



REASSESSMENT OF THE RESPONSES TO MARINE SAFETY RECOMMENDATION M03-02

Safety culture in the Canadian fishing industry

Background

At about 0445, the *Alex B. 1* departed Havre-Saint-Pierre with a crew of five on board and commenced dragging for scallops at about 0600. Fishing proceeded without incident; every half-hour, the drag was hauled aboard, emptied, and then deployed again.

While fishing, water was discovered in the engine compartment. All compartments from the lazarette to the accommodation were flooded. Four bilge pumps were activated but the rate of water ingress exceeded the capacity of the pumps. The vessel was subsequently towed to port.

Major modifications made by the owner to convert the vessel for scallop dragging were found to be inadequate for the scallop fishery. Examination of the vessel revealed substantial wear on the hull in way of the lazarette, resulting from fishing gear making contact with the hull. As well, holes made in the transverse watertight bulkheads to run electrical conduits were not sealed. Transport Canada (TC) had no information of the modifications made to the vessel.

The Board concluded its investigation and released report M01L0112 on 8 September 2003.

Board Recommendation M03-02 (8 September 2003)

In this occurrence, the vessel was not seaworthy; the transverse bulkheads were not watertight, and the hull protection was inadequate given the fishing gear used. The owner did not know the basic principles of stability or the regulations applicable to major alterations, particularly his obligation to notify the regional office of Transport Canada Marine Safety of any alterations affecting the vessel's seaworthiness. The report noted that failure to report major alterations is still a widespread problem, and may be the result of factors such as: knowledge of regulatory requirements may be inadequate as training is voluntary; safety promotion programs targeting fishers may be ineffective; and the system of inspections and other risk-reduction measures may not be successful.

The only training that fishers of vessels 60 gross tonnage (GT) or less are required to have, is one course on marine emergency duties, and that minimum requirement will not be enforced until 2007. Of all the Canadian registered fishing vessels, about 94% have a gross tonnage of 60 GT or less. The report notes that without training, fishers will continue to operate and modify their vessels as they see fit.

The Board noted that although fishing is a high-risk occupation, there is a tendency for fishers to deny or downplay risks. Fishers may not have a clear understanding of the link between

certain acts or omissions and accidents. This lack of a safety culture among fishers has been noted in a number of TSB reports. An appropriate regulatory system, targeted training, and dissemination of safety information are means of managing and reducing risks. However, without a true safety culture pervading the entire commercial fishing industry, these mechanisms would undoubtedly be less effective.

The Board, concerned that certain aspects of the trade that affect safety, such as stability and seaworthiness, hazard and fatigue awareness, are not covered, and that a concerted and overarching effort to change the existing paradigm within the fishing community is necessary to establish a true safety culture within the community, recommends that:

Transport Canada, in coordination with Fisheries and Oceans Canada, fisher associations and training institutions, develop a national strategy for establishing, maintaining and promoting a safety culture within the fishing industry.

M03-02

Response to M03-02 (17 November 2003)

In addition to the actions noted in the TSB report, Transport Canada (TC) has consulted with the Department of Fisheries and Oceans, Canadian Coast Guard, Search and Rescue (DFO/CCG/SAR), the Canadian Council of Professional Fish Harvesters (CCPFH) and training institutes with regard to information or programs involving safety culture.

The Memorial University of Newfoundland has launched a five year federally funded study on safety at sea in the fishing industry. The study called SafeCatch, will examine inter alia, different regulatory, education and safety programs and regimes worldwide and analyse incident data to find linkages and trends in fishing vessel incidents. Of special interest is the development of a community based interactive occupational health and safety and fishing vessel safety education program for fish harvesters. TC will follow this initiative with interest.

CCPFH, a National Industry Sector Council which represents approximately 70% of the fishing industry in Canada, plan and implement training and adjustment programs for the fish harvesting industry in Canada. CCPFH has recently commenced a safety and health study of the fishing industry to be completed in spring 2004. The results of this study will be used jointly by CCPFH and TC to develop and deliver an efficient regional training program to the fishing industry.

