

Seascope

Maritime Safety Queensland

April-June 2007
Volume 4 Issue 2



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Queensland Government
Maritime Safety Queensland

From the helm



Hon Paul Lucas MP
Member for Lytton
Minister for Transport
and Main Roads

Queenslanders traditionally love boating and make the most of this state's wonderful coastline, rivers and inland waterways. Nowhere in the state is this maritime culture more evident than in the far northern region of the Torres Strait.

There are an estimated 700-800 recreational boats and approximately 50 commercially registered boats in the Torres region. The local people use boats in much the same way people in other parts of the state use their motor cars. Travelling in between island communities to visit relatives and friends, transporting goods, conducting commerce, and of course fishing, are all a part of everyday life revolving around the use of vessels criss-crossing open waters.

Unfortunately, this familiarity with the sea and boating has led to some fairly casual attitudes to normal safety practices, and some dangerous situations. Based on a four year period, there have been an average of 117 search and rescue responses per year. Sadly, this represents the highest incidence of search and rescue anywhere in Australia.

In November 2006, Maritime Safety Queensland staff met with 11 Island Councils to discuss boating safety and community concerns in the region. The Island Councils raised three major concerns during the community consultation: the need for training in boating skills, the occurrence of motor failure caused by water mixing with fuel or a lack of general motor maintenance, and the availability and cost of boat safety equipment, in particular, the new 406 EPIRB.

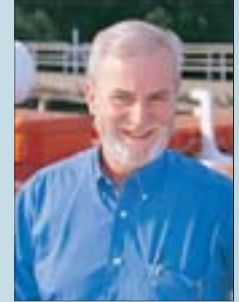
In response to this, Maritime Safety Queensland is considering a number of initiatives including the development of a boating safety course specifically designed for the region with an emphasis on motor maintenance and breakdown prevention, safety equipment and its use, emergency procedures at sea and general boating rules. It is envisioned the participants who complete this course will attain their recreational boat licence.

The BoatSafe course material is being written to ensure that it is relevant and meets the particular needs of the Torres communities, and it's intended some of the course will be delivered in local dialect.

In addition, we are in the process of negotiating with Thursday Island High School to introduce BoatSafe as a mandatory component for all Year 10 students.

An additional integrated boat safety campaign being jointly developed with the Australian Maritime Safety Authority, which will include boat safety messages in the media, is also underway.

No matter where you are in the state, your safety on the water can never be taken for granted. Maritime Safety Queensland is continuing to reinforce that message to make heading out on the water safer and more enjoyable for all Queenslanders.



Captain John Watkinson
General Manager, Maritime
Safety Queensland

Imagine you have 15 seconds before your boat sinks. Can everyone onboard retrieve their lifejackets, assuming they know where they are stowed, and put one on correctly before time runs out?

But first, you must retrieve and set off the EPIRB? Now that you mention it, in an emergency should you set off the EPIRB or put on lifejackets first?

What if someone is unconscious after being struck on the head or you have a young child onboard? You need to put a lifejacket on them as well. As water gushes over the transom after an unforeseen incident, can you do all these things without panicking?

The first time many people practice emergency procedures is during an emergency, when the stress can make decision-making difficult. Forethought, preparation and practice before an incident can reduce this stress significantly and possibly give you a life-saving edge.

I recently heard of a commercial fisherman who put on his lifejacket for the first time as his boat was sinking several kilometres off shore, only to discover it was too small to fit over his head. He was fortunate to survive to tell the tale.

When it comes to marine safety, the biggest enemy of boaties is not adverse weather conditions, or reckless jet ski riders; it's complacency, something that becomes increasingly obvious to our on-water enforcement partners and others who attend marine incidents.

Most fatalities and major incidents are due to capsize, swamping or persons overboard. Yet almost one-third of marine infringement notices issued by Water Police and the Boating and Fisheries Patrol are for failing to carry the prescribed safety equipment such as lifejackets; equipment that can save lives in the event of such incidences. Carrying flares and EPIRBs beyond their expiry date is also a common occurrence.

The right safety equipment, in good condition, stowed correctly is only the start. Skippers have an obligation to ensure everyone onboard is familiar with where to locate safety equipment and how to use it. Taking your passengers through such procedures may seem trivial, but that's a small price for saving lives.

"Real Boaties, Real Lives" is the theme of Maritime Safety Queensland's 2007 boating safety campaign which will continue through the Easter break. It features the stories and lessons learnt of real boaties who have been involved in serious marine incidents. Safety equipment – its use, its upkeep and stowage – emerges as a common theme.

Almost 1400 infringement notices relating to safety equipment were issued on the Gold Coast, Brisbane and Sunshine Coast during 2006 (over 2100 throughout Queensland). Safety equipment offences in south-east Queensland made up over 27% of all infringement notices issued for the year.

I thank Australian cricketer Andrew Symonds, himself a thankful survivor of a capsize and sinking, for joining with Maritime Safety Queensland to champion safer boating practices as part of the "Real Boaties, Real Lives" campaign. His story and those of others Queensland boaties speak for themselves. Keep a lookout for them.

Movements in top port are ship-shape

As Queensland's largest and Australia's fourth largest multi-commodity port, the Port of Gladstone is the marine equivalent of a CBD (Central Business District).

