Crane tip-over threatens protected waters

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Fire engulfs fishing boat at sea

A commercial fishing trawler was destroyed by an engine room fire that spread so quickly the skipper and three crew had to abandon ship without making any attempt to fight it.

The fire broke out on the 18 metre vessel on the first day of a five-day fishing trip. The day before, the skipper had carried out routine maintenance, including replacing the fuel filter and loading 6,000 litres of diesel. A short trip was made to confirm the vessel was operating satisfactorily before departure. The vessel crossed the river bar the next morning and set out for its intended fishing site. While underway, the skipper made two routine checks of the engine and engine room, with nothing apparently amiss, and then prepared for the day’s fishing.

Late in the afternoon, as the crew prepared to haul the trawl net, the skipper went into the engine room to make another inspection and found it filled with a thick haze, which he thought was caused by exhaust leaking into the room. Seconds later, flames ignited on the manifold leading to the turbo and quickly spread up the exhaust funnel and along the bulkhead. It appeared to the skipper that the o-ring of the fuel filter had burst, spraying diesel onto the manifold and surrounding area (which was not lagged or shielded), and this fuel had ignited. Smoke and heat drove him from the engine room, but he managed to close the hatch as he exited. However, the engine room vents couldn’t be closed and the fire continued to take hold.

The skipper made two mayday calls and instructed the crew to retrieve the liferaft from above the wheelhouse and prepare to abandon ship. He then phoned to alert another fishing vessel nearby, before lashing a large fish bin to the liferaft to add buoyancy. The skipper estimated the flames spread to the wheelhouse within two minutes of him entering the engine room and discovering the fire. The lifejackets, stowed below, were inaccessible.

As the wheelhouse was engulfed by flames, the engine revved uncontrollably and then cut out. Fearing an explosion, the crew and master abandoned ship into the liferaft and fish bin. They were rescued soon afterwards by a nearby fishing vessel. The skipper and crew and those on board the rescue vessel watched as the fire engulfed the hull down to the water line and burned the bow away.

By engine vibrations if it hadn’t been cinched tightly when fitting. Regardless of what caused the leak, no allowance had been made in the vessel’s safety procedures for any potential failure of the o-ring, or for the fuel filter being incorrectly fitted or vibrating loose. Because of where it was located in the engine room, any leak from the fuel filter would inevitably spray fuel on or near the manifold and could ignite a fire.

The investigators concluded that opening the hatch to enter the engine room instantly introduced the oxygen required to ignite the diesel smouldering on the manifold. Although the open vents in the engine room hadn’t provided enough oxygen to spark the fire, they couldn’t be closed from outside and allowed the fire to keep drawing enough oxygen to stay alight.

The timber used in the construction of the engine room had seriously degraded over time and was also considered to have been easily combustible because of its condition, and probably contributed to the fire taking hold and spreading.

While the vessel fully complied with the relevant maritime rules, the investigation into the incident concluded that the vessel had not been adequately equipped to prevent, detect or fight an engine room fire. It concluded that the owner had relied only on the vessel being certified as fit for purpose, without taking any further measures to ensure the safe operating standard of the vessel and keep his crew safe.
The maritime rules relating to fire precautions on small vessels prescribe a minimum standard, and owners should carry out their own risk assessment and, if necessary, adopt a higher standard to address any identified higher risk.

- Under the Health and Safety in Employment Act, employers and employees have a duty to take all practicable steps to ensure the safety of those on board.

Additional safety precautions – such as a fixed-fire suppression system – could have saved the vessel and prevented the crew from having to abandon ship.

- The vessel did not have any automatic means of fire detection, and the problem was only discovered when the hatch was opened, igniting the fire. There was no way to fight the fire without entering the engine room, and the three portable fire extinguishers and deck hose on board couldn’t be used safely within the engine room to fight a fire of this scale.

- The relevant maritime rules require equipment and machinery to be installed, protected and maintained so as not to constitute a danger to persons or the vessel. Engine spaces or any space where there is a risk of fire must be kept clean, free of fuel or combustible liquid or gas leaks, or any other potential causes of ignition.

- Exhaust pipes, manifolds and other hot surfaces should be properly insulated, shielded or otherwise protected to prevent accidents or burns. There should be a means of stopping vent fans, if fitted, and closing the ventilator openings from a location outside the engine room.