TC has also introduced a policy whereby all changes made to fishing vessels such as: First Registry, ownership changes; vessel alterations; vessel name changes; changes of owners' names and addresses and closing, are to be reported by our Registrars of Ships to the respective TC regional inspection personnel. This will enhance safety by allowing TC to track any changes made.

While acknowledging that the process of developing and supporting a safety culture is and continues to be ongoing, TC, Marine Safety is of the opinion that these actions demonstrate that all stakeholders are actively pursuing a safety culture within the industry. Furthermore, TC

believes that incident statistics, collected by the TSB, support the fact that TC, DFO and industry efforts to establish and nourish a safety culture within the fishing industry are having the intended effect.

TC, Marine Safety will continue its efforts, working with all stakeholders, including the TSB, to increase fishing vessel safety and a safety culture that supports it.

Board assessment to the response to M03-02 (24 August 2004)

TC indicated that it has consulted with the Department of Fisheries and Oceans, Canadian Coast Guard, Search and Rescue (DFO/CCG/SAR), the Canadian Council of Professional Fish Harvesters (CCPFH) and training institutes with regard to information or programs involving safety culture. However, the response did not provide details regarding those consultations. The response by TC provided an update of several initiatives underway by others to address safety within the fishing community. Two initiatives of interest to TC were noted in the response: the Memorial University of Newfoundland, five-year federally funded study, SafetyNet; and The Canadian Council of Professional Fish Harvesters (CCPFH) safety and health study of the fishing industry.

The Memorial University of Newfoundland SafetyNet Program is conducting through an underlying project SafeCatch, research on fish harvester occupational health and fishing vessel safety with view to development of an interactive, community-based Occupational Health and Safety (OHS) and fishing vessel safety education program for fish harvesters. Information gathered by TSB staff indicates that SafeCatch is a one year funded program ending in the fall 2004. Furthermore, there are currently three pilot projects and one part-time person providing support to communities who are developing an awareness program. For example, a community has put together a play about accidents that happens and precautions to be taken.

TC's response also indicated the CCPFH has recently commenced a safety and health study of the fishing industry to be completed in spring 2004. The results of this study will be used jointly by CCPFH and TC to develop and deliver an efficient regional training program to the fishing industry.

The CCPFH research is currently underway. The objectives of the research are to:

- review and analyze the available information on incidents and injuries in the commercial fishing fleet;
- develop a profile of the at sea incidents and propose broad strategies for prevention;
- develop a profile of the most common causes of fatalities and injuries and make recommendations for prevention;
- generate a profile of unreported injuries; and
- do a comparative analysis of provincial insurance programs and make recommendations for best practices.

A presentation of the findings is planned for the conference to be held in conjunction with Canadian Marine Advisory Council (CMAC), November 2004. There is further research planned but this will depend on the results of this phase and will be decided at the conference.

TSB notes the reliance on other initiatives without a concerted effort from TC and the fishing community. Building a safety culture is not a safety function, but a project management function. [Lamendola, Mark, Technical Editor, *Electrical Construction and Maintenance*, May 1, 1999.] There is no information to suggest that there is a strategic plan in place for the establishment of a safety culture within the fishing community.

The staff therefore considers that although TC has taken some positive steps towards the development of a safety culture amongst the fishing community, overall, TC has limited its range of action to that of monitoring of regional initiatives of others.

The response is considered **Satisfactory in Part**.

Board reassessment of the response to M03-02 (07 December 2005)

TC has taken some positive steps towards the development of a safety culture amongst the fishing community, overall; however, TC has limited its range of action to that of monitoring of regional initiatives of others.

Regarding the West Coast Inter-Agency Marine Action Group, TC is an active participant and this has allowed both TC and Industry members to establish a network where they can exchange information and answer questions. Industry membership includes but is not limited to the following: The B.C. Seafood Alliance; Marine Education Establishments; Marine Insurance Companies; Fishers Unions (UFAWU-CAW) and other groups, including B.C. Council of Professional Fish Harvesters and the Canadian Fishing Company.

If the regional initiatives are fully implemented, the proposed actions will reduce some of the risks associated with fishing operations.

No substantial change to address the safety deficiency since the last assessment.