With shipping traffic predicted to grow in coming years, Maritime Safety Queensland has upgraded and revamped infrastructure and services to ensure safe and orderly passage of ships for years to come.

In a project jointly funded between Rio Tinto Aluminium and Maritime Safety Queensland, the realignment and upgrading of 27 major aids to navigation was completed in November last year.

The realignment of navigation aids in the upper reach of the Targinie Channel expanded existing facilities to accommodate expected arrival of wider bauxite carriers which will be servicing the Fisherman's Landing wharves.

The project was endorsed by the Queensland State Government and local authorities as part of their general support for improved infrastructure development within the Gladstone region. After completion, the project which involved a number of regional offices across Maritime Safety Queensland, earned praise from Rio Tinto executives for coming in on-time and on-budget.

In another initiative last year, Maritime Safety Queensland increased vessel traffic management staff and introduced more advanced technology, again preparing for the expected growth in ship movements.

A key change was transferring ship scheduling duties from the Gladstone Duty Pilot to the upgraded Gladstone Vessel Traffic Centre. At the same time Maritime Safety Queensland doubled the number of Vessel Traffic Service Operators (VTSOs), reviewed and updated existing scheduling procedures, and doubled the size of the Vessel Traffic Service Centre itself to accommodate a second VTSO.

Paul Brandenburg, Principal Manager for Assets and Environment at Maritime Safety Queensland, said that an information session was held with major stakeholders, including those from shipping agents, major industry and the Gladstone Port Authority, to outline the new service and to discuss issues and concerns.

"It is a credit to the staff at Gladstone that during this process of development, renovation and transition, that they continued to provide a high standard of VTS and pilotage services with a minimum of disruption to the port," he said.

Roy goes the tonk for boating safety



Andrew Symonds ... would dread being caught without the right safety equipment.

Australian international cricketer, Andrew Symonds, is championing all-round boating safety for recreational boaties in Maritime Safety Queensland's latest summer boating campaign.

Maritime Safety Queensland re-launched the "Real Boaties, Real Lives" campaign in time for the busy Easter period. The campaign aims to increase awareness among Queensland's boating community that having well maintained and easily accessed safety equipment onboard is often a life-saving decision.

Andrew, or Roy as he is known to friends and cricket fans alike, donated his time to front the Easter campaign, knowing first hand the unpredictable nature of boating and the importance of preparation in reducing risk. He and fellow Australian cricketer Matthew Hayden almost lost their lives in a boating incident off North Stradbroke Island a number of years ago.

"We had no lifejackets and had to battle currents and crashing waves to swim more than a kilometre to shore," the star cricketer said of the accident that happened in 1999 when Matt Hayden's boat, *Our Lady*, lost power and capsized in North Passage Bar.

"It all happened quickly. All of the right safety equipment was on board the boat, but it capsized too quickly for us to grab our lifejackets in time," Symonds said.

Andrew will feature in the "Real Boaties, Real Lives" campaign in various forms of media including print and television. His generous support follows Matt Hayden's endorsement last year of a national campaign produced by the National Maritime Safety Committee promoting the wearing of lifejackets.



Pictured above: Major aids to navigation within Gladstone Harbour have been upgraded to use state of the art technology, including solar power and synchronisation of lateral mark beacons through satellite networks GPS. The upgrade was a joint venture between Maritime Safety Queensland and Rio Tinto Aluminium, delivered ahead of schedule and on budget.

Port of call

Jeff Coleman, CEO,
Port of Brisbane
Corporation

Jeff Coleman has spent his life around water.

As a child fishing on the banks of the Noosa River, as a young man waterskiing behind a 4.5 metre fibreglass motor boat, and, today, as Chief Executive of the Port of Brisbane Corporation, he's never far from the sea.

Growing up with a father who was a keen fisherman, his childhood included regular fishing trips in the family's small tinnie, before they upgraded to a 50-horsepowered boat. The Mustang 34 sports cruiser he now owns with a 2.6 metre inflatable tender, and 5.5 metre 115-horsepowered tinnie for fishing, are a far cry from the six horsepower runabout of his youth.

After stints in Sydney and Auckland where he pursued a career in finance, Jeff returned to Brisbane in the mid-1990s where he began life

at the port. Nine years later, he hasn't looked back.

As someone who loves Moreton Bay and tries to spend every spare moment enjoying it with his wife and two teenage sons, Jeff is very conscious of preserving Brisbane's backyard. "Putting back" is how he describes the philosophy he applies as CEO of the Port, trying to minimise the impact that the facility has on the surrounding environment.

In recent years, the Port of Brisbane Corporation has sponsored several research projects, such as the University of Queensland Research Centre on Stradbroke Island, marine species university studies, Healthy Waterways programs and Clean Up Australia Day. The corporation employs five environmental scientists and is involved in planting trees, testing and improving water quality, and managing storm water run-off.

Remembering a time when the Noosa River was largely unspoilt and unpopulated compared to the fashionable hub it is today, safeguarding the environment is never far from his mind.

"I think that's a really important thing. It's

not just a case of making commercial gain out of our position in Moreton Bay, but we put back financially through our environmental focus, which is very significant," he said.

