



TSB Recommendation M16-03

Stability assessments and adequate stability information for all small fishing vessels

The Transportation Safety Board of Canada recommends that the Department of Transport require that all small fishing vessels undergo a stability assessment and establish standards to ensure that the stability information is adequate and readily available to the crew.

Marine transportation safety investigation report	M15P0286
Date the recommendation was issued	14 December 2016
Date of the latest response	December 2022
Date of the latest assessment	February 2023
Rating of the latest response	Unsatisfactory
File status	Active

Summary of the occurrence

On 5 September 2015, the fishing vessel *Caledonian* capsized 20 nautical miles west of Nootka Sound, British Columbia. At the time, the vessel was trawling for hake with 4 crew members on board. Following the capsizing, the master and mate climbed onto the overturned hull and remained there for several hours. When the vessel eventually sank, the master and mate abandoned it, and the mate swam toward and boarded the life raft. The Canadian Coast Guard subsequently rescued the mate and recovered the bodies of the master and the 2 other crew members.

The Board concluded its investigation and released report M15P0286 on 14 December 2016.

Rationale for the recommendation

In 2014, the TSB investigation into the sinking and loss of life involving the small fishing vessel *Five Star* found that, “if Transport Canada continues to allow the majority of fishing vessels to operate without undergoing formal stability assessments, then many fishermen will remain unaware of their vessel’s safe operating limits and thus be at risk of exceeding them.”

Crews on fishing vessels need adequate stability information to enable them to determine safe operating limits. A fishing vessel may undergo major modifications at one or more times in its life, and it is always subject to many minor changes that accumulate over the years, contributing to a change in its lightship weight. These changes are not necessarily reflected in the vessel's stability calculations. The need for vessel crews to have easily understood, accessible, up-to-date stability information that can be adapted to the operations at hand will help to ensure that day to day operations are conducted safely.

In order for fishing vessel stability information to be adequate to meet the needs of crew:

- the vessel must have had its stability assessed according to a recognized standard that is appropriate to its size and operation;
- the information from that assessment must be analyzed/interpreted to determine safe operating limits (such as draft/freeboard, appropriate maximum cargo loads, sequences for loading, lifting, and stowing of cargo and gear, and for managing fuel consumption);
- these operating limits must be easily measurable and relevant to the vessel's operation;
- the information must be presented in a manner and format that enables it to be clearly understood and easily accessible to crew while working onboard;
- the information must be maintained so that it is current, and reviewed and amended as necessary to reflect changes to the vessel and/or its operations. For example, if the vessel starts exceeding its draft or freeboard limits, the loading limits may need to be amended accordingly, or the reason for the change in draft (such as increased lightship weight) needs to be identified and rectified.

Small fishing vessels represent approximately 99% of the entire Canadian fishing fleet of registered vessels. For the majority of these small fishing vessels, there is no requirement to have stability assessments or for crew to be provided with adequate stability information based on a stability assessment.

TC recognized the risk to vessel safety associated with these issues and, when developing the Fishing Vessel Safety Regulations (FVSR), included a requirement for all new and existing commercial fishing vessels greater than 9 metres in length to have a stability assessment. However, during public consultations, industry stakeholders considered the proposal to be impractical and an undue financial burden. As a result, TC amended the stability requirements so that only new vessels greater than 9 metres in length will be required to have a stability assessment.

The FVSR require a competent person who conducts a stability assessment to develop a stability booklet and provide information (referred to in the FVSR as a "stability notice") depicting the operational practices necessary to remain within the safe operating limits as set out in the stability booklet. However, these requirements are limited to only new vessels that are over 9 metres in length, and the standards for these stability notices have not yet been developed. The requirements will not take effect until July 2018 and, furthermore, they leave a

significant portion of the existing small fishing vessel fleet, as well as new vessels less than 9 metres, at risk.

The TSB believes that it will take focused and concerted action by federal and provincial government agencies and industry members to finally and fully address the safety deficiencies that persist in Canada's fishing industry. Once all small commercial fishing vessels have undergone stability assessments that are appropriate to their size and operations and fishermen have access to adequate stability information, the loss of life associated with inadequate fishing vessel stability will be substantially reduced.

