kaikoura 2011 Limited)

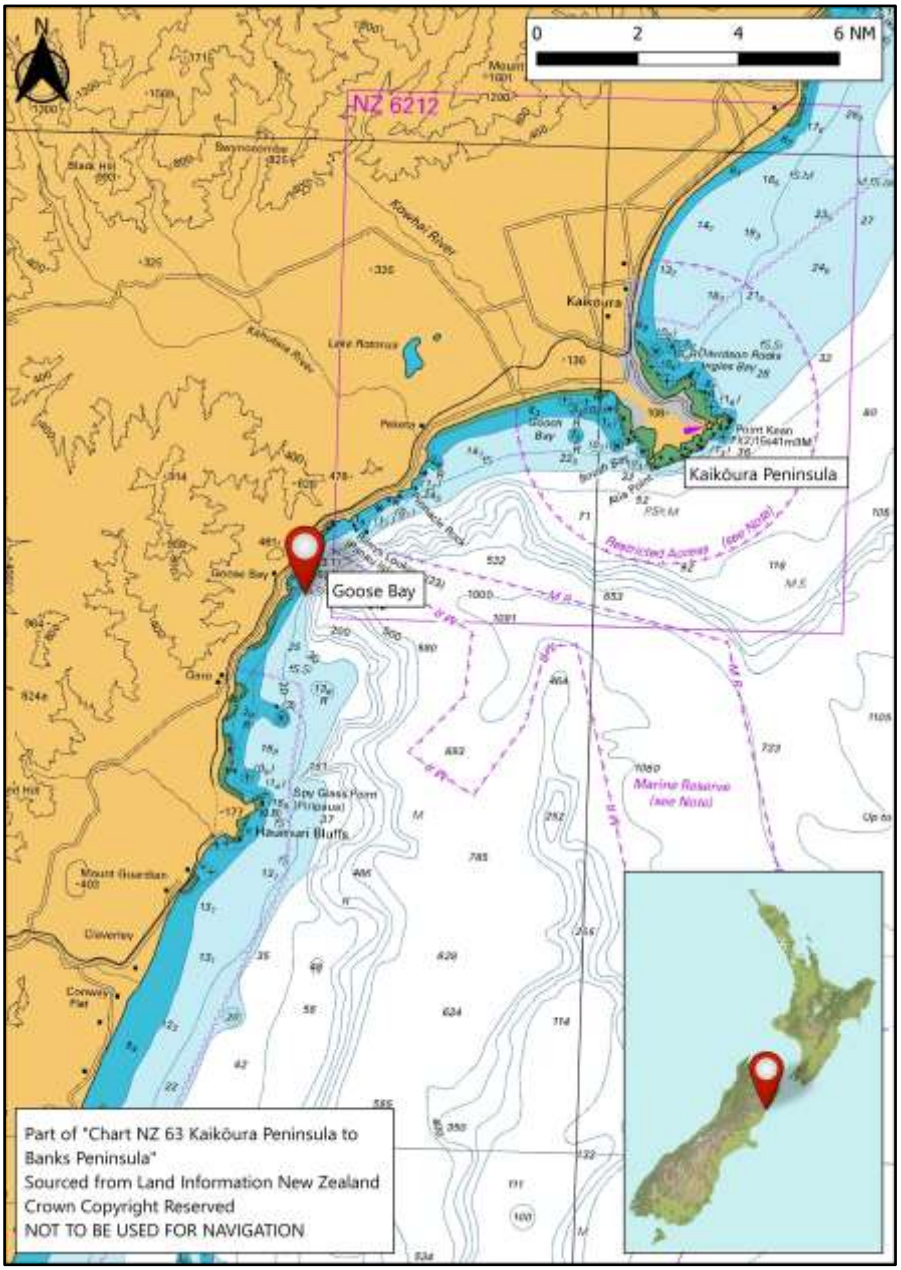

Figure 2: Location of accident

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1 Factual information
Pārongo pono

Narrative

1.1. The *i-Catcher* was an 8-metre (m) aluminium pontoon boat built for private use in 2003. It was powered by two 115-horsepower (hp) Yamaha outboard engines and equipped with an internal fuel tank. The *i-Catcher* entered commercial service as a charter fishing vessel in 2009 and was purchased by the current owner, Fish Kaikoura 2011 Limited, in 2011.

1.2. At approximately 0800 on Saturday 10 September 2022, the *i-Catcher* departed South Bay, Kaikōura with 11 people onboard comprising 10 passengers and the skipper.

1.3. The passengers were members of the Nature Photography Society of New Zealand. The vessel was chartered for a three-hour passage to photograph sea birds.

1.4. The *i-Catcher* was off the coast of Goose Bay (*see* Figure 2) when at approximately 1005 the vessel rapidly capsized to starboard, after contact with what initial inquiries suggest was a whale.

1.5. Two passengers were ejected from the vessel, while eight passengers and the skipper were initially underneath the upturned hull. The skipper along with two passengers immediately swam out from underneath the vessel.

1.6. At about the same time, one passenger surfaced within the air pocket inside the upturned hull, and attempted to instruct other passengers who were also in the air pocket to swim out. The passenger then sensed that "the air did not feel good" and swam out from under the vessel.

1.7. The skipper and five passengers climbed onto the upturned hull. At 1011 the skipper called 111 using a passenger's mobile phone.