The trend to environmental matters extends to plans for the redevelopment of the old port area at Hamilton, incorporating a range of conservation measures for waterfronts, water recycling, use of grey water and the implementation of power management initiatives. Twenty percent of the site will be park and green space, reflecting the changing attitudes of businesses in recognising the need to preserve our precious natural resources.

In fact, Brisbane is the first port in Australasia to get accreditation for its environmental performance. "We're very focused on a sustainable model out here for building and infrastructure as well as environmental matters."

Part of the urban renewal project includes the concept of a town centre, to be fully developed over the next five to 10 years. The port's employees are projected to grow in number from 2000 to around 5000, and the town will be aimed at tenants from the wide variety of companies that do business there. The vision goes beyond facilities for the shipping workers and freight forwarders through to trainers and workplace health and safety officers, to establishing retail outlets and even recreational facilities.

"We're trying to develop a heart to this place as well as being an industrial area of some significance. We want to make sure it's got a heart to it and is a pleasant place for people to do their job."

A visitor's centre built some years ago is undergoing refurbishment to help cater to the growing demands from corporate groups, schools, retiree groups and members of the public. The café and a la carte restaurant overlook the lake and its abundant bird life, while theatre facilities, conference rooms and static and electronic displays about the workings of the port maintain appeal for the diverse range of visitors to the centre.



A permanent 10 hectares of land has been developed into a bird roosting site visited by school groups as part of port tours designed to educate children about the maritime industry and sustainable development.

“We get literally thousands of school groups. We’re really starting from the ground up in developing a future workforce for the port and for the maritime industry. We’re very much focused on students and getting them to the port and showing them around, teaching them about sustainable development.”

Over the nine years that Jeff has worked at the port, almost five at the helm as CEO, the face of the industry has changed dramatically. Besides the strong emphasis on the environment, port efficiency has become imperative.

“Five years ago or so, there was plenty of room out here, plenty of land, plenty of spare quay line and wharves, and efficiency wasn’t really a focus. But these days it’s really all about port efficiency and making sure that we have very reasonable costs in cargo handling and that the consumers get the best deal.”

While traditional trades such as coal, grain, general cargo, wood, timber, meat, cotton, steel and scrap continue to grow, grain exports have suffered due to the drought and the boom in the south east Queensland economy has seen a surge in imported goods such as electronics and clothing.

“I think that’s one of the things which a lot of people in the community don’t realise — that just about all areas of their lives are impacted by the port. Just about all the clothes you’re wearing, the car you drive, the fuel you put in your car, the shoes on your feet, your TV, probably your furniture — it goes on and on — well, it comes through this port.

“Growth is at a rate even faster than the growth of South East Queensland. The challenge is driving the business forward and continuing to deal with that growth.”

The diversity of trade combined with the rate at which it is growing is a clear point of difference when comparing to other states. Currently Brisbane is the third biggest capital city port behind Melbourne and Sydney, with the container business expanding at a rate of ten percent over the past decade. Key to driving that development is building more land to extend the 500 man-

made hectares created over the past 30 years.

As sand and mud is dredged to deepen the channels for large ships entering the port, it is used as landfill to build another 250 hectares and 2.2 kilometres of quay line planned for the next 20 years. While the concept is simple, constructing land is a lengthy and expensive project that involves building a rock wall to enclose a paddock for “filling”. The last rock wall was four-and-a-half kilometres long and took one year to build, at a cost of 60 million dollars. To date, about one quarter of it has been filled. The project illustrates the dramatic pace of change at the port and has been recognised for causing minimal impact to the marine park environment.

Vital to ensuring the port can provide for growth are the road and rail links, specifically the extension of the Port of Brisbane Motorway. The first stage is five years old, and the Port Corporation is keen to have the state and federally funded project progress to support its expanding needs. The duplication of the Gateway Motorway and upgrade of the bridge are also contributing to the efficiency of the port into the future.

While there’s no doubt that the commercial boating industry is booming, Jeff has also noticed a significant increase in the number of recreational boats on the water over the past 10 years.

“They come in all shapes and sizes, but there seems to be a big increase in large boats over 40 feet ... it’s great to see so many enjoying our beautiful and accessible waterways.”

While Jeff Coleman continues to position the Port of Brisbane for the future, on a personal level he endeavours to take the boat out for a cruise whenever possible, usually with the family on weekends and at Christmas and Easter. As long as the winds are light, it’s not too hot and the fish are biting, the family man couldn’t be happier.

“BoatSafe sound,” say trainers

Almost two years on from the introduction of BoatSafe, the competency-based boat licensing program, a recently formed network of training providers is lifting the industry benchmark through helping potential licence holders help themselves.

The BoatSafe Trainers’ Association of Queensland (BTAQ) was formed in April, 2006 and meets bi-monthly to discuss various topics relating to the BoatSafe course and its delivery.

BTAQ President Gary McConnell said the association had helped to establish consistent benchmarks in licensing for boat and personal water craft users.

A qualified training provider operating out of the South Brisbane and Logan areas, Gary has around 30 years experience in boat licensing and said meetings between trainers enabled providers to share their experiences and gauge public reaction to BoatSafe.

“Many discussions have centred around the positive impact the new rigorous training has had on developing standards for licensing,” he said.

“The competency-based assessment gives training providers and new licence holders alike the peace of mind that whoever is behind the wheel knows how to handle the vessel in any given situation.”