Therefore, the Board recommended that

the Department of Transport require that all small fishing vessels undergo a stability assessment and establish standards to ensure that the stability information is adequate and readily available to the crew.

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Previous responses and assessments

March 2018: response from Transport Canada

Transport Canada agrees in part with the recommendation. As of July 13, 2017, small fishing vessels required to undergo a mandatory stability assessment (new vessels, vessels that have undergone major modifications or a change in fishing activities) will be required to have a stability notice posted onboard. SSB 03/2017 indicates which vessels are required to undergo a stability assessment, including certain existing vessels.

Transport Canada does not agree that all small fishing vessels should undergo a stability assessment at this time. As highlighted in the Regulatory Impact Assessment Statement prepared for *Fishing Vessel Safety Regulations Phase 1*, the volume of work required to assess all fishing vessels would be functionally challenging and prohibitively expensive for the industry. The Cabinet Directive on Regulatory Management requires that the cost of a regulation not outweigh its benefits and should minimize the burden on small business.

To promote mandatory compliance for those vessels required to have a stability notice, and in order to encourage voluntary action for those vessels not required to undergo a mandatory stability assessment, TC will update its fishing vessel safety webpages to provide information on how to obtain stability notice templates. Samples of stability notices including guidelines on how to complete the templates will also be made available. The content of the webpages have been developed and will be prepared for publication in the spring of 2018. These will also be provided to the TSB upon completion.

TC anticipates that these changes, developed through industry consultation, will have a positive impact.

The AR [authorized representative] of a small fishing vessel is responsible for ensuring stability requirements are met. To remind vessel operators of their responsibilities, increase awareness and foster compliance, TC will review and reissue SSB 01/2008. This bulletin will be updated to include more information concerning small fishing vessels and emphasize the importance of having accurate stability information and usable guides, and updating operational procedures to account for changes that may affect stability.

During any inspection conducted in accordance with requirements of the SFVIR [*Small Fishing Vessel Inspection Regulations*], an inspector may review the vessel's stability information and require ARs [to] comply with any observed nonconformities. Therefore:

- TC, when providing instructional information to inspectors/surveyors as part of its training program, will place renewed emphasis on this aspect of vessel inspection.
- In addition, a Flagstatenet instruction to inspectors/surveyors will be issued regarding the review of the Fishing Vessel Modification History (as detailed in SSB 01/2008) as part of the TC procedure for inspecting and monitoring fishing vessels. The Flagstatenet will be sent prior to the start of the next fishing season in spring 2018.

March 2018: TSB assessment of the response (Unsatisfactory)

Though Transport Canada agrees in part with this recommendation, its response does not adequately address the TSB recommendation that all small fishing vessels undergo a stability assessment and that TC establish standards to ensure that the stability information is adequate and readily available to the crew.

During public consultations, industry stakeholders considered TC's proposal that all small fishing vessels undergo a stability assessment to be impractical and an undue financial burden. TC's response was to make the current stability requirements apply to only new vessels greater than 9 m in length, vessels that have undergone major modifications or a change in fishing activities. This is a good first step. However, it leaves the vast majority of small fishing vessels without a requirement to have a stability assessment. Small fishing vessels represent approximately 99% of the entire Canadian fishing fleet of registered vessels and, the lives of fishermen will continue to be at risk until some safety action is taken to mitigate this risk.

Furthermore, TC's proposed action includes promoting the use of the stability notice templates and carrying out a review of stability information during inspections. However, these actions can only take place if vessels have had their stability assessed, which is not the case for the majority of small fishing vessels.

Until TC puts in place a plan to ensure that all small fishing vessels undergo a stability assessment and that stability information on board all small fishing vessels is adequate to determine safety limits and presented in an easy to understand format for crews, the risk will remain for a large portion of the fishing fleet. The Board considers the response to the recommendation to be **Unsatisfactory**.

January 2019: response from Transport Canada

Transport Canada (TC) agrees in principle with the recommendation; however, TC does not agree that all small fishing vessels should undergo a stability assessment at this time, taking into consideration the cost and benefits developed for the Phase I of the Small Fishing Vessels Safety Regulations [Fishing Vessels Safety Regulations].

