Crane jib crashes onto wharf

VIGILANCE REQUIRED WORKING NEAR CRANES

ACCIDENT reports

THE MORE INFORMATION WE GET, THE MORE WE CAN HELP!
Fouled anchor capsizes vessel
- Lucky escape for seven

Raft flip spinal injury
- Recirculated back into waterfall

Carbon monoxide poisoning
- Riverboat winter cruise

Stressed mooring cleat fails
- Deckhand receives facial fractures
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LOOKOUT!

Welcome to the final issue of Maritime New Zealand’s safety-focussed quarterly Lookout! for 2007.

Safety will always be a key focus for Maritime New Zealand. Looking back over the year, it is pleasing to see that significant safety improvements have continued to be made by various sectors of the maritime community, most notably with recreational boating.

The challenge is to continue to minimise fatalities, injuries and accidents across the whole maritime sector.

To help make that happen a two-way flow of communications is essential between agencies and industry and with this in mind, do check out the page 17 article on the benefits of accident reports.

The point about accident reports is that the information provides an invaluable research base and enables some really positive initiatives to be developed for the maritime industry. The message in brief: “the more information MNZ gets, the more we can help”.

In addition, I encourage you to complete and return the freepost feedback form. Some of you will remember that the quarterly Lookout! replaced the annual Commercial Accidents Book in April 2006. Anecdotally we get some very positive feedback, but we need to know how we can do even better. For example, in this online age would you prefer an e-newsletter rather than a print publication?

Do pass on this issue to your colleagues and crew or contact any one of our offices if you’d like more copies. The full accident reports are available on our website: www.maritimenz.govt.nz or by calling our toll free line 0508 22 55 22.

Catherine Taylor
Director of Maritime New Zealand
The right attitude means being “on the job”

Over the years, I have discussed with literally hundreds of future licence holders the importance of positional awareness, situational awareness and, most importantly, entering a wheelhouse with the right attitude.

There has been many a time that I have been accused, especially by theascalier of my fellow men, of having a Teutonic attitude toward the disciplines required by a watchkeeper (no surprise considering the Lutheran background and Prussian ancestry).

Nevertheless, it is incomprehensible to me that there are still individuals doing a watch in a wheelhouse who have absolutely no notion of what it is that they should be doing.

Let me give you an example.

**The Great Barrier Reef** – 2 November 2000

At 0554 AEST the Malaysian container vessel *Bunga Teratai Satu* dropped off the pilot at Yorkeys Knob near Cairns, at the southern end of the compulsory pilotage area.

At 0600 full speed was requested and the vessel subsequently resumed her passage to Sydney.

At 0630 the master handed over the conduct of the vessel to the mate and left the bridge. At around 0640 the duty able seaman (AB) started to clean the bridge.

The mate went out to the starboard bridge wing and made a call on his cellphone.

At about 0655 the mate returned to the wheelhouse and used the internal phone asking his wife to come up to the bridge. She came up to the bridge a few minutes later and the two of them went back to the starboard wing. They then made another phone call to his mother-in-law’s house in Karachi.

The mate had developed the practice of asking the AB, when in open waters, to read a position off the GPS and to plot this on the chart.

On this occasion the AB had finished cleaning and at 0700 plotted the GPS position on the chart of his own accord.

The AB expected the mate to come into the wheelhouse to alter course, but he did not enter until about 0715 whereupon he and his wife went to the sink in the corner where they made coffee.

He then went to the chart, questioned the veracity of the 0700 GPS position and told the AB that his position was incorrect.

Shortly after that he told the AB to change to hand steering and then asked him what the heading was – to which the AB replied “120º”.

The mate now ordered to steer a course of 180º but the AB could see a sand cay on the starboard bow and, instead of altering course, asked if the mate really wanted to steer 180º but the AB could see a sand cay on the starboard bow and, instead of altering course, asked if the AB expected the mate to come into the wheelhouse to alter course, but he did not enter until about 0715 whereupon he and his wife went to the sink in the corner where they made coffee.

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The chief then replied by saying: “turn 180º to port.”

This was quite confusing to the AB and as a consequence he did nothing.

A few seconds later a shuddering was felt and the *Bunga Teratai Satu* charged with a speed of more than 20 knots up the northern end of Sudbury Reef.

When the master came up, he found the mate’s wife sitting on the sofa, the AB standing near the wheel, rigid as a pillar of salt, while the mate stood near the compass saying “I am altering course to 180º” while the ship’s telegraph was on full speed ahead. The ship was aground on Sudbury Reef on a heading of 120º with a list of 7º sliding onto the reef by more than 100 m.

On board there was 1,200 tonnes of heavy fuel and 94 tonnes of diesel, containers of dangerous goods totalling 126 tonnes including flammable liquids, toxic substances, corrosive material and other goods like polystyrene beads, alcohol, perfume, food flavouring and pesticides. The vessel was eventually re-floated on 14 November 2000.

**The problem – lack of awareness, attitude and attention**

The court noted that the mate had 20 years’ experience. It was obviously not enough!

There was a complete lack of positional awareness, the mate had no idea where he was in relation to the surroundings reefs, he even questioned the GPS position.

In addition, there was a complete lack of situational awareness, the mate did not appreciate the need for a continuous conduct of the vessel in confined waters.

