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**AUSTRALASIAN**  
MARINE PILOTS INSTITUTE

# **SAFE** Passage

**AUTUMN  
2021**

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in Australian Ports
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Captain Neil Farmer



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# Presidents Report

## Welcome all to the Autumn Edition of Safe passage.

I hope this edition finds you and your families all well.

COVID-19 is still out in the community though it seems to have been brought under some semblance of control. There are however still hotspot outbreaks which quickly bring back locked down borders and other controls. The development of mutant COVID-19 strains is also a cause for concern.

The glimmers of hope on the horizon with regards to a vaccine have in recent days become a bright light as vaccines have been approved in Australia and the rollout will shortly begin in Australia. It is pleasing to note that the Federal Government have recognised the COVID-19 risk to marine pilots and we will thus be included in the early phases of the rollout.

AMPI has remained active in working on initiatives that will help our profession continue to provide value to our industry. Below are several of these initiatives.

**Webinars:** In regard to webinars, AMPI recently presented a successful webinar for AMPI / IMPA / UKMPA / NZMPA Members on "Ports providing ECDIS routes and passage plans to ship's as part of the pre-arrival process". The panel included a number of experts who spoke about the human factors, bridge resource management and accident investigation aspects of this as well as pilots who have implemented pre-arrival ECDIS routes in their own ports and the challenges that they have faced. A technical expert from the UK Hydrographic Office gave an overview of the developments in RTZ route sharing and the future with S100 ENC standards.

**IMPA Pilot Boat Transfer Study 2020:** Due to the three pilot deaths that have occurred in the last three years IMPA have become concerned with pilot boat positioning during transfers and have commenced a study of the relevant factors involved in pilot transfers, most specifically with the positioning of pilot boats when pilots embark and disembark from ships. AMPI has been asked to assist with this study and requests have been made supply information for this study so that the data can be collated and then forwarded onto IMPA.

The intention is that this information will then be collated along with information gained from other pilotage areas around the world to help provide a comprehensive view of current worldwide practices involving pilot transfers and from this it is hoped that recommendations can be presented to help mitigate the risk pilotage districts around the world.

**Mentor Scheme:** As mentioned previously AMPI have begun working with the Nautical Institute and other

professional organisations to create a mentor program. The intent of this scheme would be to pair up experienced Master Mariners with Cadets and Junior officers to help guide them in their career and identifying ways for AMPI to support them. If you are interested in being involved in this new program, then please contact [admin@ampi.or.au](mailto:admin@ampi.or.au).

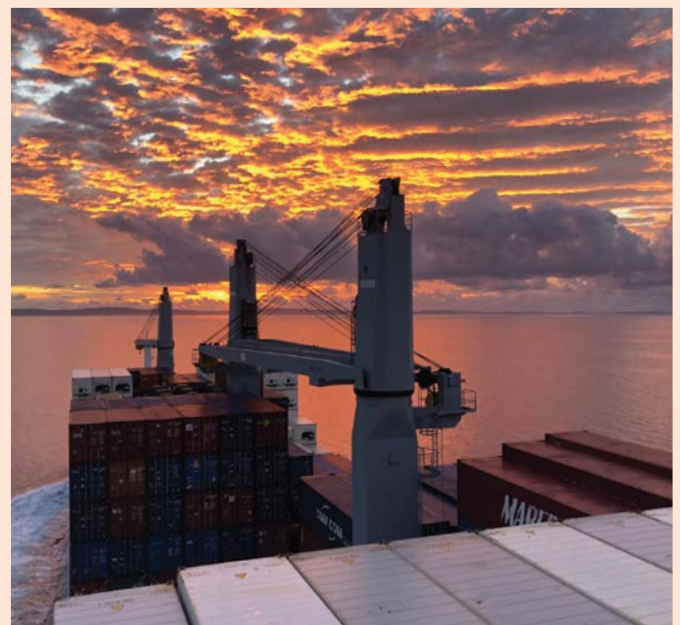
**Alternate Marine Pilot Training Program:** Due to discussions in Western Australia around marine pilot training and the possibility of establishing an alternative training program AMPI sent a letter to the WA Minister for Ports Alannah MacTiernan that detailed our efforts in developing an alternative training program. The intent of this program is to provide training to the level of expertise required by industry to ensure marine piloting is done in a safe and efficient manner.