TC continues to raise awareness about stability, including the risks of inadequate stability and vessel modifications. Initially TC proposed a wider application for vessel stability requirements, but this was deemed impractical following consultations with stakeholders. Details of TC's cost-benefit analysis are found in the RIAS. The revised proposal combines both regulatory and non-regulatory initiatives and offers a high level of safety, while reducing the cost to fishing vessel owners.

TC has updated its fishing vessel safety webpages to provide information on how to obtain Stability Notice templates, which have been developed in an easy-to-use format. Samples of Stability Notices, including guidelines on how to complete the templates, have also been made available: <https://www.tc.gc.ca/eng/marinesafety/how-obtain-stability-notice-templates-instructions.html>

To remind vessel operators of their responsibilities, increase awareness and foster compliance, TC has revised Ship Safety Bulletin (SSB) 01/2008 – “Fishing Vessel Safety: Record of Modifications.” The bulletin is expected to be published in winter 2019.

TC is currently reviewing its inspector training program. Once complete, TC will place renewed emphasis on this aspect of vessel inspection when providing instructional information to inspectors/surveyors.

A FlagState.net instruction to inspectors/surveyors will be issued in spring 2019 regarding the review of the Fishing Vessel Modification History (as detailed in SSB 01/2008) as part of the TC procedure for inspecting and monitoring fishing vessels.

The *Guidelines for Fishing Vessel Major Modifications or a Change in Activity* (TP 15392) and the *Adequate Stability and Safety Guidelines for Fishing Vessels* (TP 15393), developed jointly with the Canadian Independent Fish Harvesters Federation (CIFHF) and in consultation with

the Canadian Marine Advisory Council (CMAC), were published on the TC Marine Safety Publications webpage and the TC Small Fishing Vessel Safety webpage on October 25, 2018.

At the National Canadian Marine Advisory Council (CMAC) meeting in November 2018, industry stakeholders agreed to support distribution of these guidelines to fish harvesters.

The risk will be reduced accordingly, as more owners of fishing vessels obtain stability notices for their vessels. TC therefore considers that this recommendation should be Satisfactory Intent pending the publishing of the SSB and the FlagState.Net instruction to inspectors.

March 2019: TSB assessment of the response (Unsatisfactory)

The Board notes the publication of *Guidelines for Fishing Vessel Major Modifications or a Change in Activity* (TP 15392) and the *Adequate Stability and Safety Guidelines for Fishing Vessels* (TP 15393) on TC's website. However, aside from relying on industry stakeholders to distribute these guidelines to fish harvesters, TC does not support the adoption of these guidelines for all small fishing vessels.

TC's proposed action includes promoting the voluntary use of the stability notice templates and carrying out a review of stability information during inspections. However, these actions can only take place if vessels have had their stability assessed, which is not the case for the majority of small fishing vessels. Therefore, it appears that TC's proposed action will not address the risk identified in the recommendation.

Until TC ensures that all small fishing vessels undergo a stability assessment appropriate to their size and that stability information on board all small fishing vessels is adequate to determine safe operating limits and presented in an easy to understand format for crews, the risk will remain for a large portion of the fishing fleet.

The Board considers the response to the recommendation to be **Unsatisfactory**.

January 2020: response from Transport Canada

Transport Canada (TC) agrees with the recommendation; however, TC does not agree that all small fishing vessels should undergo a stability assessment at this time.

TC's Benefit Analysis results did not support the extension of the stability requirements to the existing fleet as the benefits do not outweigh the costs. TC also seeks to design outcome or performance-based regulations when appropriate, with a view to minimizing the amount of regulatory burden imposed on businesses and Canadians.

Both the *Guidelines for Fishing Vessel Major Modifications or a Change in Activity* (TP 15392) and the *Adequate Stability and Safety Guidelines for Fishing Vessels* (TP 15393) were published to assist boat builders and fish harvesters [to] understand the impacts that various modifications to fishing vessels can have on stability. TC supports the consideration of these guidelines by all fishing vessels operators. The guidelines are accessible to all fishing vessels owners and operators on the Transport Canada website.

The FlagStateNet instruction to inspectors/surveyors regarding the review of the Fishing Vessel Modification History (as detailed in SSB 01/2008) has been deemed no longer necessary as explanations regarding the verification by inspectors has been included directly in the SSB.