Feedback from trainers indicates that most people prove to be very capable in manoeuvring the boat and taking evasive action to avoid a collision.

The competency part of the program has highlighted previously overlooked skills such as keeping a proper lookout and observing navigational regulations.

“Keeping alert is such a vital component when driving a vessel, yet human error contributes to a large proportion of serious incidents on the water. BoatSafe gives another avenue to assert messages about the disastrous effects that alcohol, fatigue and general failure to stay alert can have.”

Training providers interested in joining the association can contact the President, Gary McConnell on 0418 159 162.





Meeting the lifejacket standard

Lifejackets purchased in good faith some years ago, even though they may have been kept in excellent condition, may not meet the current Australian Standards. Carrying them onboard as part of your safety equipment could cost you a fine.

If you have a lifejacket that is labelled with a Standards Australia mark, including the number 1512, and "LIFEJACKET" but DOES NOT carry a label identifying the garment as a PFD Type 1, 2 or 3, then it does not comply with the current Australian Standard.

Jackets marked "lifejacket" with a Standards Australia mark (right) were made before the introduction of the 1988 edition of the standard and do not comply with modern requirements.

PFDs that are manufactured to comply with the Australian standards require legible markings which include the following:

- Manufacturer's name, trade name or trademark



- The "PFD Type 1", "PFD Type 2" or PFD Type 3" in block letters not less than six mm high, with the words below: "Caution: May not be suitable for all conditions" (or for a child's PFD, the words "Child's PFD Type 1" and a caution advising that a child wearing the PFD should be under competent supervision
- Manufacturer's model identification, batch identification and year of manufacture
- Intended body mass range
- Illustrated instructions for donning the PFD
 - Instructions for storage and care
 - Information related to replacement or checking of gas cylinders of inflatable PFDs

Purchasers can ensure their PFDs are compliant with the standards by shopping for jackets bearing the SAI-Global "five ticks" symbol or the compliance marks of other certified bodies.

Some international PFDs are now also accepted as alternatives to the Australian



standards. To obtain a list of all accepted PFDs, go to the Maritime Safety Queensland website at www.msq.qld.gov.au.

If you have recently purchased a PFD and the markings are incorrect or non-existent, or should you feel a PFD or lifejacket is in some other way non-compliant, contact the retailer or manufacturer to discuss your concerns. Contact the Office of Fair Trading if you believe that you have been sold a jacket that does not comply with regulations.

Abandoned fishing ship seized



Above: Doug Hislop of Bowen Tug and Barge will be scrapping the ex-fishing boat, the *Nino*, retrieved from Mooloolaba River.

Unseaworthy and abandoned vessels left to rot in our waterways are not only an eye-sore but present varying degrees of danger to boating safety and the environment.

Changes made to marine safety and pollution laws in 2006 now give Maritime Safety Queensland more power to proactively manage unseaworthy or abandoned vessels, and therefore protect Queensland's waterways and waterway users.

The removal of the ex-trawler *Nino*, which was abandoned in the Mooloolah River, is an example of how Maritime Safety Queensland can now more identify and manage the risks presented by derelict vessels.

The ex-trawler *Nino* was anchored in the Mooloolah River within view of multi-million dollar mansions. Several times it had dragged its anchor becoming a hazard to navigation, and on one occasion had drifted into a private jetty.

Maritime Safety Queensland made several directions to the owner, who had left the boat and fled overseas, to take responsibility for the boat. No response came. Eventually using powers introduced in 2006, a seizure notice was placed on the vessel giving the owner 28 days to claim the ship or forfeit it to Maritime Safety Queensland.

After the allotted time, Maritime Safety Queensland exercised its authority, and negotiated with a local tug and salvage company to remove the vessel, tow it to Brisbane and scrap the vessel.

Maritime Safety Queensland intends to get tough with recalcitrant owners and will continue its program to have unseaworthy vessels either removed from the water or brought up to standard.

For the small percentage of irresponsible vessel owners out there the message is clear "move it or lose it!"



Push button fine

The recent conviction of a fishing company and a deckhand underlines Maritime Safety Queensland's determination to police and prevent the discharge of sewage into boat harbours and other waterways designated 'nil-discharge'.

Caffarel Tuna Pty Ltd and deckhand Janal Abadin were fined a total of \$3000 plus court costs in Maroochydore Magistrates Court when it was found that raw sewage was discharged from the ship "Diamax" directly into the waters of Mooloolaba Boat Harbour.

The court was told that rather than walk 200 metres from the ship's location at the wharf to the toilet onshore, the deckhand used the ship's head. He then flushed the head into Mooloolaba's prescribed 'nil discharge waters for untreated sewage', witnessed by several people including a visiting Maritime Safety Queensland shipping inspector.

In fining the defendants (\$2500 for Caffarel Tuna Pty Ltd and \$500 for Abadin), the magistrate noted that Parliament had set significant penalties for such offences (a maximum of up to \$318,750 for a company), and the case represented a serious matter as many people used the river.

Guidelines crack the sewage code

A new set of guidelines available from Maritime Safety Queensland will help owners of declared ships to comply with sewage legislation.

Sewage laws introduced in 2004 require owners or masters of declared ships to have sewage treatment systems on their boats tested at least annually for the first two years and afterwards at least every two years.