- The investigation found that the master acted appropriately in the circumstances to ensure the safety of the crew and himself. Raising the alarm via VHF radio and a phone call and taking immediate action to remove the liferaft from above the wheelhouse was well advised, as any delay could have seen the liferaft or equipment engulfed by the fire.

- Using the fish bin added to the flotation available to the crew when they abandoned ship, and would have increased their chances of survival had they needed to remain in the water for a long period.
Crane tip-over threatens protected waters

Oil booms had to be deployed in the pristine waters of a World Heritage site after a crane tipped over while working on a barge.

The 55 tonne machine was working on an unpowered barge when it fell onto its side, spilling oil into the water. When the incident occurred, the crane was extracting temporary staging piles and then slewing around and driving or ‘parking’ them on the other side of the barge.

After five of the piles had been successfully repositioned, the barge needed to be relocated closer to the sixth pile to ensure it was within the crane’s radius. The operator then extracted the pile, raised the boom to allow for the vibro hammer and pile on the hook, slewed the machine around to the left, lowered the pile to water level and began lowering the boom. He heard a warning alarm and immediately tried to stop the boom lowering. As he did so, he noticed the angle of the barge was changing. The cab door slammed shut and he realised the crane was going over.

As the crane tipped, the lower part of its 33 metre boom caught on a temporary pile that had been parked about 15 metres away. This prevented the entire crane from dropping over the side of the pontoon and into the 4–6 metre deep water.

All of the spilt oil was cleaned up using equipment at the site, and an extra boom was laid as a second line of defence. Together, these measures prevented the further spread of oil in the area and any long-term effects from pollution.
While any marine pollution is a serious matter, an oil spill in a world-famous national park would have major repercussions for the natural environment and result in harsh penalties for those held responsible. In this incident, the operator was able to quickly deploy equipment to clean up the oil spill and avert any significant or lasting damage to the environment.

The crane operator, who was fully trained and had more than 22 years’ experience operating cranes, was uncertain how or why the machine had tipped over. He believed the crane was in the centre of the barge at the time of the incident.

Another worker at the site said he had earlier noticed the crane track coming off a baulk by 100–200 millimetres, but didn’t report it at the time. There had been no evident effect on the barge’s stability and the worker’s observation wasn’t able to be substantiated. Had the worker immediately reported what he’d seen, action could have been taken to identify whether this could cause any problems.

A mechanical investigation didn’t identify any failure or fault that may have affected the equipment, and an independent inspector also failed to find any structural flaws in the crane. Investigators concluded that the event was probably the result of operator error, involving the machine being operated outside of its normal charted radius.

Employees and employers must take health and safety seriously and have measures in place to deal with any potential risks and hazards. While the cause of the capsize was not conclusively proven, the company took immediate steps to improve safety and hazard management, both at the worksite where the incident occurred and for all of the company’s other crane operations.

Measures taken to prevent a repeat of the incident included painting white lines on the deck and across the wooden baulks the crane tracks sit on, as a visual reminder to the operator.

Two more inclinometers were built for the project after investigators found that if the crane slewed around 360 degrees, the operator couldn’t keep line of sight with the existing inclinometers.

During the incident, the crane operator’s door jammed and the operator and another worker had to force it open. Had the crane ended up in the water, the operator could have been trapped in the cab, with serious consequences. The door was serviced to prevent it jamming. All of the company’s cranes operated on water now have a hammer installed within easy range of the operator, to be used to break the windshield glass and exit the cab in an emergency.

The company reviewed its health and safety procedures and operator training to ensure they were up to date and appropriate both for the work undertaken and the environment the crane was operating in. It also gave operators a formal toolbox talk about safe operating procedures and issued a safety memorandum.

The advice reinforced the requirement for crane operators working over water not to lift a track off the baulks under any circumstances, and for staff to immediately report any unsafe acts or conditions they observe.
Lapse in judgment almost costs a man his finger

A man working on a fishing trawler at sea sustained a serious injury to his finger when he tried to adjust a heading machine without stopping it first.

The man, who was processing catch on the machine, said a drive belt that runs around three rollers had come off three times in quick succession. On the first occasion, he called the supervisor over to reset the belt – as company procedure required – but the second and third times it happened he decided to reset the belt himself, leaving the machine running. On the third occasion, he injured himself.