AMPI also stated that we would welcome the opportunity to further discuss the alternative training program and a reply has been received from Minister MacTiernan that encourages AMPI to continue working on our proposed program and The Minister looks forward to meeting with AMPI when we have a proposal to consider.

In closing this Presidents Report I would again like to thank you all for the efforts you are making in keeping shipping moving and to remember that it is making a difference and it should go without saying that in these times of Pandemic, we should all be looking out for one another both nationally and internationally.

## Safe Piloting

*Peter Dann*



*Brisbane Marine Pilots, Fiery Skies*

# Treasurer's Report

**AMPI has experienced a steady financial growth over the past four years based on an expansion of membership, income from conference and workshop registrations and industry sponsorship. The gross revenue for FY 2019 – 2020 was \$423,578 resulting in a net income of \$94,477. These figures show a significant increase from the previous year where gross revenue was \$368,402 with a net income of \$77,290.**

The increase in revenue for 2020 reflects the high level of attendance and industry sponsorship to the AMPI Pilotage and Port Logistics Conference held in October 2019. The gross revenue from this event totalled \$263,769 against expenses of \$194,413. The gross income for this event was \$69,356.

During the past year, income from membership fees increased from \$129,956 to \$158,706. Membership levels for 2020 increased to 241 full members and 20 associate members. A rise of 31 members from the previous year. AMPI's administration team has been working to attract new members by seeking funding from their employers.

Another stream of income is corporate subscription to the Continuous Professional Development (CPD) programme. Figures for 2020 show an income of \$4,520. An increase of \$2,540 from the previous year.

To increase the return of AMPI's cash deposits, the Board has decided to set aside 200k of our cash assets to invest into a Westpac term deposit. This investment was opened in November 2019 and matured in July 2020 producing a gross interest of \$2,063.84. A new term deposit was renewed back in July with a maturity date of November 2020. Due to the low interest rates, the second term deposit is held with an interest of 0.73% and expected to produce a projected interest of \$497.08 on maturity. The strategy of the Board is to keep renewing this term deposit every six months and reinvesting the capital and interest accrued until such time as funds are required. AMPI keeps an instant access cash account fluctuating around the 150k mark to cover all operational costs.

AMPI's current financial position remains strong thanks to the continuous support of our members and sponsors. We have no significant financial liabilities. At the time of writing this report (Nov 2020) our cash account and term deposit total \$346,685.

The budget for 2021 has allocated fixed operating expenses for \$106,118. This amount covers payments of expenses and services incurred in accountancy services, annual IMPA subscription, administrator fees, tax obligations, corporate fees, professional fees for the peer programme, publishing and distribution of the Safe Passage magazine, website administration and communication costs.

In addition to the above operating costs there are variable occasional expenses that are conservatively estimated at around 20,000 per year. These expenses arise to support AMPI's continuous work in representing the pilotage profession, formulating policy papers, supporting industry initiatives, responding to developments in pilotage and reaching out to members with a proposed programme of webinars. Once travel restrictions ease, expenses are also allocated for the President to represent AMPI at international pilotage meetings and cover domestic travel to conduct AMPI business.

Following the 2019 conference, AMPI's next scheduled event for 2020 was a spring workshop in Port Moresby (PNG). This was postponed due to COVID. For this same reason, any subsequent AMPI workshops have been put on hold until further notice. This situation will have an impact on the financial position for 2021 as there is no projected income from workshop registrations and industry sponsorship. The expected revenue for 2021 will fall to \$187,074 with a net income of \$60,956 after deducting for fixed and variable deductions. This amount may reduce further if there is a need to increase our variable expenses.

It will take time before AMPI's income returns to preCOVID levels. The accumulated funds assure the continuity of AMPI's work for the benefit of its members and the advancement of the pilotage profession. However, to consolidate the growth achieved over the past years and sustain the work and growth of AMPI we rely on the continued support of our members and industry.

## Treasurer

**Bernardo Obando**



# The Foundation of AMPA/AMPI

The idea for the formation of a pilots association in Australia came about in 1989 after I had attended the first IMPA conference to be held in Australia which took place at the Regent Hotel in Melbourne in September 1988. The impetus for forming such an association came about because, at the conference, each country had four votes and they all voted as one with the exception of Australia, whose votes were split up by different groupings of delegates representing three private pilotage companies and the officers union.