And what about the attitude of this person?

Discussing the kids with the mother-in-law in Karachi while the vessel needs continuous attention?

Making cups of coffee for the wife while the vessel is charging toward a visible reef?

Something fundamental was missing here and, sadly, this was not an isolated case.

In short, don’t mess with your mother-in-law from Karachi while you’re supposed to be on the job!

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**Lookout! Guest editorial**

**Joost Besier,** Programme Leader, Nelson School of Maritime Studies

Master Foreign Going (The Netherlands, Australia), BSc, 27 years at sea, 12 years’ command.

Joost has experience on container and cargo vessels and bulk carriers, in the offshore oil industry and in salvage and towing. He has been with the school for 14 years, teaches statutory certificates at all levels and specialist courses; and he is a gazetted examiner.
A container ship’s crane failed suddenly, despite appearing in good condition. Five people were in the vicinity when it failed and it was only by luck that no one was hurt.

The vessel was moored port side to the berth. Throughout the evening and early hours of the morning, the stevedores and crew worked to prepare the holds, and load packets of timber in sling loads.

At about 3 am, the No.2 crane had just placed a load into one of the holds. The cargo block, hook and chain slings were then hoisted clear and the crane jib was slewed toward the wharf. The jib was luffed out over the top of the next load and was just being lowered, so the next load could be hooked on, when the jib suddenly crashed onto the wharf. As it fell, one of the wire ropes in the crane rigging struck the crane driver’s cab, smashing the window.

The crane driver ducked and covered his face to protect himself from broken glass. At the time, two stevedores were on the wharf near the load that was about to be lifted, two stevedores were in the hold, and the second officer and an able seaman were standing on deck near the hold. It was very fortunate that no one was injured.

Cargo work was stopped and that part of the wharf was cordoned off until the jib could be detached from the crane. Later in the day two mobile cranes were used to support each end of the jib while an engineer suspended from a third mobile crane cut the hoist wires. The jib was taken away for repair and replacement.

It was immediately obvious that the crane topping lift wire rope had parted. However, the crane was not lifting any load when the wire rope failed, undamaged parts of the rope were in good condition, the rope was the correct type as specified by the manufacturer and the prescribed maintenance and inspections had been carried out.

Microscopic inspection of the wire rope showed it had failed due to severe abrasive wear predominantly of the crown wires of the outer strands. There was also considerable wear in wires below the surface in the outer strands and on inner core strand wires.

The cause of the wear could not be determined, but was unlikely to be fatigue or a fault in the rope wire.

View the full report online at: www.maritimenz.govt.nz
The vessel had been anchored in about 15 m of water off the coast of an inshore island to allow the passengers to fish. After about 20 minutes, the skipper decided to weigh anchor because a moderate wind was causing an uncomfortable sea state.

He started the engines and engaged forward propulsion with the vessel’s head to the seas. As the vessel moved forward at idle speed, he operated the electric windlass using a switch at the helm position.

The vessel continued to move forward until it was directly over the anchor with a tight warp holding the bow in position. Realising that the anchor must have fouled on the seabed, the skipper tried unsuccessfully to free it by raising and lowering the anchor warp with the windlass.

Putting a passenger in control of the electric switch, he went to the vessel’s bow and attempted to and pull on the anchor warp by hand. Before leaving the helm he noticed a small amount of sea water on the deck, and switched on one of his bilge pumps.

The skipper continued to try to free the anchor from the bow, while instructing the passenger to operate the electric switch to raise and lower the anchor warp.

The engines were still set to forward idle propulsion, which caused the vessel to slew 180° against the tight warp. The vessel’s stern was now exposed to the prevailing seas and water started flooding through the lower sections of the vessel’s transom.

A passenger shouted out a warning that the deck was flooding. It took three warnings before the skipper went aft to check. Just as he did so, the vessel rolled to port and capsized with the hull fully inverted.

One of the passengers dived under the vessel and retrieved seven lifejackets. The skipper tried unsuccessfully to recover an emergency bag containing a waterproof VHF radio.

The skipper and passengers managed to swim together to a reef about 200 m away and were able to shelter behind a small island.

At low tide, hours later, they were able to wade out to the vessel, which had drifted inshore, and gather food and drinking water. The group then scrambled across shallows and rocks for about 400 m to reach shore and raise the alarm.

1. Tight anchor warps caused by fouled anchors are a common cause of capsize of smaller vessels and have resulted in fatalities. Those on this vessel were lucky that they were close to shore. The skipper should have buoyed off his fouled anchor and recovered it in calmer conditions, rather than endangering the safety of his vessel and passengers. Any vessel that intends anchoring in foul ground should use a grapnel anchor. This should be of sufficiently light construction that the flukes will bend and clear foul ground when moderate pressure is applied to the warp. Alternatively, a tripping line would have enabled the anchor to be weighed without fouling.

2. The vessel was carrying some hefty passengers, some of whom were positioned at the stern, which reduced the vessel’s freeboard. When combined with the vessel’s low transom design, flooding was highly likely once the vessel’s stern had slewed into the running seas. The skipper should have prioritised keeping the vessel’s bow pointing to the waves over attempting to salvage the anchor.