1.8. At approximately 1024 the Maritime Operations Centre for Maritime New Zealand started issuing Mayday relays over VHF radio Channel 16.

1.9. By 1043 a recreational vessel had responded to the Mayday calls and recovered the five passengers who were on top of the upturned hull. The recreational vessel then took them back to South Bay for medical treatment. The skipper of the *i-Catcher* remained with the upturned vessel, as five passengers were still trapped beneath the hull.

1.10. The skipper was later retrieved by Coastguard Kaikōura and brought ashore by another responding vessel.

1.11. Later that same day the Police National Dive Squad retrieved the five remaining passengers, deceased, from within the vessel.

Vessel fuel system

1.12. The Commission found that flaws in the vessel's fuel system **almost certainly** allowed fuel to leak into the air pocket of the upturned vessel and **very likely** reduced the survivability of the accident for the following reasons:

1.12.1. The survivor who surfaced within the air pocket and swam out because of the air quality told Commission investigators that after the accident their jacket smelled of petrol while their pants did not. This is consistent with the presence of petrol

on the surface of the water within the cockpit area of the upturned vessel. Petrol floats, so anything above the surface of the water would be in contact with petrol or petrol vapour, while anything below water level would not.

1.12.2. Evidence reviewed by the Commission's medical consultant identified that all deceased passengers showed symptoms of petrol exposure, consistent with inhalation and absorption of petrol fumes.

1.12.3. Although they entered the upturned cockpit sometime after the accident, the Police National Dive Squad reported very strong fumes within the air pocket of the upturned vessel.

1.13. The presence of petrol in a confined space reduces survivability, as petrol attacks the cardiac and central nervous systems. At low concentration levels people can experience the smell and irritation of the eyes and upper respiratory tract. Higher exposure levels can rapidly lead to confusion, loss of consciousness and sudden death.

1.14. The fuel system on *i-Catcher* is made up of the following main components[1] (*see* Figure 3):

- 190-litre fixed centreline fuel tank located under the deck plate (fuel tank)
- main fuel fill hose for re-fuelling the vessel (fill hose), which connects to the fuel filler cap[2] and fuel tank
- the fuel-tank venting arrangement comprising three components: a primary vent hose; a secondary vent hose that branches off the primary vent hose; and an alloy vent tube attached to the secondary vent hose, which passes up through the deck of the vessel and terminates inside an alloy frame on the transom (discussed below)
- two fuel-delivery hoses, each leading to a fuel filter and one of the two outboard engines (fuel-delivery hoses).

[1] All main components of the fuel system were examined and tested by the Commission for potential leaks.
[2] A sealed petrol cap located on top of the transom where fuel is added.