New Zealand who had recently formed a national pilots association gave me a copy of their constitution, which I then adapted for Australia as the starting point for AMPA. I then wrote to every port and pilot service in the country asking them to join me to get AMPA up and running so that we could have a united voice in pilotage matters on the basis that this would only deal with professional and technical matters affecting our calling.

AMPA started off slowly with a \$25 annual membership fee to cover the cost of a quarterly newsletter that I composed and which I called Safe Passage. You also

received a membership card and a tie. From these early beginnings membership slowly grew as I discouraged company memberships in favour of individuals joining. Eventually AMPA had its first official meeting in Brisbane to formalise the structure and to elect office bearers. Steve Pelecanos (Brisbane) was elected President with Vince Nolan (Fremantle) and myself (Port Phillip Sea pilot) as vice-Presidents and David Richardson (Reef Pilots) was elected as secretary.

As AMPA became recognised as a voice for pilots I was invited to sit on the AMSA navigation sub-committee. I was also involved in the discussions when competition was to be introduced to the GBR pilotage area following AMSA take over of administration from the Queensland Marine Board.

As our membership grew we held committee meetings in Sydney, Cairns, Fremantle, Newcastle, Brisbane and Melbourne to which all local members were invited. AMPA later changed its title to AMPI so it could become involved with training.

I wish AMPI every success in its future endeavours representing Australia's pilots locally and on the international stage.

**Captain Richard Toone FNI MNM**

**(pilotage career –35 years ) Licenced pilot for Dampier, Port Phillip, Melbourne, Geelong, Westernport and Portland.**



Our very own Captain Andrew McClymont is recognised by the Nautical Institute for his efforts in presenting Certificates of Appreciation to ships visiting Brisbane.

# Smart Navigation & Digitalisation

## Introduction

The digitalisation trend has been underway for some time, but it would seem that the maritime industry is now fully immersed in the digital transformation. Conferences papers and presentations provide examples of applications of IoT, Big Data and Artificial Intelligence, whilst operators look for ways to implement blockchain technologies. Having spent the past 15 years spruiking the concept that data and technology can drive safer and more efficient port operations, I welcome the collective enthusiasm for new developments.

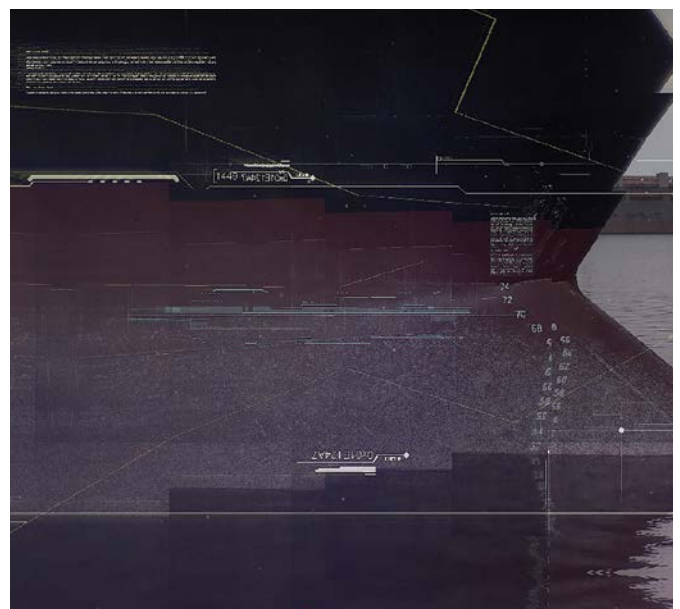
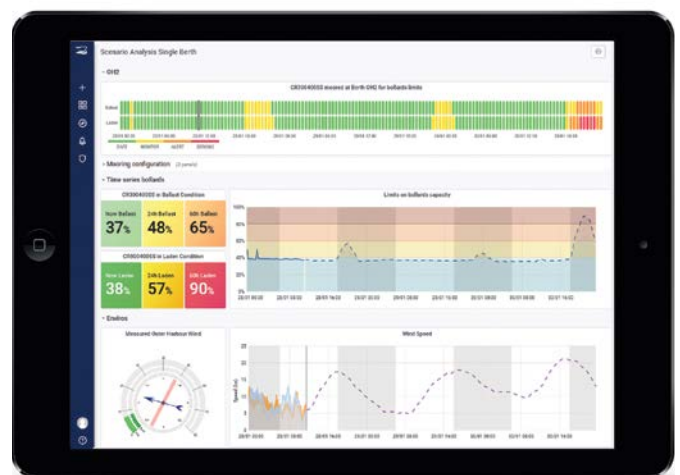
COVID-19 has accelerated the pace of technology adoption within ports, and driven a renewed industry awareness and discourse around risk more generally. Whilst the technology field in which I operate has nothing to do with mitigating the effects of COVID-19, it has everything to do with risk. An open dialogue around risk management for ports is a positive for the industry. I continue to observe disparities between what is possible (often easily and cost effectively) and what is actually done in practice, and remain mindful that what is possible is not necessarily beneficial. To that end, digitalisation should be viewed as a means to an end, rather than the end in and of itself.