Response to M03-02 (November 2006)

TC's update, dated November 2006, indicated that TC and DFO have signed an MOU between both departments. The purpose of this MOU is to provide a framework for cooperation between DFO, TC and other interested parties with regards to promoting the safety at sea of fishers. The MOU was signed on November 6, 2006.

A program called SafeCatch on safety at sea in the fishing industry is being done by Memorial University of Newfoundland. The program examines, *inter alia*, different regulatory, education and safety programs and regimes worldwide and analyzes incident data to find linkages and trends in fishing vessel incidents. TC continues to actively follow this initiative

Board reassessment of the response to M03-02 (November 2006)

The MOU between TC and DFO is directed at promoting safety at sea of both commercial fishers and DFO licence holders. More specifically, the departments will be working

cooperatively on issues including: fishing vessel modifications and replacement rules, data sharing, professionalization of fishers, and safety implications of fisheries management plans. The MOU effectively provides a mechanism for coordinating the development of a number of strategies to promote safety within the fishing industry. The planned action when fully implemented will substantially reduce or eliminate the safety deficiency. However, for the present, the action has not been sufficiently advanced to reduce the risks to transportation safety. Therefore, the assessment is **Satisfactory Intent**.

Response to M03-02 (June 2008)

TC's update, dated June 2008, indicated that TC has improved its communications structure for distributing safety information to fishers, such as the revised TP 10038, *Small Fishing Vessel Safety Manual*; Ship Safety Bulletin 01/2008, *Fishing Vessel Safety - Record of Modifications*, was issued on January 18, 2008 to notify owners on the reporting and hazards of vessel modifications. Work continues as part of the proposed *Fishing Vessel Safety Regulations*. (Follow-up information indicated that the regulations are expected to be pre-published in Part I of the *Canada Gazette* in the fall/winter 2009/2010.) The *Marine Personnel Regulations* are now in place, which provide training to crews. The proposed *Fishing Vessel Safety Regulations* will further enhance training requirements.

Board reassessment of the response to M03-02 (September 2008)

As a result of the MOU directed at promoting safety at sea of both commercial fishers and DFO licence holders, and signed by TC and DFO in 2006, both departments will be working cooperatively on issues including: fishing vessel modifications and replacement rules, data sharing, professionalization of fishers, and safety implications of fisheries management plans. The MOU also provides a mechanism for coordinating the development of a number of strategies to promote safety within the fishing industry. The planned action when fully implemented will substantially reduce or eliminate the safety deficiency.

The assessment of the response remains **Satisfactory Intent**.

Response to M03-02 (March 2010)

TC's update, dated March 2010, indicated that to establish, maintain and promote a safety culture within the fishing industry, TC continues to work with the Department of Fisheries and Oceans under the Memorandum of Understanding Regarding the Safety at Sea of Fishers. TC is continuously improving its communications structure for distributing safety information to fishers to notify owners on the reporting and hazards of vessel modifications, as well as other safety issues.

A key goal of the *Canada Shipping Act, 2001* and its regulations is for shipowners and masters (authorized representatives), among others, to take responsibility for safety and pollution prevention. To that end, TC is developing different ways of monitoring compliance including conducting safety audits that evaluate their capability and capacity to manage safe operations

and implementation of safety management systems. These will help contribute to the development of a safety culture as fishers take ownership of their own safety.

TC continues to support industry-led safety education and awareness organizations and programs that promote good practice and assist fishers in developing vessel-specific safety programs.

Under the *Marine Personnel Regulations*, safety training is to be provided to crews of all vessels, including fishing vessels.

Board reassessment of the response to M03-02 (March 2010)

TC continues to work with the Department of Fisheries and Oceans under the Memorandum of Understanding Regarding the Safety at Sea of Fishers. TC is also improving its communications structure for distributing safety information to fishers to notify owners on the reporting and hazards of vessel modifications, as well as other safety issues. TC is also developing ways of monitoring compliance including conducting safety audits that evaluate their capability and capacity to manage safe operations and implementation of safety management systems. Under the *Marine Personnel Regulations*, safety training is to be provided to crews of all vessels, including fishing vessels. The planned action when fully implemented will substantially reduce or eliminate the safety deficiency.