The systems must be tested by an independent testing entity, appropriately accredited by the National Association of Testing Authorities (NATA).

To assist owners and masters of declared ships (commercial registered class 1B, 1C, 1D, 1E or 1F ships fitted with a toilet) to meet the assessment requirements in a uniform and efficient manner, Maritime Safety Queensland has developed procedural guidelines.

The guideline document – Procedural Guidelines for Owners/ Masters of Declared Ships Fitted with Onboard Sewage Treatment Systems: Requirements for Assessment of System Performance – is available on the Maritime Safety Queensland website www.msq.qld.gov.au (go first to the 'Environment' link).

Marine licences go online

Starting in late April 2007, a new web-based service will allow members of the public to log on to the Queensland Transport website (www.transport.qld.gov.au) to confirm they hold a current recreational marine or PWC licence.

Recreational marine and PWC licences are virtual licences – that is, while the licence record exists in the Queensland licensing system TRAILS, holders are not issued with physical licence.

Since July 2006, a recreational marine or PWC licence indicator has been included on new and replacement driver licences, however there are still a considerable number of marine licence holders who have no printed evidence of their qualification.

While it is not a requirement to produce a marine licence, there are instances, such as when hiring a boat, that evidence that a person holds a licence could be requested.

People will be able to log on to the Queensland Transport website, follow the recreational marine licence links and request a licence confirmation report. The process is very simple and requires either a person's Queensland driver licence number or personal details being entered for a confirmation report to be generated onscreen. The confirmation report can then be printed and kept as a record that a person holds a marine licence. A \$5 charge applies and can be paid by credit card on line.

Skipper pays high price for uninsured ship

The owner of a ship not insured against possibly sinking or causing environmental damage has been slugged \$20,000 by a court in the first case of its kind in Queensland.

St George man Ian Bernard Thomas appeared in the Maryborough Magistrates Court in late March charged with failing to comply with a requirement for ships longer than 35 metres to have insurance to cover the costs of pollution clean up or salvage should the vessel be wrecked.

The court heard Mr Thomas was asked 12 times by authorities to provide insurance for the 56 metre former dredging barge *EOK Green* (right), however he failed to take out the necessary cover for the vessel.



The barge was moored in the Mary River at Maryborough between February 2003 and May 2005, and was later scrapped.

Mr Thomas was found guilty and fined \$18,500 plus ordered to pay \$1,500 in costs, and a conviction was also recorded against him.

Maritime Safety Queensland General Manager, Captain John Watkinson, said the case sent a clear message to owners of these vessels that they have a responsibility to protect the state's marine environment.

"These large ships have the potential to cause great harm should something go wrong, and the vast majority of owners do the right thing and make sure their ships are properly insured.

"However, Maritime Safety Queensland will be vigorously pursuing those who try to avoid their responsibilities and leave our marine environment exposed to potential harm," Captain Watkinson said.

Avoiding mismatched collisions

Be aware of the dangers of boating near shipping channels

More ship movements and record numbers of recreational boats throughout Queensland means that increased potential for interaction between the two is inevitable. The considerable size difference means collisions are always life-threatening for those on the smaller vessel.

The moment that you look up to see an approaching tanker is not the time to educate yourself on the manoeuvring characteristics of big ships. All boat owners planning to travel anywhere near shipping channels, even if only traversing across, should arm themselves with facts and tactics that will reduce the chance of a mismatched encounter.

Recreational boats in shipping channels place themselves in a high risk position, particularly those who do not have or use a VHF

radio. VHF radio, when turned-on and tuned to the appropriate channel, allows boaties to monitor local shipping movements, and in an emergency, provides a communication link between large ships and themselves.

Unfortunately, it is estimated that less than 50% of recreational boats have VHF radio, and less than half of that number actually use it.

The speed at which ships travel is extremely deceiving. Their size and smooth passage through the water belies the speed at which they are really travelling, which is often in excess of 20 knots.

When travelling at a normal cruising speed, fully-laden cargo ships or tankers can have a stopping distance equal to 28 football fields (2.5 nautical miles). Fifteen minutes can

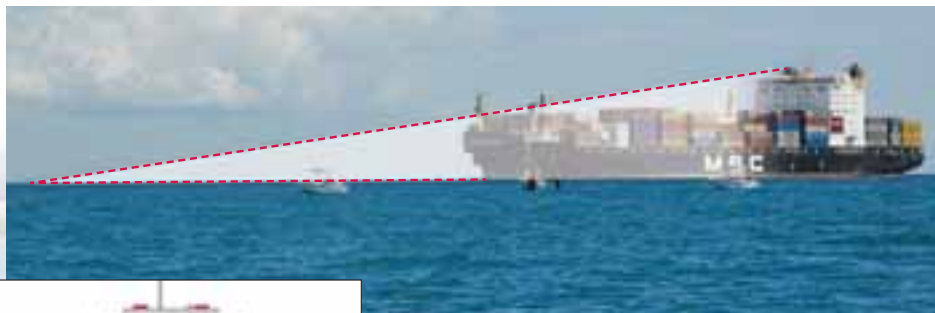
pass from the time the pilot or captain starts the ship's stopping procedure to the time a 150,000 tonne ship stops dead.