March 2020: TSB assessment of the response (Unsatisfactory)

The Board notes the publication of *Guidelines for Fishing Vessel Major Modifications or a Change in Activity* (TP 15392) and the *Adequate Stability and Safety Guidelines for Fishing Vessels*

(TP 15393) on Transport Canada's (TC) website and are accessible to owners. However, aside from relying on industry stakeholders to distribute these guidelines to fish harvesters, TC does not support the adoption of these guidelines for all small fishing vessels.

The Board also notes that TC inspectors would no longer review the Fishing Vessel Modification History but verify if the vessels are in compliance with Ship Safety Bulletin (SSB) 03/2019. The SSB indicates that the form will be reviewed and modifications will be discussed with vessel owners during inspections. However, the majority of small fishing vessels are not subject to regular inspection, and therefore the effectiveness of the communication of the requirements by an SSB is unknown.

Stability factors have played a significant role in numerous fishing vessel accidents since 1990. This was identified in TSB's 2012 Fishing Vessel Safety Issue Investigation (M09Z0001) and has been on the TSB Watchlist since 2010. The Board is concerned that TC's proposed voluntary approach will not address the underlying safety deficiency which supports this recommendation.

Until TC ensures that all small fishing vessels undergo a stability assessment appropriate to their size and that stability information on board all small fishing vessels is adequate to determine safe operating limits and presented in an easy to understand format for crews, the risk will remain for a large portion of the fishing fleet.

The Board considers the response to the recommendation to be **Unsatisfactory**.

February 2021: response from Transport Canada

Transport Canada agrees in part with this recommendation; however it is the department's view that not all small fishing vessels should be required to undergo a stability assessment at this time. To make the best use of resources and focus on areas of higher risk, the inspection of fishing vessels below 15 gross tonnage (GT) is risk-based and the department continues to design outcome and performance-based regulations where appropriate with the view of minimizing the regulatory burden imposed on small businesses and Canadians.

While Transport Canada remains committed to working with industry to ensure that stability information is adequately and readily available, and to monitor compliance through the mandatory and risk-based inspection process, the department will not be taking any further regulatory action to address this recommendation. Under the *Canada Shipping Act 2001*, the onus for compliance falls to the vessel's authorized representatives. In fulfilling this obligation authorized representatives should be aware of regulations and safety publications.

March 2021: TSB assessment of the response (Unsatisfactory)

Transport Canada's (TC) response indicates that it will not be taking further regulatory action on this recommendation. The department has indicated that the inspection of fishing vessels below 15 gross tonnage is risk-based, in order to focus on areas of higher risk. TC noted that

regulatory compliance is the responsibility of the vessel's authorized representative, and that authorized representatives should be aware of regulations and safety publications.

The Board is concerned about TC's characterization of the need to have risk-based inspections for small fishing vessels in order to focus its resources on areas of higher risk. As TSB statistics have demonstrated, the fishing industry continues to be high-risk; for example, 11 of the 17 marine fatalities in 2019 were fishing-related, and 10 of those 11 fatalities resulted from accidents involving small fishing vessels.

Stability factors have played a significant role in numerous fishing vessel accidents since 1990. This was identified in the TSB's 2012 Fishing Vessel Safety Issue Investigation (M09Z0001) and commercial fishing safety has been on the TSB *Watchlist* since 2010. The Board is concerned that TC's proposed voluntary approach will not address the underlying safety deficiency of Recommendation M16-03. While the onus for compliance does fall to the vessel's authorized representative, TSB investigations have demonstrated that not all authorized representatives are aware of or effectively carrying out this responsibility.

Until TC ensures that all small fishing vessels undergo a stability assessment appropriate to their size and that stability information on board all small fishing vessels is adequate to determine safe operating limits and presented in an easy to understand format for crews, the risk to safety will remain for a large portion of the small fishing vessel fleet.

The Board considers the response to Recommendation M16-03 to be **Unsatisfactory**.

December 2021: response from Transport Canada

Transport Canada agrees in part with this recommendation and notes the TSB reassessment from March 2021. In TC's response of February 2021, there was no intention to characterizing the fishing vessels industry as a low risk activity. TC recognized the risk in this industry as highlighted by the TSB. The intent is to explain that considering the resources available, it is not possible to inspect all small vessels, and therefore to make the best use of resources and focus on areas of higher risk, the inspection regime for vessels below 15 gross tonnage (GT) is risk-based, to allow the department to focus its efforts in higher risk vessel, within the fishing vessel fleet, but also in other fleets such as tugs or passenger vessels.

