QUEENSLAND COURTS

OFFICE OF THE STATE CORONER

FINDINGS OF INQUEST

CITATION:	Inquest into the death of Glenn Anthony Wilson
TITLE OF COURT:	Coroners Court
JURISDICTION:	Cairns
FILE NO(s):	2013/2681
DELIVERED ON:	24 May 2016
DELIVERED AT:	Cairns
HEARING DATES:	24 July 2015
FINDINGS OF:	Kevin Priestly, Coroner
CATCHWORDS:	Live coral trout fishing, anchor stuck in reef, attempted retrieval with force, dory overturned, operator drowned, not wearing lifejacket, effectiveness of safety management system, vessel standards, and regulatory approach.
REPRESENTATION:	
Counsel Assisting:	Ms Jesika Franco
Australian Maritime Safety Authority:	Mr Tim Foley
Maritime Safety Queensland:	Mr Adam Johnson
Office of Fair Safe Work Queensland:	Mr Bruce Matthews
Mr Michael Tappenden:	Ms Stephanie Williams, instructed by Wettenhall Silva Solicitors

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Introduction

During the afternoon of 26 July 2013 and in the course of live coral trout fishing operations from Norlaus, Glenn Wilson was found floating face down in the water near his overturned fishing dory. An autopsy revealed he died due to drowning. A coronial investigation into the circumstances of his death was started and has progressed to inquest.

My role as Coroner is to establish who died, when and where that person died, what caused the death and how that person died. Most of these matter were readily established prior to this hearing. However, there remained a number of issues relevant to 'how' which required further investigation at inquest as well as the possibility of recommendations based on lessons to be learnt from the tragic circumstances of his death.

In preparation for this inquest, there were preliminary hearings. An issues list was developed in consultation with the parties. Broadly, the issues are:

- How and why did the dory capsize and Mr Wilson drown?
- How was the risk of capsize and drowning managed and how might it be better managed?
- Did the design, construction, modification and maintenance of his dory have any impact on stability and the risk of capsize?
- How did the regulatory framework and standards address seaworthiness and operational safety relevant to the risk of capsize and drowning? Is there any opportunity for improvement?

Background

Glenn Anthony Wilson was 39 years of age and lived in Cairns. He was employed on the commercial fishing vessel 'Norlaus' as a dory operator. He had worked in the fishing industry for over 10 years and his fishing colleagues considered him a skilled dory operator.

Norlaus was a live coral trout fishing vessel that acted as the base from which five dories operated, fishing for coral trout within a five nautical mile radius. It was 13.65m in length, constructed of steel and registered with Qld Transport as a commercial vessel. Reef Pacific Pty Ltd was the owner and Mr Michael Jin was the director. Mr Jin did not participate in the inquest.

Francis Tappenden was the Master of Norlaus. He was responsible for its management and safe operation. Mr Tappenden held a Master's Certificate of Competency appropriate for Norlaus.

Mr Wilson was fishing from a fibreglass commercial fishing dory, constructed between 1998 and 2000 for trout fishing. The dory was 5m in length with a 1.8m beam, designed and built with the capability to float while fully swamped with water and the bungs removed. The builder, Hooker Boats, reported it conducted swamp tests on this size and type under the supervisor of surveyors for commercial use and the vessel passed. However, the builder did not fit the live coral trout tank to the dory.

Mr Tappenden gave evidence that he did an extensive refit on the dory in 2011. Old foam tanks had rotted from the inside and out, becoming waterlogged. He and Mr Wilson with another person, constructed live fish tanks made of solid fibreglass. The tanks had a capacity of about 150 L. When fishing, the tank was kept full of the seawater with live fish. A small 12 V bilge pump continually ran seawater to the tank through an inlet at the top. There was a 50mm outlet at the bottom of the tank. The live tank had a capacity for 40 live trout at most. He reported that the dory did not appear to handle any differently whether the tank was full or empty.

Each dory was fitted with a CQR anchor, a length of chain and a length of synthetic line. The nature of the live coral trout fishing operation was to anchor very near to reef, if not on it; and catch coral trout which were kept live in the holding tank until transfer live to the holding tanks on Norlaus. Occasionally, an anchor would become stuck in the reef. Most dory operators rig various devices to help them free a stuck anchor. Some used a zip tie or fishing line to create an alternative or secondary fixing point between the chain and anchor; the objective being to provide a weak link which can be broken by the application of power and changes the direction of force applied to the stuck anchor, hopefully causing it to free. Another device with a similar objective is the use of a float on the anchor line.

Weather observations and forecasts relevant to the areas in which the incident occurred refer to strong easterly/south easterly winds with seas to 2.2m on a 1.5m swell. Although conditions were not conducive to the operation of a dory sized vessel, the area of operation was inside the reef which offered some protection from the wind, waves and swell that would otherwise have prevailed.

Surrounding Circumstances

On 17 July 2013 Norlaus left Bowen harbour with five fishing dories in tow. On-board the vessel was Mr Tappenden with five fishers: James Andersen, John Hopesimpson, Guy Lugton, Jason Vandenberg and Glenn Wilson. There was also a cook on-board, Chelsea Wellborn. The vessel stopped at various reefs along the way.