When travelling in narrower channels, such as entering a port, a ship can have as little as 600mm under-keel clearance, and can neither turn nor slow-down (as illustrated below left). Some channels are so narrow the slightest change in course can ground a ship, and in many cases the ship must keep above a certain speed to maintain steerage.

Visibility and perception of distance are other key considerations. As shown (left), a small boat within several hundred metres of a ship will be unseen from the helm of a ship, with the bow of the ship and sometimes cargo such as containers obscuring the view. This 'blind spot' can sometimes extend for several nautical miles, and smaller boats rarely appear on ship radar.

It only takes about 15 minutes from the time a ship is spotted on the horizon by a small boat to the potential time of impact. In the event of engine failure on a small boat this interval can prove fatally short.

In the Port of Brisbane alone, ship movements are expected to increase by 10% over the next three years to around 7000 per year. At the same time, significant berthing and marina facilities are being planned within the lower reaches of Moreton Bay and the Brisbane River to meet unprecedented



Snoring is no warning

Three mates left the office behind, and went on a weekend fishing trip in their dinghy. They put the boat in a busy little river close to home, chose a favourite fishing spot and cast a line.

As the sun set, they chose not to turn on the all-round white light for fear of scaring the fish away. As the fishing slowed, and the daylight disappeared, the crew fell asleep; the fish safe.

Later that night, further upstream, another boat headed for home after a successful day's fishing. Parts of the creek are known for snags, so the skipper and his friends used torches to navigate the boat through the creek. Once they reached the familiar main part of the river, they switched off the torches.

The skipper believed there were no other boats in his path, so increased speed and shortly collided with the anchored, unlit dinghy.

The persons on board the anchored dinghy were rudely awoken and thrown overboard. Remarkably, they were uninjured, but extensive damage was caused to both ships.

Lessons

- Whenever a boat is anchored between sunset and sunrise, an all-round white light must be shown.
- Additional lighting will improve the chances of your boat being seen.
- When anchored, particularly in an area where boats are likely to travel, an 'anchor watch' should be maintained by someone onboard.
- When operating a ship at night, reduced vision must be taken into account in determining a safe speed. Even when familiar with a stretch of water there can be unforeseen changes or obstacles in the water.

Cruising for a bruising

On a balmy Friday afternoon, the master of a 15-metre yacht was cruising the Queensland coast when he decided to stop at Mooloolaba for supplies. The master was unfamiliar with the harbour entrance so relied upon his GPS to direct him up the Mooloolah River.

While travelling up the river under power, the master began chatting with a crew member and failed to notice a navigational beacon in the channel. The bow of the yacht collided with the beacon causing severe damage to the yacht and the beacon. Several crew members received cuts and abrasions from the collision.

Investigations revealed that the master relied solely on his electronic navigational device. Sails on the foredeck obscured his view and he did not post a lookout.

Lessons

- The accuracy of electronic aids to navigation may vary and produce a position error up to several hundred metres (see page 10).
- A visual lookout should be maintained when navigating in a confined area.
- Before navigating in any unfamiliar area, good masters obtain a thorough knowledge of the area and its potential hazards by consulting charts and other means. You should also consider contacting Volunteer Marine Rescue or other rescue groups for advice.
- Where vision is obscured from the helm a lookout should be posted near the bow to report to the helmsman.
- An aid to navigation will never alter course for you.

demand from recreational boat owners. Continued safe boating will require increased vigilance and awareness of the safety issues associated with being on the water.

In consultation with a range of stakeholders, Maritime Safety Queensland is currently reviewing the interaction between recreational and commercial boats with big ships, looking to address growing concern of collisions.



Considering the restraints of manoeuvrability and restricted line of sight of large ships, what precautions should recreational boaties take to increase safety?

- Whenever travelling across or alongside a shipping channel keep a constant 360 degree lookout. From water level, large ships travel quietly.
- When near a shipping channel monitor the appropriate VHF channel for the area (for example Channel 12 in Moreton Bay). Relying on mobile phone for communications can be disastrous – the ship's captain or pilot won't know your number and you probably don't know theirs!
- Cross a shipping channel at 90 degrees behind a ship, and never cross in front – small boats breaking down or running out of fuel has occurred with disastrous results.
- Avoid travelling within and along a designated shipping channel.
- Despite the fact that they attract fish, avoid anchoring or tying-up near a navigation aid (buoy or channel marker) in a designated shipping lane.

GPS and things that go bump in the night



Photo courtesy of Ingham Coast Guard.

Electronic navigation is no substitute for your own two eyes

The boatie turned on his new Global Position System (GPS) unit. The colourful electronic chart lit up in the darkness. What could be more simple – land masses, reefs, channels and the boat's position plainly visible. As he set off the unit tracked the boat's progress in real time.

The wonder of satellite-connected technology makes navigation seem like a computer game. The boatie throttled toward home from a favourite fishing spot near some offshore islands in northern Queensland. It was close to midnight when he selected a waypoint near the boat ramp and engaged the 'Go To' feature on his GPS chart plotter.

Despite driving in the darkness, the boatie continued at around 20 knots. He was intent on 'mucking around' with this new accessory for his 5.5 metre fibreglass half-cabin, powered by a 135 hp engine.

Rocks stopped the boat instantly several minutes later. One of the three passengers received broken ribs and internal injuries and was airlifted to hospital via helicopter. The boat was virtually destroyed.