Instead of turning the machine off, as was standard practice by the supervisor, the worker lifted the tensioner arm with his right hand and reached into the machine. He put his left hand between two tensioners to pull the running belt forward from where it had lodged behind the tensioner gears, leaving one finger sticking out. The belt grabbed and ran the man’s hand towards the blade, cutting his index finger about three-quarters of the way through. At this point, the man hit the emergency stop button on the machine.

The vessel returned to port and the man was transferred to hospital for emergency treatment. Luckily, his finger eventually healed and there was no lasting damage, apart from some scarring.

LOOKOUT! POINTS

- The incident, which happened towards the end of the operator’s shift, illustrates the dangers of a lapse in judgment or making a hasty decision in order to save time.

- Company policy was that in the event of a belt coming off a roller, the machine was to be shut down and the shift supervisor or watch engineer – the only people trained and authorised to replace the belt on the roller – called over.

- The worker was trained and experienced in operating the machine, but was not trained or authorised to make any repairs or adjustments to it. He chose not to follow company procedure, and suffered a serious injury as a result.

- Health and safety must be treated as a priority by both employees and employers.

In this case, the company immediately acted to ensure the machine was safe for other workers to use. The company completed a detailed internal investigation into the incident and issued a report.

- All crew on the vessel were required to review the crew handbook, and particularly the section on machinery and factory safety. The vessel’s training and training records were also reviewed to ensure the systems were up to date and ongoing refresher training is being provided.

- A specialist technician reviewed all types of this heading machine in all of the company’s vessels to prevent this kind of incident happening again. An engineering inspection revealed no reason for the belt to come off as it had. The belt remained in place after the incident and didn’t cause any further problems.

- A side panel had been removed so that the operator could view the cutting blade’s position from where he stood and, if needed, adjust the position of fish on the in-feed belt. The risk of injury with the panel removed was considered to be low, except that it meant untrained workers had access to the belt when it came off its rollers.

Appropriate safety measures need to be taken for any modifications to equipment used on board a vessel, taking into account the obvious risks as well as those not so easily predicted. After the incident, side covers were reinstated on all of the vessel’s processing machines and an electronic switch was installed to automatically cut power to the unit when the cover is opened. Procedures for reinstalling the belt were also revised, so that the machine doesn’t need to be powered in order to feed the drive belt on.
Company and skipper prosecuted for fishing beyond limits

A Chatham Islands fishing company and skipper were prosecuted for operating a vessel outside the limits of its safe ship management (SSM) certificate.

Positional data provided by a Royal New Zealand Air Force (RNZAF) P3 Orion aircraft, which photographed the 16 metre vessel operating east of the Chathams, showed it was 21 nautical miles offshore – 9 nautical miles beyond the inshore limits set by its SSM certificate (12 nautical miles off the coast).

The skipper, who is the company’s sole director, was not on board the vessel at the time and not aware of the incident. He was initially unsure whether the vessel’s SSM certificate had been assigned inshore or coastal limits, and thought that – provided he had the vessel’s radio survey completed and medical stores upgraded – the vessel was qualified to operate offshore.

The surveyor in charge of the vessel confirmed that it previously had restricted offshore limits (100 nautical miles from the coast). However, at the time of its last survey, the vessel’s SSB radio needed surveying, medical stores needed to be upgraded and a section of the hull required some weld repairs. The surveyor could only assign inshore limits until those deficiencies had been rectified.

The skipper and his company were charged with offences under the Maritime Transport Act (MTA) involving operating without the required SSM document. Both parties pleaded guilty. The skipper was sentenced to 90 hours community work and his company was fined $5,000 and legal costs of $750.

**LOOKOUT! POINTS**

- It is an offence under the MTA for a person to operate a ship without the appropriate current maritime document, with fines of up to $10,000 or 12 months imprisonment for an individual and $100,000 for a body corporate. The prosecution sends a clear message to fishing operators to make sure that safety at sea is treated as a priority.