3. The vessel’s transom had been lowered on both sides of the stern to allow ease of access to and from the sea for divers. This design should not have been surveyed as suitable for a commercial charter vessel without doors or drop-in washboards to prevent water ingress.

4. The only water-proof communications equipment was stored in the vessel, rather than on the skipper’s body. There is seldom time to retrieve equipment during capsize. At the very least, a cellphone in a sealed plastic bag should be kept on the person.
Carbon monoxide poisoning

Carbon monoxide leaked into the main deck of an old-style riverboat affecting two passengers and a crew member.

It was the first night cruise of the winter season, and the vessel was completely closed to keep out the chill. The passengers were in the main dining room, above the main deck.

Earlier in the evening, the starboard outboard engine had shut down. Opening the engine hatch, a crewmember had found that the air duct feeding fresh air to the engine had vibrated off. He had reattached it, and the engine had continued to run without further incident.

Soon after, a crewmember who had been working in the galley on the main deck of the vessel started to feel unwell and complained of a headache. She moved to the front of the main deck to try and recover.

The cruise continued, but when the crewmember developed nausea and her headache worsened, the skipper phoned ahead for a replacement. By now the vessel had reached the turnaround point, and was en route back to the berth. The unwell crewmember was dropped off on shore and a replacement came on board.

No sooner was the vessel underway when a passenger fainted on the main deck, near the toilet.

The vessel was nearing the berth, and the skipper needed to turn and reverse up the river to the berth. During this slow speed manoeuvre a second passenger fainted while at the bar on the main deck.

The vessel berthed and all of the passengers were taken to hospital for observation and oxygen. They were all later discharged with no ongoing complaints.

1. Both outboard engines were mounted on a false transom and were completely enclosed on all sides. The aft wall had a pipe passing through it for passive venting. Both engines had external fresh air ducting, but no means of forced extraction of the exhaust gases. Because the river levels were low, the skipper had done a lot of careful manoeuvring, moving more slowly than the river current. During these times, the carbon monoxide levels had dramatically increased in the aft main deck, galley and toilet. Subsequent testing with a calibrated gas detector showed the two outboard engines were feeding exhaust gases into the main deck at low speeds. This was compounded by the fact that all of the windows were closed against the cold night air.

2. Since this incident, powered extraction fans have been installed in each of the engine housings, and fresh air ducts have been installed to vent the aft deck. There is a gas detector installed in the galley and bar area. The under seat hatches to the fuel tank storage area have also been sealed.

3. Surveyors, skippers and owners should ensure that exhaust gases can escape to the outside atmosphere, and not into any passenger spaces.

View the full report online at: www.maritimenz.govt.nz

NO SOONER WAS THE VESSEL UNDERWAY WHEN A PASSENGER FAINTED...
Knowing more about how and why accidents happen means more can be done to prevent them. Call our 24hr accident line to report all accidents 0508 222 433

A geared bulk carrier crashed into wharf pilings during a failed berthing manoeuvre. The impact caused significant damage to three concrete wharf pilings and dented the vessel’s bulbous bow.

The accident happened as the vessel was manoeuvring within the harbour turning basin to berth alongside.

A passage plan for entering the port was agreed between the pilot and the master. This included swinging the vessel’s bow to port once inside the harbour, before berthing starboard side to. There was a westerly wind of 10 knots blowing onto the berth.

Two harbour tugs were made fast, one on the port quarter and the other on the port bow. The vessel’s bow thruster was running and fully operational. The pilot ordered the forward tug to tow full off the port bow.

Soon after, the master of the forward tug alerted the pilot that the vessel was closing rapidly on the wharf. The vessel’s engine was put full astern, but within what seemed like a few seconds the bulbous bow had struck the wharf pilings. The vessel was then made fast without further incident.

The accident was caused by a miscalculation in the piloting of a relatively heavily laden vessel.

1. An investigation by the port company found the accident was caused by a miscalculation in the piloting of a relatively heavily laden vessel. Because of its deeper draft, the vessel was less manoeuvrable and closed on the berth at a speed that could not be reduced in time. The port company stated that pilots should take all way off a vessel, particularly when heavily laden, before commencing to swing in the harbour’s turning basin.

2. Because of the four large gantry cranes on the vessel’s foredeck, forward visibility from the bridge of the vessel was limited. As the vessel approached, very little information about the closing distance between the bow and the berth was reported to the pilot and bridge team, either by the ship’s crew on the forecastle, or by the master of the forward tug. Pilots should always request detailed distance reporting from berths, especially on vessels where forward visibility is limited, or which have a bulbous bow. The shore mooring crew were late arriving at the berth and accordingly were unable to give any warning.

3. The master of the vessel claims to have seen a swell wave enter the harbour just before the vessel struck the wharf pilings and believes it may have been a contributing factor. The passage plan between the master and the pilot should have highlighted the possibility of the vessel encountering swell waves, and their possible effect on clearing margins.

View the full report online at: www.maritimenz.govt.nz

Heavily laden and uncontrollable
A 60,000-tonnes car carrier came within about 20 m of a fishing trawler in force 7 seas and 3 m swells.

The trawler was punching into the head seas, making about 3 knots. It was daylight. The trawler, which was engaged in fishing, was displaying the correct lights and signs.

The skipper was keeping watch while the two crewmembers slept below.