On 26 July 2013 at about 1am 'Norlaus' arrived at Bowden Reef, offshore Townsville and anchored at the northern end. Between 7:30am and 8:30am four dories departed Norlaus to start fishing including Mr Wilson in dory numbered 4, a 4.75m fibreglass Hooker powered by a 40HP 2-stroke Yamaha outboard. It was equipped with safety items such as a life jacket, flares, EPIRB, signalling mirror and a handheld GPS. During the morning, the dories fished and moved between locations. Between 12 and 1pm, the dories returned to Norlaus for lunch and afterwards, resumed fishing.

During the course of the afternoon, there were sightings of Mr Wilson. Mr Hope Simpson reported to investigators that ‘we were all sort of fishing together being about four or five hundred metres apart’. He reported conditions as ‘choppy with 25knots blowing’. The tide had started to head out. He remembered Mr Wilson was fishing behind him in deeper waters, about 1 mile from him and closer to Norlaus. At about 2.30pm Mr Vandenberg saw Mr Wilson headed away from the reef. At about 5pm Mr Lugton saw Mr Wilson bending over the side of his dory using a viewing bucket to spot fish. At about 5.30pm, Mr Hope-Simpson finished fishing and was returning to Norlaus. He came across Mr Wilson’s dory upside down with the leg of the outboard sticking up and the anchor float in front of the bow. Mr Hope-Simpson thought the vessel was anchored and conducted an immediate search around the dory. Unable to locate Mr Wilson, he returned to Norlaus and raised the alarm. Mr Tappenden started a search for Mr Wilson, directing the dory operators to search for Mr Wilson in the area of the overturned dory. Mr Hope-Simpson left Norlaus and returned to the scene of the overturned dory. Mr Lugton and Mr Vandenberg left together in another dory. Mr Anderson left in a third dory. On arrival at the overturned dory, orange wet weather gear was seen floating about 20 feet from the stern of the overturned dory. Mr Wilson was found floating face down in his orange wet weather gear and motionless with fishing line tangled around his lower right leg. He was not wearing a life jacket. Mr Wilson was retrieved into Mr Hope-Simpson’s dory and CPR started. Mr Wilson was transferred to Norlaus while CPR continued but he was unable to be revived.

Contact was made between Norlaus and Emergency Services including police. Norlaus was directed to travel towards Townsville. During the course of the trip to Townsville, contact was made between Mr

Tappenden and Water Police. Mr Tappenden reported the last known position of the dory. Norlaus arrived in Townsville and was met by Water Police at the "Duck Pond", an area of protected calm water near the entrance to the harbour. Arrangements were made for the recovery of the overturned dory with the assistance of Volunteer Marine Rescue. By 6pm that evening, Volunteer Marine Rescue had returned to Townsville with the dory. Water Police took possession of the dory and using a trailer, removed it from the water. During its removal, officers saw the port bung was missing and a significant flow of water coming from the port bung hole. Water Police removed the large bung near the keel to assist with the flow of water. This bung was then returned to its original position after the majority of the water had emptied. The recovery team from Volunteer Marine Rescue confirmed that no bungs were removed during the recovery process. The dory was transported to the Townsville Water Police Station and lodged in a secure yard.

Autopsy

On 30 July 2013 Professor David Williams conducted an autopsy and confirmed that Mr Wilson died due to drowning. Examination of the lungs, particularly on histology, showed features of drowning. There were no other findings to assist in better understanding what might have happened in the incident. Although toxicology results on blood samples showed Mr Wilson had consumed cannabis; when, how much and its impact on him during the incident are unknown. There was no suggestion from anyone who saw him that day that he appeared affected.

Condition of Dory and Associated Equipment

Water Police Officers conducted an initial inspection of the dory and found, amongst other things, the port bung missing, allowing water to enter the watertight compartments. The outboard gear shifter was in the forward position (in gear) and the propeller was unable to spin. The anchor line remained tied off at the cleat on the bow and at the other end was a length of anchor chain attached to a CQR style anchor.

On 5 August 2013 Mr Carnarvon from the Queensland Police Service Marine Technical Section conducted an inspection of the outboard. He reported the outboard fitted to the dory was a Yamaha 40HP 2-stroke engine with serial number 6H4KL1018041F and model number 40VMHD. The outboard was a tiller handle model with controls on the tiller handle and had an extension fitted to it (a plastic tube secured with grey plastic tape). There was an emergency stop switch fitted to the tiller with a stop lanyard but the stop lanyard was disconnected from the emergency stop switch. The gear shift was confirmed in forward gear and the throttle linkages in the idle position. The engine was not operable due to immersion but otherwise appeared serviceable.

On 26 August 2013 Mr Carnarvon did another inspection and found the start-in-gear protection attached to the recoil starter was in working condition. The power head of the engine was removed and was rusted inside (due to recent exposure) but there were no signs of piston scoring or previous combustion damage. The connecting rods were not bent suggesting the engine did not experience sudden entry of water at high speed. The water pump, impellor and housing plate appeared in serviceable condition. The GPS unit was unable to be interrogated due to entry of salt water and its failure to operate.