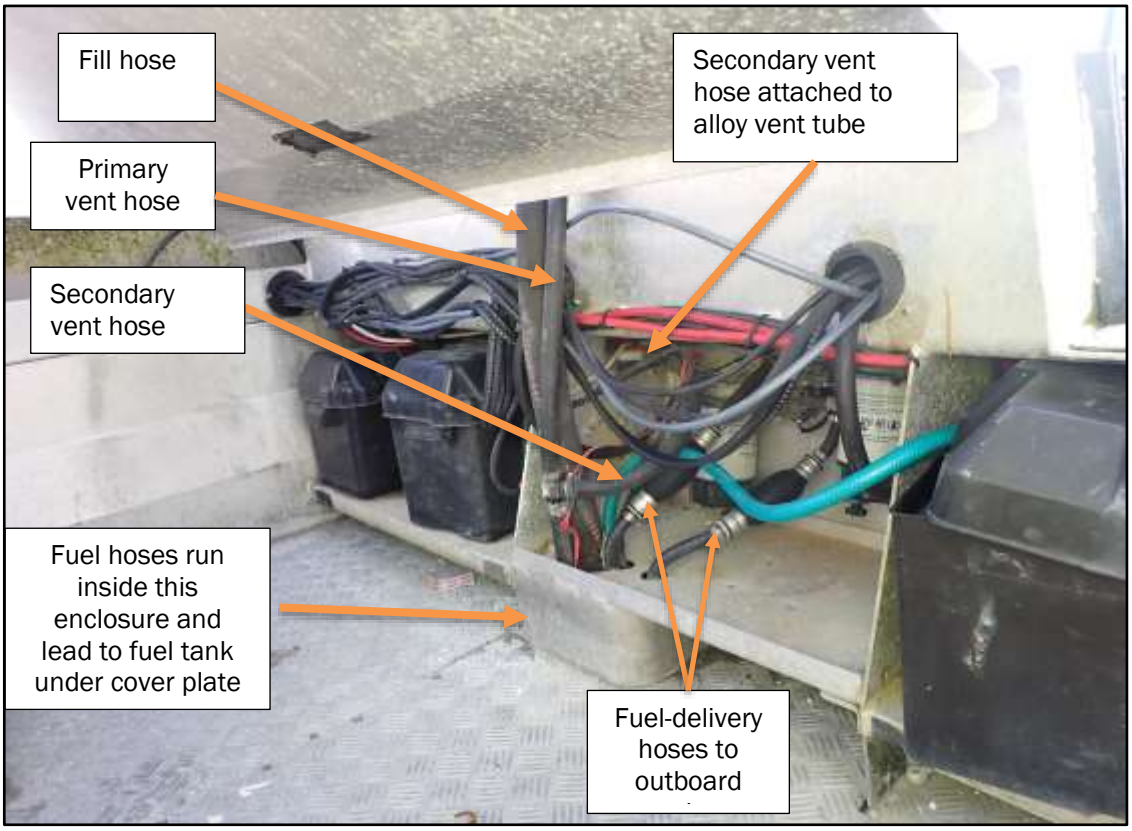

Figure 3: The *i-Catcher's* fuel system components

1.15. The Commission found a hole measuring approximately 12mm x 6mm in the alloy vent tube attached to the secondary vent hose (*see* Figure 4). Locating the hole required a thorough examination of the venting arrangement due to the alloy pipe being partially restricted from view.

Figure 4: Hole in alloy vent tube

1.16. This hole was a potential path for fuel to escape when filling the fuel tank or if the vessel overturned. The hole was also close to the high-tension battery leads and contact points, which presented a significant fire or explosion hazard.

1.17. The alloy vent tube (*see* Figure 4) terminated inside an alloy frame on the transom[3] just forward of the swim platform (*see* Figure 5). A pressure test of the alloy frame revealed that it was closed-off from the atmosphere, preventing fuel vapours from venting to open air and rendering it ineffective as a fuel-tank vent (a point not identified in survey reports, as discussed below).

1.18. Fish Kaikoura 2011 Limited has stated to the Commission that no modifications had been made to the *i-Catcher's* fuel system since it purchased the vessel.

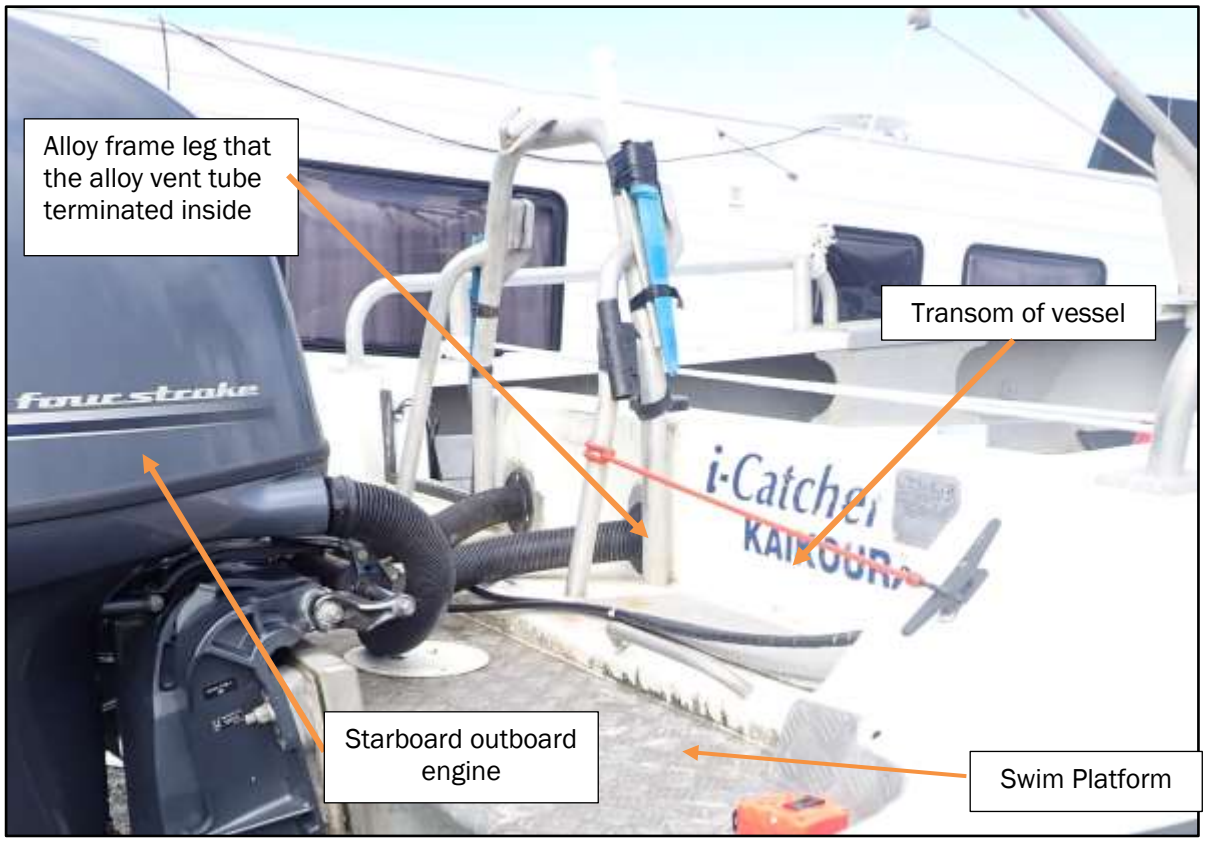

Figure 5: Stern of *i-Catcher*, identifying the alloy frame leg in which the alloy vent tube terminates.

1.19. The vessel's fuel-delivery hoses ran from the fuel tank through two holes in a cover plate. Removal of the cover plate and the deck plate to inspect the fuel-tank connections required partial disassembly of the fuel system. Upon disassembly, the Commission found the primary vent hose was not secured with a hose clamp, a critical component to ensure a secure connection to the fuel tank (*see* Figure 6).