The trawler’s radar was set to the 12-mile range scale. The skipper first noticed an echo from the approaching car carrier when it was about 5 miles out and bearing almost directly astern. The skipper could see the carrier was overtaking and went below to check the engines and call the two crewmembers to haul in the net. By the time he had returned to the wheelhouse, the carrier had closed to about 2 to 3 miles astern.

The skipper had had this experience before, and was not unduly concerned. He answered his cellphone and spoke for several minutes. The next time the skipper turned around, he saw the carrier only 200-300 m away and closing fast. He decided it would be safest to hold his speed and course and grabbed the VHF radio as the carrier passed down the trawler’s starboard side within about 20 m.

The third officer of the car carrier had been keeping lookout on the bridge by himself. He had set the carrier’s radar with the anti sea-clutter control to the optimum setting to help him differentiate echoes from waves and from ships. He did not pick up the echo of the trawler at all.

The third officer first saw it visually when the carrier was closing at about 300 m. He immediately ran to the steering position and switched over from automatic to manual steering. He initially applied a little port helm before putting the wheel hard to starboard to reduce the risk of the carrier’s stern colliding with the trawler.

Once the carrier had cleared the trawler, the third officer returned it to its normal course and apologised to the skipper of the trawler via VHF radio.

1. As the overtaking vessel, the car carrier was required to keep out of the way of the trawler until it was finally past and clear (Maritime Rules Part 22.13). There was also a failure to comply with the following Rules:
   - it was required to keep out of the way of a vessel engaged in fishing (Part 22.16)
   - it was required to take early and substantial action to keep well clear (Part 22.16)
   - when taking action to avoid a collision, it was required to ensure this was positive, made in ample time and with due regard to the observance of good seamanship (Part 22.8).

2. Despite the weather, the third officer should have sighted the trawler earlier. The trawler’s hull was bright orange, making it easier to spot. The third officer should have been scanning ahead with binoculars. If the anti sea-clutter was set to the optimum setting, and a proper lookout maintained, as required by Part 22.5, the echo of the carrier should have been observed earlier.

3. The carrier’s automatic radar plotting aid, with a 5-mile guard zone, was not set to automatic mode target acquisition. The third officer had found that when the sea was rough, it tended to acquire echoes from sea clutter as well as legitimate targets.

4. As the stand on vessel, the trawler was required to hold its course and speed, but was able to take action to avoid collision as soon as it became apparent that the carrier was not (Part 22.17). The skipper had become complacent about larger vessels passing close to him, assuming they were keeping a proper lookout and would keep clear. He should have kept a closer watch on the approaching carrier and sounded warning signals as soon as he considered that insufficient action was being taken to keep clear.

5. As no other vessels were in the near vicinity, contact by VHF would have alerted the carrier to the trawler’s presence in good time.
Two qualified skippers allowed their vessels to come within 10 to 20 m of each other in clear weather and in an open sea. The close quarters situation evolved out of a series of assumptions.

The first vessel was on day two of a fishing cruise with eight passengers. The vessel was on manual steering, making about 8 knots. The skipper was steering visually, and using the GPS to maintain a straight course. The deckhand was also in the wheelhouse, busy making coffee, and the passengers were on the after deck filleting fish.

Looking out of his starboard window, the skipper suddenly saw the bow of the second fishing vessel appear only about 10 m away. He immediately put the helm to port. The second vessel quickly passed by, then cut across the bow of the first vessel to resume its course. The passengers on the first vessel said they saw the second vessel approach from astern, pass close by and then cut across the bows.

The skipper of the second vessel claims things happened differently. He says he was travelling at 16 knots when he saw the first vessel about 4 miles away. He says it appeared the two vessels were crossing and as the first vessel was on his port side, it was required to give way. So he maintained course and speed.

When the vessels were about 500 m apart, the skipper says he sounded his vessel’s horn. He thought the first vessel would turn clear to port at any time. When he realised it was holding course, the skipper of the second vessel turned hard to starboard, cleared the first vessel and then resumed his course. He estimated the two vessels came within about 20 m of each other.

**Assumptions cause close quarters**

1. Given the directions the two vessels were headed, it is likely the second vessel did approach the first vessel from astern, and, as the overtaking vessel, was required to keep clear until it was finally past and clear of the first vessel. However, there was certainly a misunderstanding about this. Thinking a crossing situation was developing, the skipper of the second vessel assumed the other skipper would turn clear.

2. The skipper of the first vessel did not see the other vessel approaching at all. Keeping a proper lookout includes frequently checking the after sectors of a vessel.

Despite having plenty of forewarning, the skipper of the second vessel eventually needed to turn hard to starboard to avoid a collision. A simple VHF radio call would have easily resolved any doubt. He could also have slowed down, altered his own course earlier or sounded more warning blasts.
An expert kayaker from the United States died of traumatic injuries in a Grade 4 to 5 South Island river.

The kayaker suffered a severed spinal cord, broken spine, several fractured ribs and severe bruising to the face and forehead. It is thought he died instantly.

The kayaker and a Japanese companion were navigating the river together. The pair had been kayaking together for only a couple of weeks, but had paddled several South Island rivers.

On the day of the accident, the pair were attempting a river which, during periods of low flow, was characterised by few clean waterfalls, several messsy rock-choked rapids and several log jams.