## Risk & Resilience

The United Nations Conference on Trade and Development (UNCTAD) Review of Maritime Transport 2020 proposes that “adopting technological solutions and keeping abreast of the most recent advances in the field will become a requisite, no longer an option” for the maritime industry. It suggests that COVID-19 has accelerated a paradigm shift, with risk management and resilience-building becoming new policy and business mantras. UNCTAD argues that the experience of COVID-19 has emphasised the need for the maritime transport of the future to be calibrated to risk exposure and for enhanced risk management, suggesting that the industry’s business plans and policy agendas will need a greater focus on early warning systems, scenario planning, improved forecasts, information sharing, end to-end transparency, and data analytics.

John Blackburn AO, former deputy chief of the RAAF, has written extensively on resilience from a strategic national security perspective. He defines resilience as the ability to react, prepare for, adapt to emerging risk. He emphasises that you cannot prepare for risks that you don’t know exist. Identifying risk, therefore, is key to developing resilience.

Dr. Shuo Ma is the professor of shipping and port management and Vice President at the World Maritime University. In his 2020 presentation The Future of Maritime Risk, he highlighted that risk stems from uncertainty, where uncertainty results from not only lack of data and information, but more importantly the unknown relationships between data. Data acquisition is essential to managing risks, and right decisions are always made on adequate information. This view supports the concept put forward by Sidney Dekkar, Professor and Director of the



## OMC International *continued.*

Safety Science Innovation Lab at Griffith University, who argues that effective risk management is not evidenced by the absence of negative outcomes. To give a blunt yet relevant example, the fact that a vessel did not ground is not proof that the transit was safe. Extending on the concept, identifying when a 'correct decision' resulted because, or in spite, of incorrect data is just as important as knowing when an incorrect decision was made.

### Data, and the Dawn of Civilisation

Referencing ancient Sumer, the historian Yuval Noah Harari suggests that the development of civilisation as we understand it today was predicated on the ability to record, store and retrieve data. As the amount of information increased, the ability to manage it mentally was limited, as was the ability to pass knowledge from one person to another. It is argued that with the advent of writing and numerical systems, including base 6 (from which 24 hour days and 360 degree circles were derived) the ancient Sumerians effectively facilitated civilisation's expansion from local villages and tribes to cities, kingdoms and empires.

Enabling and enhancing data capture is one area in which digitalisation can deliver immediate benefits. In their Maritime Digitalisation Playbook, the Maritime and Port Authority of Singapore highlight the global trend of port operators to harness data to improve port efficiency, and provide greater visibility of operations. UNCTAD found that enhanced digital data exchange across port stakeholders enables better collaboration and decision-making. In the International Association of Ports and Harbour (IAPH) led and IMO endorsed call to action entitled "Accelerating digitalisation of maritime trade and logistics", released in June 2020, the authors note that while some ports had "seized the opportunities of the fourth industrial revolution", transitioning towards smart ports, many others have "barely grasped the essentials of digitalisation".

We at OMC operate in this digital arena, and a key challenge is identifying what technologies add genuine value to a port's operations. Dynamic Under Keel Clearance was first implemented in 1993 at Hay Point. At the time, the concept of using real-time data and computing vessel motions to determine safe UKC requirements was revolutionary. However, the benefits were clear through increased drafts and sailing windows, and reduced dredging requirements. Close to three decades later, the concept remains the same although wave buoys and tide gauges are now referred to as "IoT devices".