On 28 August 2013 Doug Matchett, Senior Naval Architect from the Australian Maritime Safety Authority, attended Townsville and inspected the dory. He undertook practical tests and did calculations from which he concluded:

- The freeing ports through the transom were not adequately sealed to prevent back flooding once submerged or in contact with water, allowing the entry of water onto the deck.
- The freeing ports were not of an adequate size to allow rapid drainage should water accumulate on the deck, rapidly causing instability.
- The hull condition was poor and not satisfactory for the intended operation:
    - The foam buoyancy was in disrepair.
    - There were splits in the fibreglass along the gunwale which allowed water to penetrate into the hull construction materials.
    - If a bung through the transom was left open, the buoyancy provided by the single void under the deck was seriously compromised through the resultant flooding.
    - The sump through the cockpit bottom from which the live fish tank draws water is an open system allowing water directly through the hull bottom, compromising the integrity of the buoyant internal space of the vessel as there was no watertight hatch at deck level preventing the shipping of water. The waterline of the vessel became level with the deck height when the boat was loaded causing water to ship on deck through the sump. The severity of the shipping of water increased when the boat was disturbed by waves or as the loading of the vessel increased.
    - Water shipped readily onto the deck through the freeing ports situated close to the lightship waterline through the transom. The severity of shipping of water depended on the load, sea conditions and trim.
- The vessel did not comply with the stability criteria of the Australian Standard in any condition, noting the location and design of the freeing ports was not sufficient to prevent back flooding of water onto the deck and were submerged at all loading conditions tested.

Mr Matchett reported that the dory was modified from the original hull construction with the fitting of a fish tank and associated structure. The fibreglass structure showed signs of degradation with large areas of hull structure requiring repair. Importantly, he concluded the state of repair and maintenance as well as its stability characteristics may have contributed to the incident.

Water Police also conducted a check of safety and other equipment on board the dory, finding it was equipped with a digital 406MHz EPIRB in cradle, 2 Coastal lifejackets, a Lowrance HDS7 GPS unit, a compass, a 24 litre portable fuel tank (half full), and battery box with associated wiring. It was also equipped with a CQR anchor, chain and line.

The required safety equipment list for each dory was the following:

- Coastal lifejacket for each person on board
- V-sheet
- 406MHz EPIRB
- 2 x orange hand held smoke flares
- 2 x red hand held flares

Although some of these items were not found with the dory, Mr Tappenden reported that each dory was fully equipped with the required safety equipment. Water Police concluded that some items missing from the dory may have been lost during the incident.

What Happened – Opinion and Analysis

We are left to deduce from the circumstances what likely happened to cause the dory to capsize and Mr Wilson to drown.

The starting point is an anchor stuck in the reef. This appears to be a hazard that is commonly encountered. Although there may be other possibilities, this is the most likely initiating event. The dory was found anchored when it was discovered capsized. The Volunteer Marine Rescue crew that recovered the dory found it still anchored on their arrival. It took them some force to free the anchor. The outboard motor was also found in forward gear, consistent with efforts to free the anchor with the application of power. The time of day and time difference between last sighting and discovery of the capsized dory is consistent with when Mr Wilson was likely to recover the anchor for return to Norlaus.

As to what likely happened next, Mr Tappenden and some of the crew have expressed views.

In his statement to police, crew member Mr Hope Simpson said that although he didn't know how the dory overturned, he knew from previous experience that if the anchor was stuck and Mr Wilson shortened the anchor line and drove forward, the dory would come to a sudden stop with the anchor line running beneath the dory potentially flipping it over sideways.

In his statement to police, crew member Mr Lugton described the trip system that he used in the event that an anchor became stuck in the reef.

> "The trip system I use has a piece of 80lb monofilament fishing line tied from the shank of the anchor which is a plough type anchor to the chain. I have always used a large float which slides along the anchor rope on a ring. By driving the dory forward the float becomes forced along the anchor rope and it then lifts the anchor up. If the anchor is well and truly stuck then I pull the rope in short by hand and jiggle the anchor rope to get any more rope back. This works 90 percent of the time. If you have to drive off after the trip line that is tied to the chain has popped, this normally allows the chain to pick up the anchor from the top part rather than the end of the anchor shaft."

Mr Lugton reported to investigating police he was familiar with how Mr Wilson anchored and lifted his anchor: "I had more or less learnt the basics on how to use the system to anchor from Glen".

He also described having to forcefully free the anchor using the following method:

> "Sometimes if the anchor is really stuck you might have to tie an anchor off short and drive the dory forward until you feel the bow of the dory tip. … might have to do this several times before the anchor is freed. You might even have to do it from several different angles. You can even use the GPS in the boat to go in different directions."

Mr Jason Vandenberg reported a similar technique if he had to "drive off" an anchor that was "really pinned in the Coral". But he also added, "If it gets too hairy, I just cut the rope".

Mr Tappenden initially completed a Marine Incident Report for MSQ in which he reported Mr Wilson capsized his dory attempting to retrieve his anchor.

"If the anchor was stuck, Glen would have shortened the scope of his anchor rope to help break his safety trip. This is a weak link to allow the anchor to be pulled out backwards. This is usually done by using the motor. The operator of the dory is responsible for the management of the safety trip. Some choosing to shackle straight onto the shank, voiding a safety system, this I myself do not advise. If the operator has incorrectly tied his trip or tied it to strong it will not beak. They are then advised to cut free of the anchor or leave it behind on a float and then come back to the main boat for assistance."