Before the accident, the kayaker had already experienced one such danger. While standing on a bank scouting a rapid ahead, his kayak had slid off the bank and into the river. He had leaped into the water and swum after it, straight over the rapid. Emerging from the waterfall below, he told his companion he had been briefly trapped by the force of the water, but had managed to break free.

The pair continued on, scouting rapids ahead either from the river, or from the river's banks. As they approached the rapid where the accident occurred, they carried out a boat-based scout. They could see two possible lines through the rapid, one to the left of a pair of large rocks, and the other to the right. They did not see the tree hazard from their position above the rapid.

The kayaker's companion set off, taking the right-hand line. As he paddled down the rapid, he realised there was a tree creating a serious strainer hazard. Reaching a calm eddy at the bottom of the rapid, he signalled up to the kayaker to proceed, but did not signal that there was a strainer hazard in the rapid.

The kayaker paddled into the rapid. As his companion watched, his kayak appeared to bounce off a rock and move quickly into the left of the river towards the line containing the strainer hazard. Soon after, he disappeared from view.

When he did not reappear at the bottom of the rapid, his companion began a search. After 30 minutes of searching and seeing no sign of the kayaker, his companion continued down the river alone to get help. However, this proved an extremely slow and difficult process. It was hours before he encountered some fishermen who walked out to raise the alarm. That evening police and rescuers flew to the site by helicopter but were unable to locate the kayaker.

A further rescue party the next day also failed to locate the kayaker.

Three days later a white water rescue team and police diver found the kayaker's body, still in his kayak. Using chainsaws and hoist ropes, they were able to shift the tree strainer slightly and the kayak popped clear from its bow up position in the rapid.

1. Communication between the pair was significantly hampered by their language barrier. Kayakers must ensure a clear communication system is understood by all paddlers in the team.

2. The companion did not signal the presence of the tree strainer hazard in the rapid. When a hazard is noticed, this must be communicated as soon as possible to every member of the team.

3. On harder rivers, having only two paddlers in a team provides very limited rescue capabilities. Having one person paddling by themselves to raise the alarm on remote-access and difficult rivers only compromises them too.

4. Thorough trip planning includes ensuring there is a responsible person who is aware of the trip, the number of the party and an estimated time of return.

5. A 406MHz distress beacon can prove a valuable aid for kayakers. While gorge-like terrain will affect the signal, it can often be taken to a more open space, and can provide a very accurate location in an emergency.
Raft flip spinal injury

A 4.3 metre raft guided by two very experienced senior guides flipped toward the platter rock on the river left side at the base of Tutea Falls on the Kaituna River. There were six passengers on board.

While the guides were securing the raft the passengers floated free and were picked up by the other raft, which was waiting in the pool.

However, one of the passengers was recirculated back into the falls to the river right side.

Nine seconds after the flip the passenger was visible under water on the river right side on the edge of the boil at the base of the falls. Another 3 seconds later the passenger surfaced, with his head visible and his arm was held up over his head. He was then drawn back into the falls by the backwash and held underwater for further 11 seconds.

When the passenger surfaced for the second time he was curled up in the tuck position clasping his hands over his head. He held this position on the surface for 2 seconds before releasing himself and swimming toward the waiting rafts.

The raft picked up the passenger in the waterfall pool and immediately conducted a first aid assessment on him. He had a cut under his chin and complained of a sore back.

The guides conducted a secondary assessment on the passenger’s back and concluded that although it was sore, there was no evidence of any numbness, tingling or immobility.

The injured passenger felt he was OK to walk out. He was walked out, along the river left bench track, to the take out by the junior guide on the trip.

At the rafting base the owner reassessed the injured passenger’s condition. It was concluded that the cut may require stitches and that the sore back should be professionally assessed.

The passenger received three stitches to his chin and was diagnosed as having damaged two lumbar vertebrae. The assessment concluded that he would experience some pain and discomfort for 2 weeks but there would be no long-term affects.

The passenger is now back at school and healing well.

1. Guides must ensure that the required paddling and safety skills are reinforced before all significant rapids. Particular emphasis needs to be placed on the quality of the hold/get down skills for waterfalls and steeper drops.

2. The positioning of passenger paddles and the quality of their performance when carrying out commands must be thoroughly analysed by guides before the raft enters the rapids. On these falls there is a risk of the paddles hitting the right wall if the raft is too far right or if the paddle is held with a protruding angle. This type of injury can be reduced with thorough training, and ongoing observation and perception of risk.

3. Guides must always be observant of their own crews and the crews of the other rafts. If a guide sees a passenger from another guide’s raft not performing a required task properly, this should be brought to the attention of the guide in question.

4. Without compromising the overall safe navigation of the raft, if a passenger has just experienced a substantial swim that may have resulted in rock collision, guides should do an assessment for spinal injury considerations before hauling the person back into the raft. If spinal injury is suspected, guides should use recovery techniques consistent with their first aid training in the removal of spinal passengers from the water.

5. The trip leader must ensure that appropriate levels of first aid treatment, monitoring of condition and accompaniment during evacuation is performed by the most appropriate staff member. Access to a backboard should be available in the event of a spinal injury to ensure that the injury is not aggravated as the person is removed from the water.
Stressed mooring cleat fails

Two of his teeth were knocked out and several others were chipped. He suffered damage to one eye.