- The radios on board were in good working order, and on the day of the offence contact was maintained with the Chatham Islands throughout the voyage. However, operational limits are imposed to show the area that a vessel is equipped to operate safely within and to ensure that, if it does get into trouble, safety equipment such as radios and medical supplies are sufficient. Going outside those limits poses a risk to the safety of the crew and cannot be tolerated.

- The vessel was manned by two experienced fishermen who knew the area well, and the safety risks were not considered significant. While the gravity of the offending was low, the skipper and other members of his family had been previously prosecuted for similar SSM-related offences, and this counted against them.

- The skipper had a good reputation in the Chatham Islands and often gave assistance to search and rescue operations, but the judge said the previous conviction and sentence in 2010 had not had the intended deterrent effect, and credit could not be given for good character. The judge warned that if the skipper offended again, he could expect a significantly harsher outcome.

A P3 Orion took photos of the crew operating a fishing vessel outside the limits of its certification. Photo: RNZAF
Boat hits rocks in darkness

A 36-foot (11 metre) wooden launch with three people on board struck rocks close to an island at night, in calm conditions and in waters the skipper was familiar with.

The vessel hit the rocks while returning from a day’s fishing. The skipper, who had travelled the same route many times and spent years fishing in the area, said it was pitch black and he was relying on GPS (displaying latitude and longitude coordinates) and radar for the trip home.

When he switched the radar to depth to make sure he was in deep water, it showed 25 metres. But as he looked back at the GPS, the boat struck rocks.

The men made a mayday call to Coastguard and put on lifejackets before abandoning the boat to swim to a rock about 30 metres away. After waiting for a while, the skipper swam back to the boat to retrieve some flares when he realised the vessel hadn’t sunk. These were set off when the Coastguard vessel came into view about two hours after the men had abandoned ship.

The Coastguard located the men and took them back to the mainland, where one received medical attention for a dislocated shoulder. The other two men sustained minor injuries.

Over the next few days, the boat broke up and most of it sank.

LOOKOUT! POINTS

- The men made the right safety decisions when their boat hit rocks. The actions they took – putting on lifejackets, making the distress radio call to Coastguard and using flares – were essential to their successful rescue.

- After retrieving the flares, the men had the presence of mind to wait until a boat was in view before setting them off. Flares are a very effective form of communication, but only when they can be seen.

- In this case, the men had enough time and awareness to put on lifejackets. These can increase survival time and reduce people’s tendency to panic if they unexpectedly end up in the water. While a larger vessel can appear safer, lifejackets should be stored in a readily accessible location in case it sinks quickly.

- In many emergency situations, there is not enough time to retrieve and put on lifejackets, and MNZ recommends that lifejackets are worn at all times by people on vessels under 6 metres and by all on board vessels at times of heightened risk (such as when crossing a bar and in rough weather).

- Skippers need to keep a lookout using all available means. The incident may have been avoided altogether had the skipper understood the limitations of the vessel’s electronic instruments, and not exclusively relied on these to ensure safe navigation. While it can be an advantage for boaties to have GPS and radar on board, the equipment’s usefulness is limited if it is not operated in a manner appropriate to the conditions.

Even in familiar waters, charts are needed to remind skippers of where dangers exist. GPS is a very useful aid to navigation, but should not be solely relied upon.

- Boaties should consider taking a training course with Coastguard or a maritime school to make sure they have all the skills they need to operate their vessel safely.

In particular, when using radar they need to know how to set it to ‘ship head up’ or ‘north up’, and understand the difference. They also need to learn how to tune the radar and identify what range they are on, and know how to dim the screen at night.
On-board petrol leak puts skipper and vessel in danger

A man had a long, cold and anxious journey back to shore after his clothing became contaminated by petrol that leaked from a plastic tank. The leaked petrol caused a serious fire risk, and the skipper vomited as a result of inhaling fumes.

The incident occurred when the man, on his own in a 7 metre motor boat in heavy seas about 3 nautical miles offshore, sat down without thinking on a flexible petrol tank. The tote tank, holding 20 litres of emergency fuel, had been installed in the central cabin after an earlier incident in which sediment contaminated the underfloor fuel tanks, causing engine failure. The tote tank allows the fuel supply to be quickly isolated, if needed.

As the skipper sat down in order to brace and close a wiring cover hatch that had fallen open, the tank’s seals broke and petrol was forced out. The petrol soaked the man’s trousers, a bag of spare clothes resting on top of the tank and the carpet.