The technology driving GPS is remarkable, but to ensure safe use, boaties should be aware of its limitations as well as strengths. Ultimately, GPS should be regarded as just another aid to navigation, rather than the final solution.

The boatie in the incident mentioned knew that nearby rocks were not showing on the electronic chart at the scale selected on the chart plotter. He also neglected to employ any other method of safe navigation, such as sound watch-keeping, and relied solely on the GPS with disastrous results. There have been several similar incidents in the past few years which could have been avoided if owners of GPS units were better informed and exercised greater caution.

GPS accuracy

A number of issues can diminish the accuracy of GPS units.

The GPS Standard Position Service (SPS), made available for free to non-military users by the U.S. government, beams information from a network of satellites into GPS units. A world-wide study discovered most of the world enjoyed GPS accuracy better than 16.4 metres with a 95-98% certainty.

This means that the true position of a boat can be anywhere within a circle of 16.4 metres radius drawn around the position shown on an electronic chart. In some parts of the world, this circle diameter increases to 23 metres.

Accuracy can be further reduced by adverse atmospheric conditions, electrical interference, or obstacles in the terrain, such as buildings, mountains or trees. Satellites themselves can also transmit errors.

Therefore never take precision as a given. Always check GPS derived positions at the start of a voyage and at times during the voyage using other established methods. For example; compass or relative bearings of a conspicuous charted feature, radar ranges from features, transits, depth soundings or ranges by dipping distances and vertical angles.

Difference of datum

Electronic chart displays are only as accurate as the sourced hydrographical data, and should be used in a similar manner to paper charts. For example, always use the largest scale chart available as they show more detail and any distorted errors are reduced to a minimum.

When agencies and businesses compile paper and GPS charts, data used to determine latitude and longitude can vary. Different systems of determining latitude and longitude used can assume different mathematical shapes for the earth (see right).

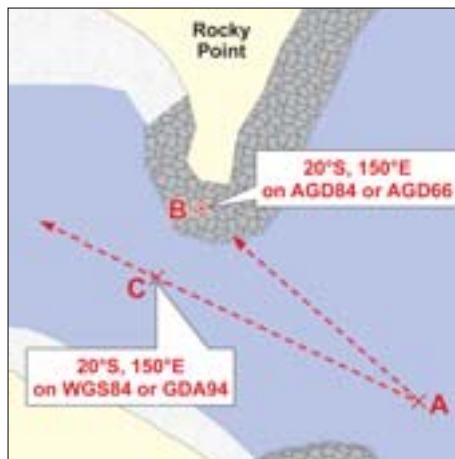


Many older charts used datum called AGD-66, while GPS and all newer charts, including those produced by the Australian Hydrographic Office and Maritime Safety Queensland, use datum called WGS-84.

In Australia, the difference between these two datum can be up to 200 metres – possibly the difference between clearing or hitting rocks or a reef (see map next column). In other parts of the world, for example the Caribbean, the difference can be greater.

When plotting a GPS latitude and longitude on to a paper chart which uses different datum, corrections must be made according to relevant chart notes. Many GPS receivers have the capacity to perform these corrections automatically. Boaties need to be aware whether this feature on their GPS is active otherwise they may apply a correction which has already been applied by the receiver.

Also, some charts used in GPS plotters are based on surveys conducted over 50 years ago.



Zooming in

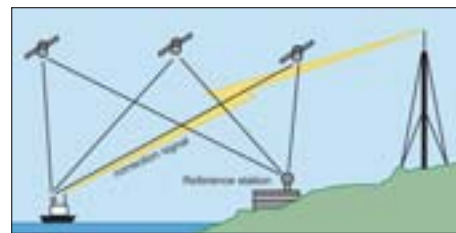
When charts are produced, a 'capture scale' is used. This means that the chart is viewed at no more than a certain 'zoom' otherwise the 'capture scale' is exceeded and the detail shown becomes grossly inaccurate. Some electronic charts such as 'Seafarer' warn boaties once this optimal zoom is exceeded.

By combining the factors that can diminish the accuracy of GPS units, it becomes clear that using GPS for navigating is not a substitute for sound navigational practices and should only be used in conjunction with existing aids to navigation.

In the future GPS units will become standard equipment on more recreational boats. Rather than reading a manual or consulting experts, many people use trial-and-error to learn emerging technology such as DVD players or

mobile phones. Learning to use a GPS this way could end in disaster, as the example at the start of this story indicates.

Before using your new GPS, you are obligated to familiarise yourself with the strengths and weaknesses of the equipment. As a starting point, it is recommended that GPS users undertake navigation and GPS courses currently offered by both Volunteer Marine Rescue (VMR) and the Australian Coast Guard.



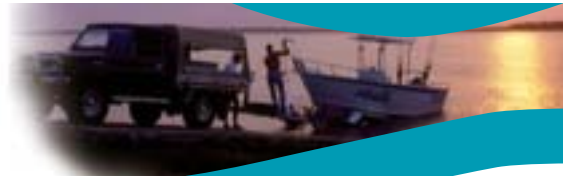
Stations improve accuracy

To improve the accuracy and integrity of GPS, the Australian Maritime Safety Authority (AMSA) has established 16 Differential (DGPS) broadcasting stations along the Australian coast. These stations broadcast in the 285-325 kHz frequency range, correction data into suitable configured GPS receivers to provide accuracy better than 10m (95% of the time).