In his statement to police, Mr Tappenden said he suspected 'Mr Wilson tied the safety trip too strong which meant that as he was trying to drive over the anchor to pull it out, it didn't break the weak link like it was designed to and the dory then capsized'.

In a subsequent statement to police, Mr Tappenden repeated his view how the incident happened:

"I believe that the anchor has become snagged on the bottom and rather than shortening the anchor rope and trying to pull it free by hand first or by breaking the safety trip with his motor, Glenn may have left too much anchor rope out when trying to motor forward on the rope to break the anchor free using engine power."

The key point to note at this juncture is there existed a risk of an anchor becoming stuck and in the course of retrieving it, the risk of capsize.

While Mr Tappenden and the crew's thoughts focussed on the dynamic of retrieving a stuck anchor, the thoughts of the Water Police focussed on the missing bung and the potential for instability from entry of water into the hull. Water Police suggested the following possible scenarios:

- A bung was lost, possibly while Mr Wilson was draining the bilge, and a large amount of water entered the hull while the vessel was at anchor;
- While Mr Wilson was retrieving the anchor, water in the hull shifted causing a significant change in the vessel's centre of gravity and it capsized;
- Alternatively, Mr Wilson retrieved the anchor and was slowly moving away when the vessel heeled as a result of waves or wind, again causing the water in the hull to shift and the dory to capsize;
- On capsize, Mr Wilson became entangled in the fishing line. In combination with his bib and brace pants as well as the lack of any flotation device, it was too difficult to free himself from beneath the vessel.

While there is merit in these scenarios, the stability issue may have been more serious. The entry of water into the hull would have impacted on the dory in three ways. Firstly, there would be a loss of buoyancy. Secondly, the free flow of water would increase instability. Thirdly, it would lower the waterline, seriously increasing the tendency for back flooding through the freeing port. The lower water line would also increase the risk of shipping water from the fish tank onto deck. Then there is the potential dynamics associated with attempting to recover the anchor by driving over it. Any sudden jerking action from the anchor line to the bow would potentially cause a rapid movement of free flowing water from which this vessel might not recover.

Discussion and Analysis

My own analysis of the evidence suggests the likely scenario is that Mr Wilson was trying to retrieve a stuck anchor and during the application of power to drive over and free it, the dory capsized. It is also likely that the stability issues that Mr Matchett identified, primarily associated with alterations to add a live fish tank, contributed to the capsize. I am unable to determine the likely circumstances in which the bung became missing. If there was ingress of water at anchor due to the loss of the bung, or removal and failure to replace the bung, the risk of capsize would be further increased. Once the dory capsized, Mr Wilson likely struggled in the water in wet weather gear and with fishing line around his legs until he succumbed and drowned.

Regulatory Standards

The facts give rise to issues about regulatory standards applicable to (1) the seaworthiness of the dory, in particular, its stability, and (2) safety of the operation conducted from it. I now turn to what was a regulatory framework in transition.

Vessel Standards

Before 1 July 2013, each State and Territory had its own regulatory framework for marine safety, as did the Commonwealth. The Australian Maritime Safety Authority was the Commonwealth regulator. The Queensland regulatory framework was established through the Transport Operations (Marine Safety) Act 1994 and Marine Safety Qld (MSQ) was the regulator. The Act imposed general safety obligations to ensure seaworthiness and operational safety, and allowed for those obligations to be discharged by compliance with relevant standards. General safety obligations were imposed on designers, builders, owners and masters about the condition of ships. The requirement to register a commercial vessel provided the opportunity to ensure that certificates of compliance with relevant standards from accredited entities about design and construction were obtained before the vessel commenced operation. There were regulations and subordinate legislation in the form of standards to support this scheme. Relevant to seaworthiness, Queensland adopted the Uniform Shipping Laws as well as later the National Standard for Commercial Vessel (as used by AMSA).

In 2011, the States and Territories agreed with the Commonwealth, through the Council of Australian Governments, to establish a single national regulator (AMSA) and regulatory framework underpinned by the Marine Safety (Domestic Commercial Vessel) National Law to achieve consistency in the management of marine safety. The national system started on 1 July 2013. Vessels that existed at that date were grandfathered, meaning compliance with the then Qld standards was sufficient; those vessels will be transitioned to the national operational standards, so long as there is no change to the operations of the vessel or change to operational area. Compliance with the national standards relevant to vessel standards was and is not required. However, those vessels are required to meet national equipment and risk management standards over the transitional period (2013 – 2016).

Under Qld legislation, dories operating from mother vessels were treated as auxiliary vessels. Although mother vessels like Norlaus were required to comply with commercial vessel standards, auxiliary vessels were not. The expectation was that auxiliary vessels would comply with recreational boating standards.

Mr Brian Hemming, National Operations Manager (Domestic Vessels), AMSA, reported his understanding was that under Queensland law that applied on 30 June 2013, there were no standards that applied in relation to construction and stability for this type of vessel built before 2006. The grandfathering provisions of the National Law preserved this position subject to no later alteration to the vessel or changes in its operational area.