Earlier in the day the anchor winch rope grabber had failed, so the skipper was unable to anchor to safely deal with the contamination. After trying without success to contact his shore base, he decided to reduce the risk of sparking a fire by not operating any more switches until he was close enough to shore to swim if he needed to.

The windows had to be kept closed because water from the 2 to 3 metre swells was breaking across the wheelhouse, and the skipper vomited twice from inhaling the petrol fumes.

Keeping his spot beacon in his jacket pocket and wearing a personal flotation device (PFD), he steamed closer to shore, where shallower waters and shelter enabled him to shift the contaminated carpet and tank onto the deck, and rinse the petrol off himself. Once the petrol smell had gone from the wheelhouse, he immediately felt better.

The man began the homeward journey naked from the waist down, to reduce the risk of hydrocarbons from the contaminated clothing causing a rash or hypersensitivity. Eventually, however, recognising that he was developing symptoms of hypothermia, he put on wet shorts and his wet weather gear over the top. In the heavy conditions, the journey, normally a two-hour trip, took four and a half hours.

The flexible petrol tank (centre). The skipper has since added the buoyant grab bag with spare emergency gear.

LOOKOUT! POINTS

- Petrol contamination is both a fire hazard and a risk to people’s health. In this situation the skipper could have been exposed to serious injury from inhalation and, had the petrol ignited, lost his vessel and/or his life.

- The petrol leakage was caused by the tank seals of the flexible plastic tank failing when they were subjected to a man’s weight and the force applied as he braced the hatch. Had it been covered by rigid boxing, the tank would not have been able to be sat on directly and its seals would not have given way.

- Normally the tank was kept inside a fish tub to contain any potential leak, but on this day the tub was being used on deck for another purpose and was not in place to prevent the carpet becoming contaminated.

- The man’s lack of attention contributed to the incident. He hadn’t considered that leaving the bag of spare clothes on the tank put it at risk of becoming saturated or igniting in the event of a leak.

He didn’t notice that he’d sat down on the tank rather than the adjacent bunk, where he usually sat while securing the hatch. It is vital to remain aware of any possible risks to safety at all times on board a vessel, especially when operators are on their own at sea.

- After the contamination occurred, the skipper took sensible precautions to reduce the risks to himself and the vessel by not operating on-board switches and steaming to more sheltered waters where he could anchor and rinse some of the petrol off, as well as wearing a PFD and keeping his spot beacon on him. When the skipper realised he was becoming chilled, he put some clothing back on despite it being wet and uncomfortable.

- MNZ investigators said the man had learned a valuable lesson from his unpleasant and scary experience, and had resolved to maintain a better standard of housekeeping on board to ensure the vessel’s operating environment remained safe at all times.
Intoxicated boatie menaces other water users

A man on a drinking binge while operating his boat on a busy lake caused a series of incidents that put the safety of other people at grave risk.

The boatie had bought a large quantity of alcohol before launching his 3.5 metre boat at the lake. Over the following 24 hours, he caused near misses and actual collisions with kayakers, wake boarders and a family at various sites around the lake. Witnesses said he was heavily intoxicated while operating the boat. At one point, the man narrowly avoided running the boat onto land and hitting a two-year-old child. Immediately afterwards, he hit a boat while operating his own vessel at speed. In another incident, he drove his vessel right across the top of another, injuring its occupant.

Witnesses described the man steering his vessel directly towards a wake boarder who’d fallen into the water, and doing doughnuts (driving in tight circles) close to kayakers at speeds well in excess of the 5 knot limit.

The regional council took prosecution and the man was charged with using his boat in a way that caused unnecessary danger to other people. He was sentenced to 100 hours community work and nine months supervision as a result of the prosecution, and ordered to attend drug and alcohol counselling and a boat safety course. He was also ordered to pay reparation for damage to two boats.

LOOKOUT POINTS

- A number of people at the lake were extremely distressed by the man’s behaviour on the water. Some contacted authorities directly because of their concern about the boatie’s actions, and a total of 13 witnesses were interviewed about the incidents.

The man had minimal boating experience, having only operated a boat on a couple of occasions previously. He admitted he was on medication as a result of a head injury suffered a year earlier and should not have been drinking, but was using the alcohol to deal with pressures he was under at the time.