While Transport Canada remains committed to working with industry to ensure that stability information is adequately and readily available, and to monitor compliance through the mandatory and risk-based inspection process, the department will not be taking any further regulatory action to address this recommendation. Under the *Canada Shipping Act 2001*, the onus for compliance falls to the vessel's authorized representatives. In fulfilling this obligation authorized representatives should be aware of regulations and safety publications.

TC did come out this summer with a new WebApp to enable the fishing industry to enroll within our Small Vessel Compliance Program for Fishing (small fishing vessel, less than 15 GT). The program is an easy to use, all-in-one tool that enables owner and operator of small fishing vessel to understand the requirements of the regulations while promoting the safety culture.

The programs come with a detail compliance report, a guidance TP and an orange decal, once the enrolment process is completed. See Small Vessel Compliance Program at <https://tc.canada.ca/en/programs/small-vessel-compliance-program>.

TC is currently completing a concentrated inspection campaign (CIC) on fishing vessels, to seek compliance with the new FVSR. A report of findings will be available at the new Spring CMAC.

March 2022: TSB assessment of the response (Unsatisfactory)

Although Transport Canada (TC) agrees in part with this recommendation, it indicates that it will not be taking any further regulatory action to address this recommendation. TC's proposed actions include promoting the voluntary use of the stability notice templates and carrying out a review of stability information during inspections. However, these actions can only take place if vessels have had their stability assessed, which is not the case for the majority of small fishing vessels.

Stability factors have played a significant role in numerous fishing vessel accidents since 1990. This was identified in the TSB's 2012 Fishing Vessel Safety Issue Investigation (M09Z0001), and commercial fishing safety has been on the TSB Watchlist since 2010. The exact number of fishing vessels that are operating without the benefits of the guidance provided by stability booklets is unknown. TC has no accurate records of which fishing vessels are required to be assessed or have been assessed for adequate stability, or even accurate data for how many vessels are actively fishing. However, the number of fishing vessels that are required to have stability assessed is a very small percentage of the entire Canadian fishing fleet. Small fishing vessels represent approximately 99% of the entire fleet of Canadian-registered fishing vessels.

The Board is concerned that TC's proposed voluntary approach will not address the underlying safety deficiency that supports Recommendation M16-03. While the onus for compliance does fall to a vessel's authorized representative, TSB investigations have demonstrated that not all authorized representatives are aware of or are effectively carrying out this responsibility.

The Board is encouraged that TC has clarified its consideration of the risks to fish harvesters who operate small vessels. However, the risk-based inspection regime for small vessels is only effective if there are sufficient resources to inspect a significant portion of the fleet. The Board will review the findings of the concentrated inspection campaign and consider the results in future reassessments of this recommendation.

The Board considers operating a fishing vessel with inadequate stability to be a high-risk activity that should be identified in TC's risk-based inspection regime. In the absence of further regulatory action, publication of the criteria for risk-based inspections could be a tool for educating authorized representatives about risks related to fishing vessels and the importance of a stability assessment.

The Board considers the response to Recommendation M16-03 to be **Unsatisfactory**.

Latest response and assessment

December 2022: response from Transport Canada

Transport Canada continues to mitigate the safety risk associated with stability in collaboration with fishers and safety partners, using a variety of means including stability assessment when mandated by the regulations. The *Fishing Vessel Safety Regulations*, implemented in 2017, outline Transport Canada's regulatory intent in this regard. Transport Canada remains committed to ensuring fish harvesters, vessel owners and industry representatives are informed of the risks associated with inadequate stability and ensure that stability information is adequately and readily available. Transport Canada's established inspection regime will continue to monitor compliance through the mandatory and risk-based inspection process.