1.20. A sealant had been applied where the fuel and vent hoses connected to the fuel tank. The fuel tank and its fuel hoses were pressure-tested by the Commission, which revealed a leak from the base of the primary vent hose. Prior to testing, it was observed that a

[3] The transverse structural member of the stern.

portion of the sealant had broken away, leaving a section of the primary vent hose connection exposed (*see* Figure 6).

Figure 6: Primary vent hose connection to fuel tank (underneath the deck plate)

Survey

1.21. The *i-Catcher* was registered as a passenger vessel restricted to carry a maximum of 12 people onboard, operating within specified restricted limits[4]. Under this classification the vessel was required to comply with Maritime New Zealand's Maritime Rules, including Part 40A Design, Construction & Equipment – Non-SOLAS Passenger Ships. Compliance with Part 40A was assured through surveys[5] conducted periodically on behalf of Maritime New Zealand by Recognised Surveyors.[6]

1.22. At the time of the accident, Rule 40A.32(4) provided requirements that:

> *(4) The machinery, fuel tank or tanks, and associated piping systems and fittings must be—*
>
> > *(a) of a design and construction adequate for the service for which they are intended; and*

[4] Inside a line commencing at the mouth of the Waiau River, from there 115° for 6 nautical miles, from there northwards along the coast of the South Island at a distance of 6nm to the position 130° 6 nm from Waipapa Point from there to the shore at Waipapa Point.

[5] Maritime Rules Part 44 Surveyor Responsibilities and Survey, Certification, and Maintenance for Ships in Maritime Transport Operations (*see* Appendix).

[6] A surveyor who holds a certificate of surveyor recognition issued by Maritime New Zealand, which is conditional on the Director being satisfied that the person is competent and has appropriate technical qualifications and experience.

(b) so installed and protected as to reduce to a minimum the danger to persons from moving parts, hot surfaces and other hazards during normal movement about the ship.

1.23. Although further parts of Rule 40A provide some information regarding adequate standards for fuel-system components, what constitutes 'adequate' is largely at the discretion of the surveyor. This allows surveyors flexibility when surveying various vessel designs but is open to an inconsistent application of the Maritime Rules with respect to quality assurance of safety-critical components such as fuel systems.

1.24. The survey system begins with an initial survey before a vessel enters commercial service. A Certificate of Survey is then issued, which is valid for five years. Once in commercial service, the vessel is subject to periodic surveys including renewal of the Certificate of Survey and intermediate surveys.

1.25. The *i-Catcher* had been in commercial service for 13 years. During that time, it had been surveyed by five different surveyors representing multiple safe ship management companies. The vessel's initial survey was conducted in 2009 and periodic surveys were then conducted approximately every 2 years.

1.26. The survey reports show that no inspection of the fuel system below the deck plate (*see* Figure 6) had been conducted on the vessel as a part of its commercial service. Similarly, the survey reports hadn't identified that the secondary fuel tank vent was ineffective. At the time of publication of this preliminary report the Commission had not yet determined how long the hole had been in the alloy vent tube.

1.27. The Maritime Rules did not prescribe that the entire fuel system be inspected. The fuel system is safety critical because a failure in that system can have serious consequences such as fire, explosion, inhalation of toxic fumes and environmental harm. For this reason, it is important that fuel systems are regularly monitored and periodically tested to ensure they are safe and fit for purpose.

1.28. Fuel systems on smaller vessels can be difficult to access and, like the *i-Catcher*, may require disassembly or destructive measures to gain access. Without specific regulatory requirements to survey the entire fuel system, surveyors rely upon their judgement in determining the extent of inspection. This decision may be based on an overall visual appraisal of the vessel that may not accurately reflect the condition of hidden components. Currently there is little guidance for surveyors as to how often and to what extent a fuel system should be inspected and/or tested.

2 Safety issues and remedial action
Ngā take haumanu me ngā mahi whakatika

General

2.1. Safety issues are an output from the Commission's analysis. They may not always relate to factors directly contributing to the accident or incident. They typically describe a system problem that has the potential to adversely affect future transport safety.

2.2. Safety issues may be addressed by safety actions taken by a participant, otherwise the Commission may issue a recommendation to address the issue.

Safety issue: Maritime New Zealand's survey system does not adequately assure the integrity and safety of fuel systems because the rules do not require that the entire fuel system is inspected.

2.3. While the *i-Catcher* represents one example, vessels of similar size and class make up a significant portion of New Zealand's commercial fleet. The ability to inspect fuel systems of such vessels is often restricted and may require destructive measures to gain access.

2.4. The Maritime Rules do not require surveyors to inspect the complete fuel system, so the extent of surveys is left to the surveyors' discretion.

2.5. The absence of a requirement to inspect the complete fuel system as a critical item during survey, increases the potential for undetected high-risk deficiencies to exist.

2.6. Being unable to get assurance from surveys as to the condition of fuel systems for other vessels in New Zealand's domestic fleet, the Commission is concerned about the potential risk to those vessels and their occupants.

2.7. No action has been taken to address this safety issue. Therefore, the Commission has made **recommendations** to address this issue (*see* Section 3).