Boaties should always avoid drinking alcohol both on boats and before they set out. Disaster can strike in the water within seconds, but even in small quantities, alcohol impairs reaction times, distorts judgment and affects coordination and sense of direction. Its effects are exaggerated on and in the water, and the ability to survive (if people end up in the water) is diminished.

Drinking and boating puts all water users in the area at risk. Under section 65 of the Maritime Transport Act, it is an offence to operate a vessel in a manner that causes unnecessary danger or risk to another person or property.

- The man disregarded a range of obligations that maritime rules place on skippers of vessels.

Vessels are required to keep a proper lookout at all times, including actively looking for persons in the water. Accidents involving people in the water being struck by powered craft can result in serious injury or death. Because a person in the water can do little to avoid a boat, the responsibility to keep clear of people in the water lies with the vessel. A close lookout is especially important when operating close to the shore.

Vessels are required to proceed at a safe speed, and the likelihood of people being in the water needs to always be factored into determining what a safe speed is.

Within 200 metres of the shore, vessels are prohibited from operating in excess of 5 knots, to protect swimmers and others in the in-shore area from vessels operating at higher speeds.

If exceeding 5 knots in approved areas such as ski lanes, vessels are required to keep 50 metres from other vessels or persons in the water.

- In sentencing, the judge said the boatie was a menace whose actions had nearly killed people. The judge said he was amazed that drivers face severe penalties for drink driving on the road, yet some of them think it’s safe to operate their boat after drinking.
Is safety your focus?  
We’re recruiting now

Are you motivated to be part of a forward thinking, dynamic organisation? 
Do you have the technical skills, expertise and attributes we’re looking for? 

Maritime New Zealand is now seeking key technical people to help us initiate and lead safety outcomes within the maritime industry. 

Maritime New Zealand is an evidence-based, intelligence-led and risk-focused regulatory, compliance and response organisation. Our work is guided by a clear operating model, sound information, analysis, and a comprehensive, systemic understanding of the issues involved. 

During the past year, Maritime New Zealand has progressed key strategic projects that will improve regulatory and compliance activity within the maritime sector. These include the Maritime Operator Safety System (MOSS) and SeaCert (Seafarer Certification) projects, and embedding the Health and Safety in Employment (HSE) Act. 

This means we will be focusing more on operators’ safety systems (rather than just vessels) and on outcomes (safe, secure, clean seas). We’ve also completed a series of strategic and internal changes to organisational structures and processes that are vital to improving regulatory performance. The changes were driven by the need to be ready to implement the new MOSS and SeaCert regulatory frameworks. 

In order to bring these key strategic changes to industry, we require technical expertise to help us. The key positions we are recruiting for and expected start dates include: 

- *Maritime Officers* – February & May 2014 
- *Senior Technical Advisors* – February & May 2014 
- *Technical Advisors* – February 2014 
- *Operations Advisors* – February & April 2014 
- *Certification Advisors* – February 2014 
- *Investigator* – March 2014 

For more information about each role, please go to our website: maritimenz.govt.nz/jobs 

To contact Maritime New Zealand: email hr@maritimenz.govt.nz
Be a responsible skipper – manage the risks

Every boat, no matter how big or small, must have a skipper. The skipper is legally responsible for the safety of the boat and all the people on board, and is also responsible for complying with all of the relevant rules and regulations.

Know the rules of the road on the water

Even though a licence is not required to operate a recreational boat in New Zealand, ignorance of any maritime rule or regional bylaw is not accepted as an excuse. Failure to comply can mean you are operating unsafely and can lead to fines or prosecution.

Before you undertake any boating activity, we recommend you undertake some form of boating education and understand the “rules of the road on the water”. You also need to know, and follow, the rules, regulations and bylaws about safe boating in your area:

maritimenz.govt.nz/regional-safety

What ALL skippers should know, to stay safe on the water

» Every boat has to have the right-sized lifejacket for each person on board, and these are to be worn when there is considered to be a risk to safety.

MNZ recommends that all people on board wear a lifejacket at all times, especially when crossing a bar, in rough water, during an emergency. This is especially important for non-swimmers. Many parts of the country require lifejackets be worn at all times – check the bylaws for the area you will be boating in.