The deckhand was just made fast to the wharf, a 20 m passenger vessel to a small wharf on a coastal island. It is not known for certain whether he was hit by the recoiling spring line, or by the cleat itself.

The skipper had planned to disembark the vessel's five passengers, and then return immediately to the mainland. As it was to be a quick manoeuvre, he decided to approach port side to the wharf, even though this put the prevailing wind behind the vessel.

The skipper planned to hold the vessel alongside by motoring ahead on a spring line until the wheelhouse door was lined up with the wharf steps, enabling the passengers to disembark.

The deckhand donned a lifejacket and stood outside the port wheelhouse door ready to lasso the wharf mooring cleat as soon as the vessel was close enough. As the vessel approached, the wind blew it off the face of the wharf, causing the deckhand to miss the cleat.

The skipper repositioned the vessel and this time the deckhand landed the eye of the spring line around the wharf mooring cleat and secured it to a cleat on the vessel. The skipper put the helm to starboard, the port engine ahead and the starboard engine astern, to maintain tension on the spring line, which was about 3.5 m long.

However, the vessel's stern was overhanging the end of the wharf and the wind caught the port quarter of the vessel, pushing the stern off the berth. As the stern swung off, the windage area of the vessel increased putting considerable tension on the spring line.

The skipper decided to abort the attempt to berth and order the deckhand to cast off the spring line. Before the deckhand could carry out this order, the shore mooring cleat suddenly failed. When this occurred, the skipper heard a loud bang and turned around to see the deckhand lying on the deck.

The skipper immediately headed for the mainland at full speed, while the passengers administered first aid. The deckhand was met ashore by an ambulance. He suffered multiple fractures to the nose, eye socket and sinus, which required surgery, once the considerable facial swelling had gone down.

1. The bolts securing the mooring cleat, which was located below the deck of the wharf, had corroded. This may have been caused by reactions of two dissimilar metals in sea water during periods of high water – either between the cast iron of the cleat and the copper present in the treated timber to which the mooring cleat was affixed, or between the bolt and the cast iron. One of the two horns of the cleat was found to have sheared. The cleat was fitted to the wharf about 10 years ago.

2. The wharf, which is a wooden structure, had been recently checked by civil engineers contracted by Department of Conservation (DOC) and no signs of weakening had been found. DOC has since increased the emphasis on checking bollards and mooring cleats, and is considering the design of a new mooring point that will withstand the rigours of use and corrosion. The spring line was in good condition.

3. It would have been more prudent and good seamanship for the skipper to berth starboard side to the wharf, putting the prevailing wind ahead. Another option would have been to use a longer spring line, secured either to a larger bollard or around a wharf pile.

A deckhand’s facial bones were severely fractured by the force of a recoiling synthetic spring line when a shore mooring cleat failed.

View the full report online at: www.maritimenz.govt.nz
1. The skipper of the aluminium boat assumed that the other vessel had seen him and was probably coming over for a chat. However, when the fishing vessel did not reduce speed and overall direction, the skipper should have taken immediate action to keep clear.

2. The skipper mistakenly believed that because the boat was stationary in the water, the fishing vessel had the duty to keep clear. However, the boat was underway and not made fast to the shore, at anchor or aground. Further, it was not a vessel engaged in fishing as defined in Maritime Rules Part 22.2 – Definitions. As both vessels were power-driven, meeting on reciprocal or nearly reciprocal courses so as to involve risk of collision, they were each required to alter course to starboard so as to pass on the port side of the other (Maritime Rules Part 22.14 – Head-on Situation).

Three people on board an aluminium pleasure boat were lucky to escape with their lives during a head-on collision with a commercial fishing vessel.

The skipper of the alloy boat had taken the vessel to a shoal patch about 1 mile off the coast so his two passengers could do some line fishing. He remained at the helm, occasionally running the outboard motor astern to keep the vessel in position. It was overcast with about 4 to 5 miles visibility in drizzle and light showers. There was a 1 to 2 m swell with about half a metre of chop on top.

The skipper first saw the fishing vessel when it was about 500 m away and heading towards his boat.

One of the passengers expressed concern about the approaching vessel, but the skipper said it must have seen them, and was probably just coming over for a chat. He kept an eye on it though, and when it was about 100 m away, noticed that it appeared to veer away to starboard as though it had seen them and would keep clear. However, it then veered back to port, heading directly towards them again.

When it was about 30 m away, the skipper could see that the person on
watch was looking down at something. Realising they could not have seen them, the skipper screamed out and banged the throttle full astern.

As the two vessels collided, the bow of the fishing vessel struck the port bow of the pleasure boat. The bow caught on a corner of the square capping on the boat, turning it broadside onto the fishing vessel.

Without reducing speed, the forefoot of the fishing vessel rode over the port and starboard pontoons of the boat, pinning the skipper and one of the passengers to the bottom of the boat. The other passenger had jumped clear just before the collision.

As the pleasure boat started to fill with water, the fishing vessel finally reduced speed and as it was put astern, the boat bobbed up clear of the bow.

After the skipper and two passengers were rescued, the boat was taken in tow back to port.