What are the standards currently applicable to auxiliary vessels? Mr Adam Brancher from AMSA reports:

“A new auxiliary vessel entering the National System for the first time would not be required to undertake initial survey, nor hold a certificate of survey or certificate of operation, provided they are listed on their parent vessel’s certificate of operation and that their operational risks are addressed in the parent vessel’s safety management system. In addition, the vessel would need to be inspected at intervals identified on the parent vessel’s certificate of operation. The regulated construction

standards for new auxiliary vessels are specified through the National Law by AMSA EX2013/02 Marine Safety (Certificates of Survey) Exemption 2013. The construction requirements are similar to those of the National Standard for the Australian Builders Plate for recreational boats; however additional prescribed flotation requirements mean they have to remain level and upright carrying full load capacity in the event of the vessel becoming swamped with water, mitigating the risk of capsize."

Clearly, the continued classification of dories as auxiliary vessels creates a weakness in safety coverage and is inappropriate. AMSA recognises this weakness and is working on a proposal, which I will address shortly.

Operational Safety Standards

In short, operational safety is regulated through the imposition of a general obligation on owners and masters to ensure safe operation of a vessel and a requirement for the development and implementation of an effective safety management system as a means of discharging that obligation.

Mr Wes Oswin, AMSA, reported that MSQ required all commercial vessel operations greater than 8m in length to comply with National Standard Commercial Vessels Part E as in force on 1 October 2009. Annex A of the standard specifies the objectives and minimum requirements for a safety management system. Annex B of the standard provides informative guidance on the key operations such as operating small boats and tenders.

Mr Oswin reviewed the Safety Management System documents from Norlaus and noted it was based on a templated produced by MSQ in 2010. Owners and masters were expected to modify the examples to suit their particular operation. The template was also to be used in conjunction with a comprehensive Safety Management System Reference Manual which provided background information to assist in developing an SMS. Mr Oswin reported:

> "In my experience many operators that used this template did not modify the material to suit their particular operation. As a consequence, risks were often not identified or managed and the procedures contained in the documentation were irrelevant to the operation in question. The SMS was therefore often not able to be implemented into the operation and added very little value in managing the risks associated with the operation."

Mr Oswin found only a few minor modifications and additions to the template were made. He noted:

- There is no risk register or evidence that the risks associated with the operation of Norlaus or the auxiliary dories were identified or managed.
- The template procedure relating to operating small boats and tenders (page 47) remains unchanged from the Maritime Safety Queensland template and includes an action to maintain clear communication links with the mother ship.
- The emergency plan for a missing person/overdue tender or dory (page 23) includes an action to make a radio call to the vessel. From the information that I have been supplied there is no evidence that there was any means of communication between the dories and the mother vessel and a radio was not part of the equipment on a dory.
- The crew levels and training section (page 123) has not been completed and does not include the responsibilities or duties of the dory skippers.
- There is no evidence of what initial safety training or emergency preparedness training crew were required to complete.
- There is no evidence that the SMS has been reviewed annually by the owner and master.
- There is no planned inspection and maintenance schedule or records in relation to the fishing dories.

He further reported:

> "A Safety Management System should among other things establish a means of identifying any risks and then either eliminating or reducing these risks to an acceptable level. The SMS of this operation does not appear to have identified and managed the following key risks associated with the operation:
>
> - The risk of a person falling overboard from the mother ship or a dory
> - The risk of a dory breaking down
> - The risk of a dory capsizing whilst recovering the anchor
> - The risk of a medical emergency on board a dory
> - The risk of water ingress leading to instability of a dory"

Mr Oswin concluded that the owner of this operation had not implemented and maintained a safety management system that ensured that the vessel and the operation of the vessel were, so far as is reasonably practicable, safe. In addition, he concluded he was not satisfied that the owner had provided, so far as is reasonably practicable, such information, instruction, training or supervision to people on board the vessel as was necessary to ensure their safety. In short, the owner had not met the requirements of National Standard for Commercial Vessels.

Mr Oswin makes a very important qualification to his report. His review was based upon the SMS documentation which is but one source of information to be analysed. He reported it was possible that additional on-board operational practices were in place, but have not been detailed in the SMS documentation. I will return to the on-board operational practices shortly.

More broadly, AMSA identified the following issues with the previous SMS implementation from some States, including:

- A high proportion of safety management systems did not have a central risk register and many key risks had not been identified or managed.
- The focus was predominantly on documentation rather than good risk management.
- The provision of SMS templates often did not achieve a satisfactory outcome.
- Many owners did not have the skills or experience to assess and manage risk in a systematic way.
- Many owners did not understand the benefits or fundamentals of developing and implementing a SMS for their operation.

Shared Concerns

Water Police reported it was not uncommon to see dories within the fishing industry in a similar state of disrepair due to lack of maintenance. Modifications such as those on Mr Wilson's dory were common. It was also reported that dories are not subject to any commercial vessel requirements, the majority are designed and constructed to a recreational standard, and most safety and compliance surveillance focuses on the condition and equipping of mother vessels. Further, it was unlikely owners of dories considered the complex stability and construction standards when making modifications. Water Police reported they were not qualified to assess issues of stability or construction standards of vessels encountered during surveillance activities.

The Water Police investigator recommended:

- Commercial vessel design and construction standards be imposed on vessels intended to be used as fishing dories to maximize workplace safety for dory operators;

- Marine safety agencies undertake targeted compliance checks on dories in relation to maintenance, construction, stability and appropriateness of modifications;
- Legislative amendments requiring more specific and detailed information in operational procedures for fishing dories in the mother ship's Safety Management System;
- The wearing of personal flotation devices fitted with a strobe light and a personal EPIRB by dory operators be compulsory;
- The carriage of a VHF marine radio by each operator be compulsory.