Therefore, the assessment of the response remains at **Satisfactory Intent**.

Response to M03-02 (December 2010)

TC's update of December 2010 described how they are continuing to work with the Department of Fisheries and Oceans under the Memorandum of Understanding Regarding the Safety at Sea of Fishers. TC is continuously improving its communications structure for distributing safety information to fishers to notify owners on the reporting and hazards of vessel modifications, as well as other safety issues.

TC is developing different ways of monitoring compliance including conducting safety audits that evaluate a vessel's capability and capacity to manage safe operations and implement safety management systems. These will help contribute to the development of a safety culture as fishers take ownership of their own safety.

TC continues to support industry-led safety education and awareness organizations and programs that promote good practice and assist fishers in developing vessel-specific safety programs.

Under the *Marine Personnel Regulations*, safety training is to be provided to crews of all vessels, including fishing vessels. TC has begun consultations to develop *Safety Management Regulations*. A three-tier approach is being proposed for safety management of domestic vessels based on their size, type and/or number of passengers. Under safety management, the Authorized Representatives/owners are to develop procedures to ensure that the company and vessel's

crew are adequately prepared. Tier 3 of this program is for fishing vessels of any length to have on board a guide to operational safety.

Board reassessment of the response to M03-02 (March 2011)

TC continues to work with the Department of Fisheries and Oceans under the Memorandum of Understanding Regarding the Safety at Sea of Fishers. TC is also improving its communications structure for distributing safety information to fishers to notify owners on the reporting and hazards of vessel modifications, as well as other safety issues. TC is also developing ways of monitoring compliance including conducting safety audits that evaluate their capability and capacity to manage safe operations and implementation of safety management systems. Under the *Marine Personnel Regulations*, safety training is to be provided to crews of all vessels, including fishing vessels. The planned action when fully implemented will substantially reduce or eliminate the safety deficiency.

Therefore, the assessment of the response remains at **Satisfactory Intent**.

Response to M03-02 (December 2011)

TC's update of December 2011 indicates that they continue work to foster a Canadian fishing vessel safety culture. In August, 2011, an agreement between TC and DFO was signed in order to promote the sharing of DFO information with TC for the purposes of fishing vessel safety, educational activities, compliance monitoring and to support investigations and prosecutions.

Transport Canada promotes a fishing community safety culture through outreach events, such as national and regional Canadian Marine Advisory Councils (CMAC). At the Standing Committee on Fishing Vessel Safety, for example, discussions frequently address whether the risks being addressed would be more effectively mitigated through regulation or through education and awareness, and if the latter, how that should be carried out. Transport Canada has also initiated, or participates in, regional meetings with fishing industry stakeholders to improve direct communication between all parties interested in safety. For example, TC works with the FishSafe Advisory Council and the Quebec Region Standing Committee on Fishing Vessel Safety.

A Memorandum of Understanding also exists with Worksafe BC to promote greater fisher safety and foster a safety culture. A similar Memorandum of Understanding between TCMS and la Commission de santé et de la sécurité au travail (CSST) du Québec was recently signed.

Board reassessment of the response to M03-02 (March 2012)

TC continues to work with DFO and with the fishing community. TC is improving its communications structure for distributing safety information. TC is also developing ways of monitoring compliance including conducting safety audits that evaluate the capability and capacity of small fishing vessels to manage safe operations. Through a collaborative approach to safety, and by acknowledging the interconnectedness of safety issues, a functional safety culture could be developed in the Canadian fishing community.

Under the *Marine Personnel Regulations*, safety training is to be provided to crew listed on the safe manning document; however, fishing vessels often carry more crew members than that indicated on the document. Therefore crew members may be employed on fishing vessels and go without formal safety training.

The status of the proposed amendments to the *Safety Management Regulations* is unknown. Should Transport Canada require domestic commercial vessels under 24 m or carrying fewer than 50 passengers to have an SMS, this has the potential to address the risk identified in the Board recommendation.

Once fully implemented, the actions planned will contribute to the development of a safety culture. Therefore, the assessment of the response remains **Satisfactory Intent**.