3 Recommendations
Ngā tūtohutanga

General

3.1. The Commission issues recommendations to address safety issues found in its investigations. Recommendations may be addressed to organisations or people and can relate to safety issues found within an organisation or within the wider transport system that have the potential to contribute to future transport accidents and incidents.

3.2. For transport safety, it is important that these recommendations are implemented without delay to help prevent similar accidents or incidents occurring in the future.

New recommendations

3.3. On 26 July 2023, the Commission recommended that Maritime New Zealand use an appropriate mechanism that ensures the integrity and safety of fuel systems are being maintained and monitored through the survey system. **[021/23]**

3.4. On 26 July 2023, the Commission recommended that Maritime New Zealand alert all Recognised Surveyors:

- to the importance of conducting and documenting inspections of a vessel's complete fuel system during surveys; and
- to check vessels they are surveying have undergone a recent complete inspection of the fuel system. **[022/23]**

3.5. On 26 July 2023, the Commission recommended that Maritime New Zealand alert all industry stakeholders to the importance of inspecting a vessel's complete fuel system to assure its integrity and safety. **[023/23]**

4 Further lines of inquiry

4.1. The Commission is continuing with a full inquiry into this accident. A final report, setting out findings, safety issues and further recommendations, if any, will be issued at the completion of this inquiry.

4.2. Lines of inquiry include, but are not limited to:

- cause of capsize
- survey systems
- life jacket education
- emergency response to maritime accidents.

5 Data summary
Whakarāpopoto raraunga

Vehicle particulars

Name:	*i-Catcher*
Type:	Aluminium pontoon charter fishing vessel
Class:	Passenger, restricted to 12 people onboard
Limits:	Restricted Inshore
Length:	8 m
Manufacturer:	Kiwi-Kraft
Model:	820 Hardtop
Built:	2003
Propulsion:	2 x Yamaha 115 hp outboards
Service speed:	20 knots
Owner/operator:	Fish Kaikoura 2011 Limited
Home port:	Kaikōura, New Zealand

Date and time	10 September 2022, 1005
Location	Goose Bay, Kaikōura, New Zealand
Persons involved	10 passengers and 1 crew
Injuries	5 fatalities and 3 with moderate injuries
Damage	Damage to hull, loss of machinery and electrical systems

6 Conduct of the inquiry
He tikanga rapunga

6.1. On 10 September 2022, Maritime New Zealand notified the Commission of the occurrence. The Commission subsequently opened an inquiry under section 13(1) of the Transport Accident Investigation Commission Act 1990 and appointed an Investigator-in-Charge.

6.2. Between 11 and 14 September 2022, three Commission investigators examined the vessel in Kaikōura to gather evidence and conducted interviews.

6.3. Between 23 and 25 November 2022, two investigators redeployed to the Marlborough region to conduct interviews and prepare the vessel to be transferred to Wellington for examination.

6.4. On 24 March 2023, independent testing was conducted on the vessel's fuel system.

6.5. In April 2023, investigators conducted further interviews.

6.6. On 28 June 2023 the Commission approved a draft preliminary report for circulation to four interested parties for their urgent comment given the nature of the safety issue raised.

6.7. The Commission received submissions from two interested parties. Any changes as a result of these submissions have been included in the final preliminary report.

6.8. On 26 July 2023 the Commission approved the final preliminary report for publication.

6.9. The investigation into this occurrence is continuing.

Appendix: Excerpts from Maritime Rules relating to survey requirements for fuel systems

Maritime Rules Part 40A: Design, Construction and Equipment – Passenger Ships which are not SOLAS Ships

Machinery

40A.32 General

(1) A ship with a propulsion motor of more than 5 kW shaft power must have sufficient astern power to provide for manoeuvreability of the ship under all normal operating conditions.

(2) Main and auxiliary machinery essential for the propulsion and safety of the ship must be provided with effective means of control and such readily visible instrumentation as a surveyor considers is appropriate for the safe operation of such machinery on that ship.

(3) A post-27 May 2004 ship fitted with an inboard engine must be provided with sufficient fuel tankage for its intended service and area of operation.

(4) The machinery, fuel tank or tanks, and associated piping systems and fittings must be—

(a) of a design and construction adequate for the service for which they are intended; and

(b) so installed and protected as to reduce to a minimum the danger to persons from moving parts, hot surfaces and other hazards during normal movement about the ship.

(5) Machinery spaces must be adequately ventilated and so designed as to provide safe and free access to all machinery and machinery controls, including any parts that may require servicing at sea and while in operation.

(6) Two means of escape must be provided from a machinery space of Category A, except of major fire hazard if the space is an unmanned machinery space not exceeding 5 metres in length.

40A.33 Petrol inboard and outboard engines

(1) A ship may be fitted with an inboard petrol engine if—

(a) the engine is located in an efficiently enclosed space to which a fixed fire extinguishing system is fitted; and

(b) provision is made to ventilate the engine space thoroughly before the engine is started;[18] and

(c) electrical devices within the engine and tank compartments have protection against ignition of surrounding flammable gases;[19] and

(d) any flexible hose used between the engine and any solidly mounted metallic line to eliminate vibration failure is made of fire resistant fuel hose;[20] and

(e) not more than 12 passengers are carried; and

(f) the ship does not proceed beyond inshore operating limits.