Before the impact, the skipper of the fishing vessel had been sitting on the helm chair on the starboard side of the wheelhouse with his feet on the forward dash. The vessel was in automatic steering. The crewmember was lying down on a settee on the other side. The vessel had been heading to a fishing spot at about 8 knots.

The two clear view screens were both running, as spray was being shipped over the bow. The skipper stated that the daylight viewing radar was in operation and that the screen was visible from where he was sitting.

The skipper never saw the pleasure boat, either visually or on radar, and when the impact occurred, his first thought was that they had struck a log. It was only after he had reduced speed and gone astern that he realised what had happened.

3. The skipper of the fishing vessel said his radar was in operation and had been picking up the echoes of other small recreational craft earlier that day. He said he did not see an echo from the pleasure boat. However, the skipper of the boat noted when he was rescued by the fishing vessel that the radar was not operating. Maritime Rules (Part 22.5 – Lookout) require every vessel to at all times maintain a proper lookout by sight and hearing as well as by all available means so as to make a full appraisal of the situation. This includes the use of radar, irrespective of the range of visibility and whether it is night or day.

4. The fishing vessel’s skipper was attempting to keep lookout from the helm chair with his feet on the forward dash. This is a poor position for maintaining alertness. He also believed the weather conditions were such that no recreational craft would be out fishing.
A 15 m inshore wooden fishing vessel caught fire and sank at anchor in the dead of night. The skipper and his wife were asleep on board, and were fortunately able to abandon ship in time and swim to safety.

The vessel was later salvaged in several pieces. Due to the extensive damage, it was not possible to conclude what started the fire.

The vessel had been fishing inshore for 2 days. The skipper and his wife, who was also the ship’s deckhand, had decided to anchor in the lee of a secluded island on the first night because of high winds and choppy seas.

Halfway through setting the nets on the second day, the vessel’s autopilot had malfunctioned, causing the vessel to turn hard to starboard. On investigation, the skipper found that it had blown a fuse. He replaced the fuse and the autopilot resumed functioning normally.

That evening the wind again picked up, and the pair decided to anchor in the lee of a nearby island about 150 m from shore and in about 7 m of water.

Before retiring, the skipper carried out routine checks in the engine room and closed the sea cocks, as he usually did.

At about 1 am, the skipper woke with a sense that something was wrong. He climbed out of the forecastle via the only access ladder and up onto the deck. He could see dark smoke coming from under the wheelhouse doors at the after end of the vessel.

He quickly climbed back down to the forecastle to wake his wife and get dressed. Once back on deck he could see the paint on the port side wheelhouse door was blistering and the grab rail was extremely hot. He couldn’t see any flames, but decided it was too dangerous to try to open the wheelhouse door to get to the engine room. The anchor light and the wheelhouse lights were not working and there was steam coming off the wheelhouse roof.

Realising there was nothing he could do, the skipper rejoined his wife and the pair started donning some old lifejackets that were stowed in the forecastle. As they did so, one of the wheelhouse doors blew out in the heat and the pair jumped over the bow into the sea.

They reached shore after swimming for about 10 minutes, and were rescued by another passing vessel at about 6 am.

As they sat waiting for rescue, the pair watched their vessel burn and eventually sink.

**LOOKOUT! POINTS**

1. The sleeping quarters of this vessel were located in the forecastle, which could be accessed only by a ladder from the main deck. The vessel’s emergency position indicating radio beacon, VHF radio, best lifejackets and cellphones were all stored in the wheelhouse, which the crew could not enter. The two older lifejackets worn by the crew had neither whistles nor lights.

2. There were no smoke detectors anywhere on the vessel. None are required under current legislation. The three fire extinguishers were all in the wheelhouse. The deck hose would not operate unless the main engine was running. The vessel’s liferaft and a dinghy were both stowed on top of the wheelhouse roof. It is good seamanship to ensure some fire fighting equipment is available throughout the vessel and away from the wheelhouse and engine room. Separating the liferaft and dinghy may have meant one of them could have been deployed.

3. The vessel had four fuel tanks in the engine room with approximately 3,000 litres of diesel. There were no remote shut offs outside the engine room. This is not a legal requirement for this size of vessel.

**THE DAMAGE WAS SO EXTENSIVE, IT WAS NOT POSSIBLE TO CONCLUDE WHAT STARTED THE FIRE.**
Accident reporting

The more information we get, the more we can help!

Accident reports are used by Maritime New Zealand (MNZ) to understand accidents and prevent them happening again. It is about promoting a safety culture not a blame culture!

So how exactly are accident reports used? The data gathered is used in a range of work.

Identification of long-term trends

The information from the accident reports is combined with data on vessel populations and operating hours to track trends in accidents, incidents, serious harm and fatalities on a monthly and quarterly basis.

If it becomes obvious there is an increase in accidents on a particular type of vessel or in a particular location, MNZ will research the reports further to find the causes.

Rules amendments

Sometimes the information in accident reports is used to guide rule amendments, eg currently rules that apply to aquaculture vessels are being examined to establish if it is necessary to amend them. Accident reports from accidents on aquaculture vessels are being used in this process to identify areas of concern on these vessels and their crewmembers.

Hazard identification

Accident reports can be used to identify hazards that may result in safety information, eg a crewmember may be injured as the vessel is leaving port because the mooring lines are in a bad condition. The accident report will be used to identify why the accident happened, ie whether it was people or equipment. To help prevent it happening to someone else, a safety bulletin may be released.