The Office of Fair and Safe Work Qld (OFSWQ) also conducted an investigation into this incident. Although most of its findings have been addressed in other investigations, OFSWQ noted the dories did not have any radio communication with the mother vessel. It reported this lack of communication was common in the industry. OFSWQ found that although the presence of a communication system would not have prevented Mr Wilson's death, an effective system of communication between such vessels should be used at all times in open waters. OFSWQ issued an Improvement Notice to the owner requiring it to provide a system of communication between the mother vessel and each of the dories.

Regulatory Remedial Action

It is clear that AMSA identified and acted on opportunities for improvement in the regulatory framework relevant to vessel and operational safety standards applicable to dories.

AMSA undertook an extensive capacity building program to assist owners to develop and maintain a simple but effective SMS for their operation. The program included 21 SMS workshops throughout Queensland, the release of Sample systems (but not templates), a national SMS Training Resource Kit developed in conjunction with the Australian Maritime College, SMS guidance and support material, and publication of regular risk management articles through the eBulletins and quarterly newsletters.

Mr Brancher reports that AMSA has already identified a number of higher risk industry sectors that came under its jurisdiction on 1 July 2013 with the following concerns:

- Owners are retaining vessels with inappropriate design characteristics though lack of understanding of the new regulatory settings and a belief that compliance with the new standards will be too expensive;
- Owners don't understand the general safety obligations under the national law;
- Vessels of this type are poorly maintained which may contribute to incidents;
- Vessels with insufficient buoyancy and freeboard for the conditions likely to be encountered;
- Ill-considered alterations (such as fitting large fish boxes) that increase the risk of water entry and instability;
- The absence of a systemic operational safety culture in this sector of the fleet.

In response, Mr Brancher reports that AMSA has undertaken a number of initiatives to address the problem.

AMSA has re-evaluated the safety risks and operational areas of certain types of fishing operations. It intends to introduce a new restricted C class fishing vessels in the low risk offshore operations. The arrangements will include design and construction standards, including for whole construction, rapid drainage from the deck, and watertight and weathertight integrity requirements for prevention of water ingress into the hull. Provision will be made for compliance with well-established loading and persons capacity standards, flotation requirements to resist capsize and assisting in survivability in the event of capsize, use of larger vessels up to 12 m that have better see keeping in survivability capacity

and offshore waters, and introduction of prescribed survey and safety management system requirements.

AMSA also reviewed its internal standards for the survey of vessels, realigning survey activities with risk, simplifying survey requirements to assist industry and service delivery agents, increasing flexibility for the regulator to match survey frequency with compliance history, and introducing a new survey "modifiers" that assist in better targeting operational risks relevant to determining survey frequency.

Mr Brian Hemming, National Operations Manager, AMSA also provided a report that was helpful in trying to understand the extent of this fishing sector potentially affected by these issues. He reported there were 773 dories in Qld currently associated with fishing activities similar to those undertaken by Mr Wilson. Not all of these vessels are subject to the grandfathering provisions and there is a consequential absence of applicable prescribed standards in relation to construction and stability.

Discussion and Analysis

On-Board Operational Practices

It will be recalled that Mr Oswin from AMSA was critical about the SMS as documented on Norlaus. Importantly, he was unable to comment about the on-board operational practices. I observe that there may be a marked difference between on-board practices and documented practices. Relevant to the specific hazard of a stuck anchor, it is apparent from the statements of the crew that most used similar devices and procedures to retrieve the anchor, learnt through instruction and experience. There was no uniform approach. As a last resort, dory operators might attempt to force the anchor free through the use of power. Each operator understood that this process carried with it the risk of capsize. There was no evidence to suggest this hazard was addressed through a risk management process. As is often found, some industry sectors rely on experience to inform an intuitive risk management process, sometimes referred to as 'common sense'. Some of the problems with 'common sense' is the absence of any base line level, considerable diversity in procedures between individuals, and the absence of a systematic approach. In other words, the development of safe working procedures are not fully and collectively thought through.

If a stuck anchor was identified as a hazard and addressed through a formal risk management process, a number of issues would have emerged that have not so far been addressed. To illustrate this point, the basic risk management approach involves identifying the hazard, assessing the risk, selecting appropriate control measures to reduce the risk, then implementing and reviewing the effectiveness of the control measures.

The hazard is already identified: an anchor stuck in the reef.

In assessing risk in the context of current procedures, an owner would consider the frequency of such occurrences; and the possible ways in which its retrieval might result in harm as well as the nature and extent of that harm. This would expose the prospects of capsize, the dory operator entering the water, and the possibility of drowning.