(2) A ship fitted with one or more outboard petrol engines—

(a) must not proceed beyond restricted coastal limits; and

(b) must have the engines securely fastened to the hull; and

(c) if the engines are not permanently secured, must provide the engines with an effective safety chain or cable; and

(d) must have effectively drained engine wells that are long enough for the engine to be tilted up.

(3) Petrol for outboard motors must be stored—

(a) in portable containers[21] that can be readily jettisoned; or

(b) in a fixed-in-place inboard tank, if—

(i) the ship is a rigid hulled ship or rigid/inflatable boat; and

(ii) the tank is constructed of mild steel, stainless steel or aluminium alloy and located in a safe place; and

(iii) the tank is tested to a pressure of 0.3 bar, to the satisfaction of a surveyor;

and

(iv) the opening of the vent pipe from the petrol tank is protected by a flash proof fitting; and

(v) where the possibility of accumulation of hydrocarbon vapours exists and where a source of ignition may be present, a safe detector of hydrocarbon gas is fitted under or adjacent to the tank.

(3A) Aluminium tanks must only be used for "fixed-in-place" inboard fuel tanks.

(1) (a) Except as provided in rule 40A.33(4)(b), any post-27 May 2004 boat fitted with outboard motors must undergo a test in accordance with Appendix D of the *Australian standard AS 1799.1 Small Pleasure Boats Code Part 1: General requirements for power boats,* to confirm that the boat can manoeuvre safely using its maximum power capacity.

(b) If the prototype of any series production boat has completed the test referred to in rule 40A.33(4)(a) to the satisfaction of a surveyor, subsequent boats of that series fitted with an engine of the same power may be accepted by a surveyor without undertaking that test.

40A.34 Fuel tanks

(1) All fuel tanks fitted on a ship must—

(a) be tested and installed to the satisfaction of a surveyor; and

(b) have a means of safely ascertaining the amount of fuel contained; and

(c) be provided with vents and filling connections located in a safe open -air position.

(2) A ship must be provided with a means of isolating a source of fuel that may feed a fire that occurs in a machinery space. In a ship of 24 metres or more in length overall, a valve or cock that is capable of being closed from a position outside the machinery space must be fitted in the fuel feed pipe as close as possible to the fuel tank.

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[18] For guidance it is recommended that reference be made to ISO 11105: – *Small Craft – Ventilation of petrol engine and/or petrol tank compartments*

[19] For guidance it is recommended that reference be made to ISO 8846:1990 – *Small Craft – Electrical devices — Protection against ignition of surrounding flammable gases.*

[20] For guidance it is recommended that reference be made to ISO 7840: – *Small Craft – Fire resistant fuel hoses*

[21] For guidance it is recommended that reference be made to ISO 13591 – Small Craft – Portable Fuel Systems for outboard motors.

MNZ Consolidation
13 December 2019

Subpart B: Certificate of Survey

44.41 Surveyor issues Certificate of Survey

(1) A surveyor may issue a Certificate of Survey for a period not exceeding 5 years in accordance with subrules (2), and (3) subject to such conditions, including limitations, as the surveyor considers appropriate.

(2) A surveyor must be satisfied that--

(a) the following ship safety requirements are met:

(i) the hull, superstructure, decks, and valves of the ship are sound and serviceable;

(ii) the steering gear and propulsion system of the ship, if applicable, are sound and serviceable; and

(iii) the ship and the ship's equipment are in all respects fit for their intended use and operating limits and meet all applicable maritime rules and marine protection rules;

(b) the following survey requirements are met:

(i) for a new ship, the survey requirements of Appendix 1, including compiling the Initial Survey Portfolio;

(ii) for an existing ship, the survey requirements of Appendix 2; or

(iii) in relation to a major repair, a major modification, or a change in the scope of certification, the survey requirements of clause 1.4.1 of Appendix 2; and

(c) the following documents have been developed for each ship:

(i) a survey plan, as required by rule 19.43;

(ii) a maintenance plan, as required by rule 19.45; and

(iii) a safety equipment list and spare parts list, as required by rule 19.46.

(3) A Certificate of Survey is not a maritime document.

44.42 Certificate of Survey

A surveyor must include the following information on a Certificate of Survey:

(a) the date of the survey;

(b) ship registration number, if applicable;

(c) the MSA/MNZ number of the ship;

(d) the name of the ship;

(e) the length of the ship;

(f) the total power in kilowatts of the propulsion machinery of the ship;

(g) the scope of certification of the ship;

(h) the tonnage of the ship, if applicable;

(i) any conditions imposed on the ship by the surveyor;

(j) the date of issue of the Certificate of Survey;

(k) the date of expiry of the Certificate of Survey; and

(l) the name and signature of the surveyor

44.42 Surveyor provides survey report

A surveyor must, as soon as practicable following each survey, complete and provide a survey report, including the details prescribed in clause 1.3 of Appendix 2, to the Director, and, as applicable, to the maritime transport operator or ship owner.

Appendix 1

Issue of Certificate of Survey for new ship

The details of the survey required by rule 44.41(2)(b)(i) are prescribed in this Appendix.