Response to M03-02 (December 2012)

To establish, maintain, and promote a safety culture within the fishing industry, Transport Canada:

1. Continues to work with the Department of Fisheries and Oceans (DFO) under the Memorandum of Understanding Regarding the Safety at Sea of Fishers.

Transport Canada hosted an interdepartmental workshop to develop a national strategy by looking at fishing vessel safety in a holistic manner with input and actions from all involved parties - participants included DFO/Canadian Coast Guard, DFO/Fisheries Management, and the TSB. An agreement between TC and DFO to promote the sharing of DFO information with TC for the purposes of fishing vessel safety, educational activities, compliance monitoring and to support investigations and prosecutions was signed in August 2011.

2. Works with provincial associations through memoranda of understanding.
 - An MOU exists with Worksafe BC to promote greater fisher safety and foster a safety culture
 - A similar Memorandum of Understanding between TCMS and la Commission de santé et de la sécurité au travail (CSST) du Québec was signed in 2011.
3. Actively coordinates and leads twelve meetings of the Canadian Marine Advisory Council (CMAC) per calendar year; two in each of the five TC regions and two national meetings in Ottawa.
 - CMAC meetings are attended by representatives from Transport Canada, other government departments including DFO and the TSB, industry groups, labour organizations and others and discuss a range of topics from the development of TC regulations to presentations on industry-led initiatives. Agendas for each of these sessions are circulated in advance to allow for representatives to suggest topics for discussion.
 - The national meeting of CMAC includes a Standing Committee on Fishing Vessel Safety, co-chaired by TC and industry; a Working Group on Fishing

Vessel Safety Regulatory Issues, chaired by TC and a Working Group on Fishing Vessel Safety Certification and Training. All three meetings are well-attended and the fishing vessel industry continues to express their support for the CMAC process.

- Participants at the November 2012 national CMAC fishing vessel meetings included representatives from the Northumberland Fishermen's Association, the Prince County Fishermen's Association PEI, the Nova Scotia Boatbuilders Association, Fish Food and Allied Workers, the Professional Fish Harvesters' Certification Board, the Mi'kmaq Confederacy of PEI, WorkSafeBC, the Western Maritime Institute, l'École des pêches et de l'aquaculture du Québec, the Fisheries Safety Association of Nova Scotia, the Nova Scotia Fisheries Sector Council, the Eastern Fishermen's Federation, FishSafe BC, the Nunavut Fisheries Training Consortium, the Canadian Council of Professional Fish Harvesters, la Fédération régionale acadienne des pêcheurs professionnels, as well as TC, DFO and TSB.
 - At the November 2012 national CMAC meeting, the Fishing Vessel Safety Standing Committee heard several presentations directly from industry representatives regarding their participation in safety initiatives, for example, the Marine Institute of Memorial University is now offering a Fishing Master IV Distance Learning Program to increase the accessibility of this training and both TC and the TSB presented on initiatives that each respective Department is leading.
4. Hosts and participates in additional regional meetings with fishing industry stakeholders to improve direct communication between all parties interested in safety, for example:
- A National Outreach Campaign for Fishermen was conducted in 2011-2012 to meet and inform fishermen about certification and training requirements for masters, officers and crew members of fishing vessels and to guide and assist fishermen to complete their documentation. To date, the outreach campaign has been to Newfoundland, Nova Scotia, New Brunswick, Québec, British Columbia and PEI. Fishing associations were very interested in this campaign, and fishermen actively participated in the campaign and appreciated the new way of providing service. Local course providers were present during the campaign, providing further information to the participants.
 - The FishSafe Advisory Council, which has produced [Strategic Planning Reports](#)
 - The Quebec Region Standing Committee on Fishing Vessel Safety
 - Commercial Fishing Enterprises Network Event
 - National Aboriginal Fisheries Forum

As part of a coordinated effort, Transport Canada continues to support industry-led safety education and awareness organizations and programs that promote good practice and assist fishers in developing vessel-specific safety programs. Transport Canada notes an initiative has been announced by the Government of Newfoundland and Labrador to establish a Fish Harvesting Safety Association and there is a similar initiative in the province of Nova Scotia by the Fisheries Safety Association.