In assessing potential control measures, there is a hierarchy to consider. Is there a possible engineering solution to remove the hazard? An owner would consider anchor types that reduce the chance of an anchor becoming stuck, and if stuck, facilitate its removal. There are anchors with self-

release devices commercially available for use on the reef. Are they sufficiently robust and suitable for this purpose? An owner would also explore techniques for removal, taking the collective knowledge and experience of dory operators, hopefully agreeing on an exhaustive set of possible methods of extrication before escalating to the application of force. Even if force is to be used, consideration would be given to ensuring the dory was sufficiently stable for the purpose. This would initially be a buying consideration. The owner would also consider how best to rig the anchor line to the dory to minimise the risk of capsize. Procedures developed in this way would also include preparation on deck. Stowing of loose gear that might hinder the operation as well as operator. Ensuring there was no free flowing water on deck or in the hulls. Contingency planning would also emerge from this process. A radio call to another dory operator or the mother vessel reporting a stuck anchor, intentions or plan, and to expect a call back shortly. Finally, this process would raise the need to wear a lifejacket.

I emphasize the fact that I am not purporting to carry out the risk management process that should have been undertaken here, but merely to illustrate how logically and systematically it might be undertaken. However, there is no evidence that in this fishing operation any such process was carried out to underpin the development of safe working procedures. The exercise also demonstrates how a range of possible controls measures might have made a difference to the level of risk to which Mr Wilson was exposed. For example, it is not possible to say that if Mr Wilson was wearing a lifejacket, he would likely have survived. There is not enough information about what exactly happened to make that assertion. However, it is possible to say that the wearing of a lifejacket would have improved his prospect of survival. The application of a formal risk management processes to a given situation is aimed to identifying and implementing a range of control measures which cumulatively will substantially improve safety by reducing risk.

Specific Control Measure – Lifejacket (Personal Flotation Devices)

The wearing of a lifejacket is a control measure that warrants further specific attention. In a recent unpublished finding, a fisherman fell overboard while retrieving his net. He was working alone and not wearing a lifejacket. In that investigation, an MSQ report was prepared, part of which addressed the issue of personal flotation devices. The investigator, Kevin Schindler, reported that the deceased fulfilled his general safety obligation in accordance with the legislation by having safety equipment including a PFD on-board. There is no legislative requirement for the PFD to be worn during fishing activities. However, Mr Schindler reported that it was almost certain that he would have remained afloat after the vessel capsized and it is highly likely that he would have been spotted by a passing vessel or helicopter during the subsequent search and rescue mission. Mr Schindler then reported:

“In some sections of the commercial marine industry, employers issue instructions for the wearing of PFD to employees, who are required to operate tender vessels. The PFD is usually the inflatable (manual/automatic) variety, which are a more comfortable, unrestrictive device to be worn for extended periods. Some of these inflatable PFD’s are also equipped with personal EPIRB’s which would increase the wearer’s probability of survival considerably particularly given the favourable weather conditions at the time of this incident.

The 2013 Marine Incident Report produced by Maritime Safety Queensland observed that of the 13 fatalities that occurred during the reporting period, 10 persons were presumed drowned. Of the 10 persons none were wearing a PFD.

Two of these fatalities also involved commercially operated dinghies or dory’s where the lone operators were also not wearing PFD’s.”

In 2009 Maritime Safety Queensland released the results of the trial that was conducted from 2006 to 2008 where various types of PFD were provided to commercial fishermen to evaluate the suitability for wearing a PFD at all times while working at sea.

The 2009 report noted in the executive summary:

"The safety equipment trial conducted by Maritime Safety Queensland exposed commercial fishers to a new range of lifesaving equipment, personal safety devices, and recent technological advances in these areas. The trial dispelled initial concerns by commercial fishers that wearing lifejackets, in the workplace at sea, would increase the risk of injury to crew through entrapment in machinery, trawl or fishing gear. The diversity of new technology improves the wearability and comfort of lifejackets when worn in the workplace in most climatic conditions."

The trial included the carriage in a separate pocket of a PFD, a Personal Locating Beacon.

Later, the 2009 report noted:

"Looking forward, the preferred approach is to ensure commercial fishing ship owners and operators conduct an informed risk assessment to identify high risk situations at sea when PFDs will be worn. It is the responsibility of ship owners and operators to ensure the risk assessment and management strategy is recorded and documented as a safety procedure within the ship's safety management system and subsequently implemented by their ships."

Rather than mandating the wearing of PFD's, the regulator opted for educating owners and operators about how to include the wearing of PFD's in the on-board safety management system. I have seen how effective that strategy was in this instance, wholly ineffective. It is 2016 and little progress was made with an obvious implementation of this control measure.

The 2013 report of Kevin Schindler recommended revisiting the issue and he referred to Tasmania as an example of where mandatory wearing of PFD's was implemented.

I have already addressed the changes in the marine safety regulatory environment that is underway, transitioning to the National Law with AMSA as regulator. However, that does not affect the need for a rethink on this topic. Mandatory wearing of seat belts was implemented across all states in 1972. Why the hesitation to mandate when education has failed? There is no doubt that a nuanced approach may be required because of different operational requirements. The sophistication of legislation and regulatory approaches are surely able to accommodate the need for any exceptions where alternative safety cases can be established.

Safety Management Systems

To recap and summarise the present position about the effectiveness of SMS implementation on board Norlaus and the sector generally:

- A high proportion of SMS's did not have a central risk register and many key risks were not identified and managed;
- Many owners did not have the skills or experience to assess and manage risk in a systemic way;
- Many owners did not understand the benefits or fundamentals of developing and implementing a SMS for their operation;
- Agencies like the Water Police did not have the knowledge to review SMS's on-board vessels for effectiveness. I query the capability in 2013 of MSQ to do so.