1.1 Issue of Certificate of Survey

1.1.1 A surveyor may issue a Certificate of Survey for a new ship provided that the surveyor—

(a) is satisfied that the Initial Survey Portfolio associated with the ship contains—

(i) a complete record of the initial surveys undertaken, as referred to in clause 1.1.2; and

(ii) a statement made under clause 1.1.3(d) by a surveyor in respect of each initial survey; and

(b) gives due regard to any conditions, including limitations, included in any survey report under clause 1.1.3(e), when exercising the surveyor's discretion to impose conditions under rule 44.41(1).

1.1.2 Each Initial Survey Portfolio must include the following reports for each ship in the maritime transport operation completed by a surveyor or a person whose qualifications or certifications as a surveyor have been recognised by the Director in accordance with section 41(2) of the Act for the purposes of this Part:

(a) a design report that includes the ship's design and all the necessary drawings and specifications required to build a ship under survey to verify that the ship is fit in all respects for its intended service and operating limits and satisfies all applicable maritime rules and marine protection rules;

(b) a construction report based on a physical inspection of the ship; and

(c) an equipment report approving and listing the equipment of the ship based on a physical inspection of the ship.

1.1.3 Each report for the Initial Survey Portfolio must be in a form acceptable to the Director and must include—

(a) the name and signature of the person who completed the report;

(b) the MSA/MNZ number for the ship, where applicable;

(c) the scope of certification for the ship;

(d) a statement from the person who completed the report attesting to the fact that the ship is in all respects fit for its intended service and meets all relevant maritime safety and marine protection rules;

(e) any conditions, including limitations, associated with the use of the ship, including those imposed by the person who completed the report, by the ship designer, and by the builder; and

(f) the date of the report.

1.1.4 Each Initial Survey Portfolio must include a copy of the survey plan for the ship required by rule 19.43.

1.1.5 A surveyor must supply the Initial Survey Portfolio for each new ship to the maritime transport operator or the ship owner, as applicable, and to the Director as soon as is practicable following its completion.

Appendix 2

Issue of Certificate of Survey for existing ships and surveys for major repair, major modification, or change to scope of certification

The standards and details for surveys required by rule 44.41(2)(b)(ii) and (iii) and survey reports in accordance with rule 44.43 are prescribed in this Appendix.

1.1 Surveyor issues Certificate of Survey for existing ships

A surveyor may only issue a Certificate of Survey for an existing ship in accordance with the survey requirements prescribed in this Appendix**.**

1.2 Survey requirements

1.2.1 A surveyor must be satisfied that—

(a) the ship continues to meet the requirements prescribed in rule 44.41(2); and

(b) the survey plan remains consistent with the requirements of rule 19.43.

1.2.2 Where deficiencies have been recorded during a survey, the surveyor must be satisfied that—

(a) the necessary repairs or renewals have been effectively made;

(b) the material and workmanship of such repairs or renewals are satisfactory; and

(c) the ship continues to meet all applicable maritime rules and marine protection rules.

1.3 Survey report requirements

1.3.1 Each survey report required by rule 44.43 must be in a form acceptable to the Director and include—

(a) the name and signature of the person who completed the survey;

(b) the MSA/MNZ number of the ship;

(c) a statement attesting that the ship and its survey plan are maintained at the date of survey;

(d) any deficiencies, operating limitations, and dates by which remedies must be completed by the maritime transport operator for the Certificate of Survey to remain valid;

(e) the date of survey; and

(f) date of expiry of the Certificate of Survey.

1.4 Major repair, major modification, or change to ship's scope of certification

1.4.1 A surveyor who undertakes a survey of a major repair, a major modification, or change to the ship's scope of certification must—

(a) assess the degree and nature of, and risk associated with, the repair, modification, or change of scope; an

(b) require the application of such provisions set out under rule 44.41(2) as the surveyor considers appropriate taking into account the assessment of risk made in paragraph (a)

1.4.2 A surveyor may, subject to such conditions, including limitations, as the surveyor considers appropriate, permit a ship without a valid Certificate of Survey to relocate for the purpose of undergoing a major repair or major modification to, or a survey of, the ship.

Part 19: Maritime Transport Operator – Certification and Responsibilities

19.42 Survey plan

(1) A maritime transport operator must ensure that a survey plan is developed and applied, in a form acceptable to the Director, for each ship in a maritime transport operation that describes the survey requirements for the ship that are consistent with rule 44.41(2).

(2) A maritime transport operator must ensure that all survey plans for ships in the maritime transport operation are approved by a surveyor.

(3) A maritime transport operator must—

(a) amend the approved survey plan if required to do so by a surveyor in accordance with rule 44.23(d); and

(b) obtain prior written approval from a surveyor for any other amendments to the approved survey plan.

(4) A maritime transport operator must make the approved survey plan available for inspection by the Director, or a surveyor engaged by the maritime transport operator, if requested.

19.43 Alternative survey requirements

The Director may approve a survey plan for a ship in a maritime transport operation that adopts alternative survey requirements to those set out in rule 19.63 if he or she is satisfied that it is appropriate having regard to the ship's scope of certification.

19.44 Maintenance plan

(1) A maritime transport operator must develop and apply a maintenance plan, in a form acceptable to the Director, for each ship in a maritime transport operation that describes the policies and procedures to maintain the ship, including the ship's hull, decks, and superstructure, and the ship's machinery, equipment, and critical shipboard systems.

(2) A maritime transport operator must sign and date any amendments to the maintenance plan.