5. Develops and maintains a regulatory regime under the *Canada Shipping Act, 2001* that promotes a safety culture. For example:
 - a) The *Canada Shipping Act, 2001* requires that the authorized representative of a vessel, including a fishing vessel, ensure that the vessel and its machinery and equipment meet the requirements of the regulations made under Part 4 of the Act; develop procedures for the safe operation of the vessel and for dealing with emergencies; and ensure that the crew and passengers receive safety training.
 - b) The *Marine Personnel Regulations* require that safety training be provided to crews of all vessels, including fishing vessels. The Fishing Master course includes a module on General Ship Knowledge that deals with, among other topics, the watertight integrity of the vessel.
 - c) The development of the *Fishing Vessel Safety Regulations* in discussion with industry:
 - The proposed regulations will establish appropriate and up-to-date minimum safety standards for the small fishing vessel industry.
 - This will include the maintenance of records; the development of written procedures with regards to the location and use personal lifesaving appliances, visual signals, vessel safety equipment, radio communications equipment, and fire detection and extinguishing equipment, and with regards to the prevention of accidents and incidents, including stability-related accidents and incidents and the requirement to practice and be familiar with written procedures.
6. Plans to adapt the Small Vessel Compliance Program (SVCP) for the fishing vessel industry once the proposed *Fishing Vessel Safety Regulations* come into force.
 - The SVCP (see response to M04-01 for additional details) promotes education and awareness of regulatory requirements through a consolidated checklist of requirements with explanatory notes. Feedback from industry members has been positive and support has been expressed for developing a similar approach for small fishing vessels.
7. Is developing safety management systems models and guidelines that will facilitate the adoption of appropriate safety management tools for the small vessel industry, including fishing vessels.
 - TC will continue to promote the voluntary adoption of appropriate safety management tools for the small fishing vessel industry.
 - TC requires under the *Marine Personnel Regulations* (MPR) for certificate holders, the knowledge on how to maintain integrity of the hull and superstructures and prevent water flooding; and Knowledge on survivability of the vessel in case of flooding and damage control and safety.
 - TC requires for any person assigned a function on board a vessel, an on-board familiarization and safety training and for every member of the complement who is required to be on board in order for the vessel to meet safe manning requirements of the *Marine Personnel Regulations*, a marine emergency duty training.

8. Supports the development of an international treaty on fishing vessel safety for fishing vessels 24 metres and more.
 - Canada chaired the drafting committee of the recent Diplomatic Conference for the Adoption of an Agreement on the Implementation of the Torremolinos Protocol of 1993 relating to the 1977 Torremolinos International Convention for the Safety of Fishing Vessels in Cape Town, South Africa, in October 2012.
 - Bringing into force a binding international safety regime is expected to play a part in helping to improve safety standards and reduce the loss of life.

Board reassessment of the response to M03-02 (March 2013)

The intent of the Board's recommendation was that TC develop a national strategy to establish, maintain, and promote a safety culture within the fishing industry. TC's response outlines numerous activities it has undertaken to contribute to the objective of instilling a safety culture, but stops short of the literal wording of the recommendation to develop a national strategy.

Since this recommendation was formulated, the TSB has completed and published its *Safety Issues Investigation into Fishing Safety in Canada (SII)*. This investigation revealed the interconnected nature of fishing safety issues and again emphasized the fact that the fishing culture needs to change to one where the dominant norm within the community is to engage in safe work practices.

The SII also highlighted that federal (TC and DFO) and provincial (workers' compensation boards) authorities have a complementary and shared responsibility to collaborate actively and effectively with other segments of the fishing community to tackle and resolve these well-known safety issues. This collaboration must involve the fishermen themselves, who have to ensure their own safety and that of their crew and vessels.

Given the extent of TC's actions to date, and the recognition that it is not up to TC alone to establish, maintain, and promote a fishing safety culture, the Board has assessed the TC response to this recommendation as being **Fully Satisfactory**.

That said, fishermen continue to perish at sea, which suggests there is still much to be done by all affected stakeholders to achieve the ultimate objective of achieving an industry-wide fishing safety culture.

Next TSB action

The deficiency file is assigned **Inactive** status.