A recent example is where an increase in reports of accidents with fatigue as a contributing factor led to MNZ developing fatigue management resources. For more information, check out the Fatigue management section (under Commercial) of the website: [www.maritimenz.govt.nz](http://www.maritimenz.govt.nz)

Research and analysis – the FishSAFE example

When FishSAFE first began accident reports were used to identify the causes and circumstances around fishing accidents, incidents, serious harm and fatalities. This background work enabled FishSAFE to identify areas of concern and then work on solutions.

Statistical analysis of fishing accidents is carried out on a regular basis for FishSAFE to see what is working, what is not and whether new types of accidents are occurring.

Accident reports in brief

- Information from accident reports enables some really positive things to be developed for the maritime industry, eg FishSAFE.
- Detailed information is vital when filling out an accident report because the more information MNZ gets, the more we can help!
- Masters and skippers have an obligation under the MTA and HSEA to report all accidents, incidents, or serious harm injury to MNZ, as soon as practicable.
- In the case of a serious harm injury, there is a further requirement for contractors and employers to report to MNZ under section 25 of the Health and Safety in Employment Act 1992 (HSEA).
- If you fail to report you can be fined up to $5,000 for individuals and $30,000 for companies. And failing to report serious injuries within 7 days may incur a fine up to $250,000.

You are legally obliged to report accidents

From a legal perspective, failing to report an accident is not smart.

Under section 31 of the Maritime Transport Act 1994 (MTA), masters and skippers have an obligation to report all accidents, incidents, or serious harm injury to MNZ, as soon as practicable.

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- Masters and skippers have an obligation under the MTA and HSEA to report all accidents, incidents, or serious harm injury to MNZ.
- For further information including your legal requirements, definitions and forms go to the MNZ website: [www.maritimenz.govt.nz](http://www.maritimenz.govt.nz)
- see the link on the home page to: **How to report a commercial or recreational incident** (this links to a range of accident report forms including commercial vessels and recreational boats)
- (or) click on **Commercial** then **Accidents & Investigations** (in the right sidebar).

How to report an accident, incident or serious harm injury

Step 1

As soon as practicable after the accident, incident or serious harm injury:

- phone the MNZ Rescue Coordination Centre (RCCNZ) to let them know what happened.
  - Freephone: 0508 222 433. (RCCNZ has staff working 24/7)
  - OR
  - contact the MNZ Maritime Operations Centre on VHF Channel 16 (they will immediately relay the information to RCCNZ for you).

Step 2

As soon as reasonably practicable following this phone call, download and print out the appropriate accident form.
Maritime New Zealand publishes safety bulletins as a means of communicating and encouraging dialogue on a variety of safety issues and the proposals relating to these. The bulletins are produced as and when required, and are directed to those sectors specifically involved.

**Latest issues**

**Crane controls & communications**

*September 2007 Issue 14*

A signalman was injured after lifting gear was lowered onto his back. As a result, this bulletin was issued to alert all involved in crane operations to the importance of:

- following safety procedures
- safeguarding communications during cargo loading and discharging
- reporting crane defects.

**Shore-based pre-slung cargo slings**

*September 2007 Issue 13*

Following release in June 2007 of Safety Bulletin Issue 12 on “Lifting slings, loose gear and dunnage”, industry noted that not all pre-slung cargo slings are owned or used exclusively by the involved ship and its shipping company. While Safety Bulletin 12 focuses on the equipment owned and used by the ship, the land-based lifting slings fall under the enforcement jurisdiction of the Department of Labour (DoL) and the land-based requirements for those items of equipment.

**Past issues**

**Lifting slings, loose gear and dunnage**

*June 2007 Issue 12*

- Cargo vessel cranes – Examination and renewal
  *June 2007 Issue 11*

- Liferafts and their release mechanisms
  *May 2007 Issue 10*

- Manpower and responsibilities during mooring operations
  *April 2007 Issue 9*

- Mooring line hazards: Bights and snap-backs
  *April 2007 Issue 8*

- Freeing port covers on fishing vessels
  *February 2007 Issue 7*

- Safe operation of Mitsubishi heavy industries hydraulic deck cranes
  *May 2006 Issue 6*

**Low sulphur diesel fuel**

*November 2005 Issue 5*

**Ammonia leakage on fishing vessels**

*October 2005 Issue 4*

**Bulletin for operators of road vehicles and floating barges**

*October 2005 Issue 3*

**Recommendations for ships carrying fumigated bulk cargoes**

*September 2005 Issue 2*

**Senhouse slips used in mooring systems**

*August 2005 Issue 1*

**For more information you can:**

- download the safety bulletins from the website: [www.maritimenz.govt.nz](http://www.maritimenz.govt.nz)
- email us at: publications@maritimenz.govt.nz

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**From 1 January to 31 October 2007**

**MARITIME FATALITIES 2007**

From 1 January to 31 October 2007, there were 13 fatalities – 3 in the commercial sector and 10 in the recreational sector.

**Feedback**

Your feedback and ideas on Lookout! are very welcome.

If you’d like a particular topic covered in our next issue, contact us by email: publications@maritimenz.govt.nz or phone 0508 22 55 22.