- The practices on board Norlaus did not fully address the key risks associated with retrieval of an anchor stuck in the reef;
- The documented SMS on board Norlaus did not address key risks associated with the operation, including the risk of a person falling overboard from a dory, a dory breaking down, a dory capsizing while recovering an anchor, a medical emergency on the dory and water ingress leading to instability; and
- Mr Tappenden impressed as an experienced and safety aware Master but lacked knowledge and skill to initiate the development of a SMS.

However, SMS's, like that on Norlaus, demonstrate that there is a very serious and large gap between regulators' expectations and what many owners and operators are capable of achieving. The nature and extent of that gap has not been measured.

I acknowledge AMSA is aware of the issue and is working diligently with owners and operators to close the gap. However, the absence of reliable information about the nature and extent of the gap must make strategic planning to close the gap very difficult.

In my view, AMSA needs to undertake a benchmarking exercise. Presumably, AMSA has clear criteria for an effective SMS against which it can audit owners and operators. If a sample size of a marine sector (dory fishing operations) is selected and audited, strengths and weaknesses can be assessed; and an overall level of performance can be determined. This will fix a base line from which future efforts to improve safety can be based. AMSA can then plan over what period and with what resources it will achieve a specified target level of overall safety performance within that sector. I don't doubt that planning was involved in past efforts to improve safety. However, without standards and measurements, regulatory progress in safety performance is unable to be externally monitored.

Vessel Standards

At the inception of the national system, AMSA was presented with a serious safety dilemma. It was understandable that state and territory governments wanted to soften the financial impact for commercial vessel operators of compliance with new vessel standards relevant to existing operations. It was thought that owners and masters might more readily adjust to and meet operational safety outcomes through safety management standards. However, continuation of the current regulatory approach of no vessel standards for dories due to grandfathering is fraught with unacceptable safety risk.

While I understand the policy reasons underpinning the grandfathering approach, its application to these dories was done without a full understanding or assessment of the actual implications for safety of dory operators. I suspect it may have been done on the understanding that grandfathered vessel standards were adequate, not absent altogether. This case demonstrates the risks to dory operators. Those risks are not able to be substantially mitigated through safe working procedures developed in the context of an effective SMS. To the contrary, effective safe working procedures starts with seaworthy vessels. I suggest owners and operators be provided with a short period to make transition arrangements to the new proposed standard. It is a matter for AMSA about how to achieve this end, whether the new standard applies to existing dories or a sunset clause is attached to the original grandfathering provision.

Findings

Section 45 of the Coroners Act 2003 specifies the findings I am required to make. Accordingly, I find:

Identity of Deceased: Glenn Wilson

Where he died: Bowden Reef, offshore from Townsville

When he died: 26 July 2013

Cause of death: Drowning

How he died:

Mr Wilson had stopped trout fishing from his dory and was attempting to retrieve the anchor which was stuck in the reef. He used the power of the outboard and a shortened anchor line to try to dislodge the anchor but in the process, the dory capsized. Mr Wilson fell into the sea, wearing wet weather gear and his legs became ensnared in his fishing line. He drowned.

Comments / Recommendations

Section 3 of the Coroners Act 2003 provides that one of the objects of the Act is to help to prevent deaths from similar causes happening in the future by allowing coroners at inquests to comment on matters connected with deaths, including matters related to public health or safety. This object is followed up in section 46 which provides a coroner may, whenever appropriate, comment on anything connected with a death investigated at an inquest that relates to public health or safety; or ways to prevent deaths from happening in similar circumstances in the future.

I have carefully considered the regulatory framework in which this tragic death occurred and commented on where I see opportunities for improvement.

I recommend:

1. Australian Marine Safety Authority (AMSA) formally review the need to mandate the wearing of Personal Floatation Devices, particularly in operations of this nature where dory operators are working alone in offshore conditions (a copy of the review to be provided to Coroners Court of Qld).
2. AMSA consider using the circumstances of this tragic incident in Safety Management System workshops with this industry to develop safe working procedures through the application of the risk management process. The developed procedures to be shared with other operators and owners as examples of what might be appropriate for implementation within their operation.
3. AMSA continue with the development and implementation of the new restricted Class C fishing vessel standard to cover fishing operations like live coral trout fishing from dories;
4. AMSA require vessels formerly grandfathered to standards applicable at the start of the National Law and to which this new standard would otherwise apply, to comply at the end of a transition period no greater than 2 years;
5. AMSA establish a standard for an effective safety management system, audit a sufficient sample of the fishing sector to establish a base level for the number of compliant operations, establish a realistic target for improvement to be achieved by a specified date, the means by

which it is to be achieved, periodic reviews to assess progress and a final review on the due date.

While I commend AMSA for identifying and taking remedial action to address the challenges confronting commercial fishing owners and operators in developing and implementing effective SMS's, I fear that without the appropriate 'metrics' and planning - the required regulatory momentum might be lost. At an operational level, there is a serious need for a standard of SMS against which safety performance of particular operations can be objectively measured and reported. At a regulatory level, AMSA should be able to analyse and report on the overall performance of SMS's within particular sectors, to identify specific weaknesses and respond with remedial action.

Kevin Priestly
Northern Coroner
Cairns
24 May 2016