» Get a marine weather forecast before you head out and listen for regular updates while you are on the water. Weather conditions can make the difference between an enjoyable day out and an uncomfortable or even tragic trip.

Many accidents involving small vessels are weather related. Bad weather makes the environment on board a vessel extremely hazardous and potentially fatal. It also places a lot of strain on the vessel’s structure and equipment and on the people on board.

Skippers should make sure they understand the different parts of a weather forecast and the best way to find up-to-date local marine weather information.

If in doubt, don’t go out!

» Communications equipment is an essential part of safe boating – because if you can’t contact someone to say you’re in trouble, nobody can rescue you. Carry at least two ways to call for help on you that are waterproof.

Different types of communication equipment work in different areas, so you need to make sure the equipment will work in the areas you are boating in. You should carry at least two of the following at all times, so you can get help in the event of an emergency: distress beacon (PLB or EPIRB), hand-held VHF radio, cell phone (in a sealed plastic bag), hand-held flares.

If you have a VHF radio, make a trip report and stay in contact with Maritime Radio, or with the local Coastguard or marine radio service. Leave details of your trip and boat with a responsible person ashore, detailing where you are going, how many people you have on board, and when you expect to return.

» Avoid or limit alcohol – moderation and common sense should dictate how much alcohol is consumed on your boat. Alcohol impairs judgment and the ability to survive in an emergency. Even in smaller quantities, alcohol affects your coordination and exaggerates confidence. It can also reduce your ability to perform tasks, impair your sense of direction, and cause unsteadiness.

Alcohol may also affect your ability to react if something goes wrong, increase the likelihood of ending up in the water by accident, and change the way your body reacts when you end up in the water.

As a skipper, you’re responsible for the safety and wellbeing of everyone on board your boat. A responsible skipper will never operate under the influence of alcohol or allow an intoxicated person to operate their boat. Allowing people to become intoxicated on board will put them and others at risk. Parents supervising children need to be particularly alert while on the water and should avoid drinking any alcohol.

» A person under the age of 15 cannot be in charge of, or propel or navigate, a power-driven vessel that is capable of a speed exceeding 10 knots – unless he or she is under the direct supervision of a person over 15 who is in immediate reach of the controls.
Rules of the road on the water for ALL boats

There are some rules that apply to everyone on the water, no matter what sort of boat you are operating:

- Keep a **proper lookout** – watch where you are going at all times.
- Keep to a **safe speed** – this means slowing down in situations where you may find it difficult to see another boat, for example in waves, rain or fog, or when there is glare on the water.
- Understand and operate within the speed limits – the **maximum speed** permitted for all boats in New Zealand is 5 knots (about 9 km/h) within 200 metres of shore or any boat with a dive flag, and within 50 metres of any other boat or swimmer.
- Know what to do **when two boats meet** – one boat has the right of way (stand-on boat) and the other boat is the give-way boat:
  - when you give way, always try to pass behind the other boat
  - above all, make your intentions clear – make substantial alterations to your direction and be prepared to slow right down or stop if you are in doubt
  - if the give-way boat fails to give way, you must make every effort to avoid a collision
  - keep to starboard (drive on the right) in channels
  - any boat approaching another from behind is considered to be overtaking, and must keep clear of the boat it is passing
  - consider the amount of **wake** your vessel generates when underway, especially in sheltered anchorages.

**Overtaking**

Every boat that is overtaking must give way. You are overtaking if you are approaching another boat anywhere in a 135 degree sector at its stern.

**When power meets power**

You must give way to another boat on your starboard (right).

If you meet head on, both boats must turn to starboard (right).

**When sail meets sail**

When the wind is coming from different sides, the boat with the wind on the port (left) side has to give way.

When both boats have the wind on the same side, the windward (upward) boat has to give way. (Special rules may apply between yachts competing in the same race.)

**When power meets sail or a boat being rowed or paddled**

The power boat gives way (unless the other boat is overtaking).

A sailing boat has to give way to a special case power boat displaying certain lights or day shapes (for example, a vessel restricted in ability to manoeuvre or a vessel displaying ‘engaged in fishing’ shapes).

Sailing boats should avoid sailing in a narrow channel. They should have to keep out of the way of power boats restricted by the channel.