(3) A maritime transport operator must make a maintenance plan available for inspection by the Director, or a surveyor engaged by the maritime transport operator, if requested.

19.45 Safety equipment list and spare parts list

(1) A maritime transport operator must ensure that a relevant safety equipment list and a spare parts list, in a form acceptable to the Director, are developed for each ship in the maritime transport operation.

(2) A maritime transport operator must ensure that, where practicable, each ship in the maritime transport operation carries its safety equipment list and spare parts list at all times.

(3) A maritime transport operator must make its safety equipment list and spare parts list for a ship in the maritime transport operation available for inspection by the Director, or a surveyor engaged by the maritime transport operator, if requested.

MNZ Consolidation
1 October 2020

Kōwhaiwhai - Māori scroll designs

TAIC commissioned its four kōwhaiwhai, Māori scroll designs, from artist Sandy Rodgers (Ngāti Raukawa, Tūwharetoa, MacDougal). Sandy began from thinking of the Commission as a vehicle or vessel for seeking knowledge to understand transport accident tragedies and how to avoid them. A 'waka whai mārama' (i te ara haumaru) is 'a vessel/vehicle in pursuit of understanding'. Waka is a metaphor for the Commission. Mārama (from 'te ao mārama' – the world of light) is for the separation of Rangitāne (Sky Father) and Papatūānuku (Earth Mother) by their son Tāne Māhuta (god of man, forests and everything dwelling within), which brought light and thus awareness to the world. 'Te ara' is 'the path' and 'haumaru' is 'safe' or 'risk free'.

Corporate: Te Ara Haumaru - the safe and risk free path

The eye motif looks to the future, watching the path for obstructions. The encased double koru is the mother and child, symbolising protection, safety and guidance. The triple koru represents the three kete of knowledge that Tāne Māhuta collected from the highest of the heavens to pass their wisdom to humanity. The continual wave is the perpetual line of influence. The succession of humps represents the individual inquiries.

Sandy acknowledges Tāne Māhuta in the creation of this Kōwhaiwhai.

Aviation: Ngā hau e whā - the four winds

To Sandy, 'Ngā hau e whā' (the four winds), commonly used in Te Reo Māori to refer to people coming together from across Aotearoa, was also redolent of the aviation environment. The design represents the sky, cloud, and wind. There is a manu (bird) form representing the aircraft that move through Aotearoa's 'long white cloud'. The letter 'A' is present, standing for a 'Aviation'.

Sandy acknowledges Ranginui (Sky father) and Tāwhirimātea (God of wind) in the creation of this Kōwhaiwhai.

Maritime: Ara wai - waterways

The sections of waves flowing across the design represent the many different 'ara wai' (waterways) that ships sail across. The 'V' shape is a ship's prow and its wake. The letter 'M' is present, standing for 'Maritime.

Sandy acknowledges Tangaroa (God of the sea) in the creation of this Kōwhaiwhai.

Rail: rerewhenua - flowing across the land

The design represents the fluid movement of trains across Aotearoa. 'Rere' is to flow or fly. 'Whenua' is the land. The koru forms represent the earth, land and flora that trains pass over and through. The letter 'R' is present, standing for 'Rail'.

Sandy acknowledges Papatūānuku (Earth Mother) and Tāne Mahuta (God of man and forests and everything that dwells within) in the creation of this Kōwhaiwhai.

Transport Accident Investigation Commission

Recent Maritime Occurrence reports published by the Transport Accident Investigation Commission (most recent at top of list)

MO-2023-201	Preliminary report: Passenger vessel Kaitaki, Loss of power, Cook Strait, New Zealand, 28 January 2023
MO-2021-205	Container vessel Moana Chief, serious injury to crew member, Port of Auckland, New Zealand, 10 December 2021
MO-2020-205	General cargo vessel, Kota Bahagia, cargo hold fire, Napier Port, 18 December 2020
MO-2021-202	Factory fishing trawler Amaltal Enterprise Engine room fire, 55 nautical miles west of Hokitika, 2 July 2021
MO-2021-203	Collision between fishing vessel 'Commission' and container ship 'Kota Lembah', 84 nautical miles northeast of Tauranga, Bay of Plenty, New Zealand, 28 July 2021
MO-2021-201	Jet boat KJet 8, loss of control, Shotover River, Queenstown, 21 March 2021
MO-2020-202	Bulk log carrier Funing, Loss of manoeuvrability while leaving port, Port of Tauranga, 6 July 2020
MO-2018-206	Bulk carrier Alam Seri, loss of control and contact with seabed, Port of Bluff, 28 November 2018
MO-2020-201	Collision between bulk carrier Rose Harmony and fishing vessel Leila Jo, Off Lyttelton, 12 January 2020
MO-2019-204	Capsize of water taxi Henerata, Paterson Inlet, Stewart Island/Rakiura, 12 September 2019
MO-2019-203	Bulk log carrier Coresky OL, Crew fatality during cargo-securing operation, Eastland Port, Gisborne, 3 April 2019
MO-2018-205	Fatality on board the factory trawler San Granit, 14 November 2018
MO-2019-202	Fatal jet boat accident, Hollyford River, Southland, 18 March 2019
MO-2019-201	Jet boat Discovery 2, contact with Skippers Canyon wall, 23 February 2019

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