Transport Canada's 2021/22 Concentrated Inspection Campaign (CIC) was the first of its kind solely on fishing vessels. Over one hundred inspections were conducted, with the largest proportion of vessels between 15GT and 150 GT. These inspections were effective in identifying areas for action to improve "Stability and Modifications" based on the finding that of the 17% of vessels reporting major changes/modifications, 41% had either not tracked these modifications, notified TC of the modifications, and/or or updated stability documentation. Transport Canada is working to address these findings from the CIC with strategies to

1. Assess the outreach conducted to date on the Fishing Vessel Safety Regulations in comparison to the CIC results and develop additional communication material to aid vessel owners understanding of the regulatory requirements.
2. Review existing tools that Marine Safety inspectors use during the conduct of periodic inspections on small fishing vessels. This could include expanding verification of specific areas in addition to the current verification process.
3. For an upcoming CIC, develop the fishing vessel CIC questionnaire to add follow-up questions, to gather additional information on the processes that led to the deficiencies found.
4. Review and update TCMSS' current processes and/or training for compliance and enforcement activities, to improve consistency in the use of enforcement actions (e.g., detention, administrative monetary penalties (AMP), etc.).

As of November 2022, 540 vessels are enrolled in the Small Vessel Compliance Program for Fishing vessels (SVCP-F), with an additional 32 applications in progress. To further promote enrollments in SVCP-F, TC has partnered with DFO in a targeted campaign whereby vessels in receipt of commercial fishing licenses receive an information postcard promoting enrollment in SVCP-F. Positive feedback has been received by Transport Canada from industry representatives regarding the effectiveness of this approach, including at the November 2022 Canadian Marine Advisory Committee [Council].

In response to TSB comment that "the risk-based inspection regime for small vessels is only effective if there are sufficient resources to inspect a significant portion of the fleet," under the Oceans Protection Plan (OPP 2.0), the Government of Canada is modernizing its domestic

oversight of regulated vessels - including tugs, small fishing vessels, small passenger vessels, and workboats - by 2027. This modernized approach will strengthen monitoring and enforcement efforts, especially for small vessels of 15 gross tonnage or less.

Regarding the TSB assessment that “in the absence of further regulatory action, publication of the criteria for risk-based inspections could be a tool for educating authorized representatives about risks related to fishing vessels and the importance of a stability assessment”, the TSB may wish to note that Transport Canada is developing new educational tools to highlight the high-risk safety issues related to fishing vessels, including the importance of a stability assessment, to be used in conjunction with outreach activities.

February 2023: TSB assessment of the response (Unsatisfactory)

Transport Canada’s (TC) response lists multiple initiatives it has taken on to address fishing vessel safety. These initiatives include the publication of the *Fishing Vessel Safety Regulations* in 2017, partnering with DFO to promote TC’s Small Vessel Compliance Program for Fishing vessels (SVCP-F), and TC’s 2021/22 Concentrated Inspection Campaign (CIC) on fishing vessels, with the largest proportion of vessels between 15 GT and 150 GT. The Board acknowledges TC’s efforts to promote the SVCP-F, however participation is not mandatory and current enrolment is approximately 4% of the small fishing vessel fleet. Specific regulatory oversight related to fishing vessels, such as through the 2021/22 CIC, is an important step in helping fish harvesters to recognize the critical importance of adequate stability for the safety of their vessels. The CIC highlighted “Stability and modifications” as an area requiring action, which TC will address through the development of new outreach materials, reviewing the current tools available to Marine Safety inspectors, and updating TCMSS’ current processes.

TC also mentions that it is currently developing educational tools and will be conducting outreach activities to highlight the safety risks associated with fishing vessels which includes a focus on the importance of a stability assessment. Education and outreach tools are valuable in increasing awareness, and the Board will monitor their development and implementation.

The Board is encouraged to note these efforts to expand awareness of stability in the fishing industry, and it hopes that these efforts will develop a broader awareness of the need to assess and maintain stability in the absence of regulatory action.

Additionally, the Board notes that the Government of Canada, in conjunction with TC, will be modernizing its domestic oversight of regulated vessels through the Oceans Protection Plan. Although this modernized approach is intended to strengthen monitoring and enforcement efforts, TC stated that it will not be taking any further regulatory action to address this recommendation. However, the Board strongly believes that, until there is a mandatory requirement that all small fishing vessels have a stability assessment, the safety deficiency will not be mitigated.

Therefore, the Board considers the response to Recommendation M16-03 to be **Unsatisfactory**.

File status

The TSB will continue to monitor Transport Canada's actions.

This deficiency file is **Active**.