Details of the available stations including a graphical representation of their coverage around Australia are given in the annual notices to mariners (www.hydro.gov.au). Non-official DGPS stations are also in wide spread use.

Common faults in using GPS and or chart plotters:

1. Masters not maintaining or ensuring that a proper lookout is occurring whilst the vessel is under way to identify any approaching hazards. It is important not to lose the situational awareness of the vessel's movement and course through the water.
2. Not zooming in to the largest available accurate chart scale. (If the zoom recommended exceeds the accuracy scale limit then a warning message is displayed on the screen).
3. It is advisable to switch the unit on and select the correct chart datum before departing. GPS units requires time to initialize and the master needs time to assess the accuracy of the position information prior to commencing the voyage.
4. Power failures or poor electrical connections.
5. Always ensure your charts are updated with all the latest chart corrections. Supplier upgrades will provide this update information.
6. When going to a waypoint, check what is in between your boat's initial location and the waypoint, which will be in a straight line.



Teaming up for oil spill response

A new oil spill response learning and development program will provide training to staff within Maritime Safety Queensland and other agencies involved in major marine pollution response. The training is designed to assist those involved in looking after the logistics, finance and administration support provided during major response operations.

The new course, developed by Leonie Braund and Russell Perceival of Maritime Safety Queensland, recognises that the success of an oil response is just as dependant on the skill and knowledge of the 'behind-the-scenes' staff, as it is on those providing the actual response.

Leonie was the Finance and Administration Co-ordinator during the major spill in Gladstone Harbour in January 2006 when the 130,000 tonne bulk carrier *Global Peace* split 25 tonnes of heavy fuel oil into the water. She stated, "Many issues were highlighted during this response and this program is a direct result of addressing these issues.

"For example, there was a situation where workers had no specific area to eat. Toilet and shower facilities were also limited. Considering issues such as these are important in planning for how and where your response effort will be set up. These 'nitty gritty' issues are addressed within the content of the new learning and development program," said Mrs Braund.

The course was delivered for the first time in mid-2006 in Townsville and has been recognised by the Australian Maritime Safety Authority (AMSA) as the leading program of its type in Australia. Departments responsible for pollution response in other states have expressed interest in training their own staff through this learning program.



Random lesson for passengers

Indigenous adults and children from Palm Island and Townsville received an impromptu lesson on the importance of safety equipment from Marine Safety Officers who were travelling on the Reef Cat in January.

The two representatives from Maritime Safety Queensland were returning from Palm Island after conducting routine monitoring of vessels when they took the opportunity to provide a practical demonstration on safety equipment to the 60 passengers who were onboard.

Many parents were keen for their children to be shown the proper use of PFDs but after some friendly persuasion from Marine Safety Officer Peter Kirkby (pictured above) and Marine Operations Officer Dave Hooper, the parents were also actively involved in the demonstration with many of them also donning life jackets.

"Without exception, the children were keen to participate and try on the child-sized PFDs," Peter Kirkby said. "The session became more a game with the kids all trying to outdo each other. As fun as it was, the children learnt some valuable lessons."

New edition of Small Ships Manual

The fifth edition of the Small Ships Manual is now available (left). The manual is a comprehensive onboard operational resource for all boaties and a training aid for commercial skippers. It includes information on all aspects of boating including handling, weather, safety equipment, emergency procedures and engineering.

Marine training providers use the manual as a text to assist people studying for their Coxswain and Master Class 5 commercial marine licences.

You can obtain the Small Ships Manual from Maritime Safety Queensland regional offices, TAFE college bookshops, some marine chandlery stores and specialist marine bookshops. The recommended retail price is \$35.

Upcoming events - 2007

APRIL

- 12 Maritime Safety Queensland Industry Forum, Gladstone
- 13-14 Karumba Community Anglers' Classic

MAY

- 5-6 Bay-to-Bay Yacht Race, Tin Can Bay to Urangan.
- 19-25 Toyota Fraser Island Fishing Expo, Orchid Beach
- 24-27 Sanctuary Cove International Boat Show, Sanctuary Cove
- 28-30 Marinas 2007 Conference, Gold Coast

JUNE

- 6-8 Gold Coast Boat and Fishing Show
- 7 Maritime Safety Queensland Industry Forum, Airlie Beach
- 9-11 Gladstone Observer Boyne Tannum Hook-up, Boyne Island
- 9-10 Oceanic Whitsunday Boat and Leisure Show

JULY

- 17-19 Crocfest, Thursday Island

AUGUST

- 20 Maritime Safety Queensland Industry Forum, Cairns
- 29-Sept 2 Brisbane International Boat Show, Brisbane Convention and Exhibition Centre

MarineSafe regional meetings

AIRLIE BEACH

- 30 April
- 11 June
- 23 July
- 3 September

BRISBANE

- 1st Tuesday of every month

New Marine Information Bulletins

Marine Information Bulletins cover important information for the maritime industry, and are also available on the MSQ website under 'Publications', or by contacting your local Maritime Safety Queensland office. The latest bulletins include:

- Commercial ships - electrical standards and licensed electricians
- Recreational ships - electrical standards and licensed electricians

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