DUKC® and the associated suite of port optimisation and risk management solutions have advanced significantly with the improvements in computing power, and supported by developments in associated fields including: hydrodynamic modelling capabilities, high density bathymetric surveying, weather forecasting, real time met-ocean monitoring, environmental data assimilation techniques, broad adoption of AIS and

Electronic Navigational Charts (ENCs), and high precision measurement of vessel motions in full scale and real time using DGPS and IMU technologies. However, it should also be noted that many ports still operate without access to real-time measured tides.

Much discourse around digitalisation in the maritime sector is centred around automating laborious tasks. Certainly having a tide gauge that streams minutely water level readings in real-time to an internet accessible display is preferable to manually reading a tide board. However, our focus has been on enabling better decisions rather than bypassing the decision maker.

### Understanding Past, Present, Future

In terms of understanding data and its application to enhancing port operations, it is useful to think about its nature in terms of timing and quality.

Historic data can be useful in reviewing past actions, and providing feedback to inform future decisions. As an example, PPU recordings can be replayed to assess a pilotage of a specific transit. Likewise, the DUKC® Post-Transit Analytics function can amalgamate and provide transit reporting for multiple transits simultaneously to identify trends and outliers for transit parameters including vessel position, swept paths, and speeds.

Real-time data is critical in understanding what is happening right now, and enables operations to respond to changes. However, in many port operations, once a decision is made, the ability to change is limited. For example, once a vessel is loaded to a specific draft, it cannot easily be unloaded. Systems, therefore, need the capability to be responsive. The DUKC® for example, gives users the ability to interrogate the results and manipulate various configurations to enable the best decisions to be made regardless of the conditions.

Forecasting is perhaps the most challenging aspect in the topic of data, but an area that is also benefitting from advancements in digitalisation, both in terms of the technologies and the accessibility to more data to make better forecasts. At OMC, we apply (and are continuing to research) machine learning techniques to forecasting environmental conditions such as waves and tides, and the research is extending further into AI derived vessel response predictions. However, it is fair to say that with existing technologies, forecasts are imperfect. Decision support systems need to be flexible to accommodate imperfect forecasts, and perhaps more importantly, users of such systems need to be cognisant of what data they are relying on – historical, real-time, or forecast.

### Beware the Digital Illusion

Once data gets packaged up into a system, converted into information and presented to a user, the history of that data can be obscured. As the process or the problem



being solved becomes more complex, it is natural human behaviour to make simplifications. As the American journalist H L Mencken noted in 1920, “for every complex problem there is an answer that is clear, simple and wrong”. To illustrate this process of simplification, consider waves. An instrument records data for what is a very complex process and typically converts this into parameters, namely significant wave height and period, and potentially direction. These parameters make it easy to absorb the information, assess and compare. However, what gets lost is the intricacies of the energy of the wave that are described by its spectra, which whilst perhaps irrelevant for the casual observer, are critical for things such as vessel response. Two waves may have identical parameters, but different spectra. This would result in different vessel behaviours.

It becomes easy to view a display of the significant wave height (Hs) and forget that Hs is not the wave height, but a summary of the conditions that existed over the measurement period. Furthermore, Hs is not the maximum wave height, which from a risk management perspective, should be the concern. Lastly, the measured data describes what is happening at a specific location, which is likely to be different to the conditions elsewhere in a port or along a transit.

In the same vein as data quality, it is important to remember in the implementation of technology that the appearance of performance does not equate to actual performance. The example given to me by a pilot was in relation to full bridge ship simulators where the point was made that some simulators have great graphics, but the underlying vessel handling models do not seem as accurate or realistic.

## Resisting Change

Digitalisation and the implementation of technology has, and will continue to, enhance port operations from both efficiency and safety perspectives. However, change can be difficult. I recall a conversation with a CEO who had presented to their board a summary of digitalisation trends in the maritime industry with the intention of progressing the port down the path of digitalisation. Rather than embracing the opportunities, the board instead asked “how can we protect ourselves from digitalisation”. Not quite the response that had been hoped for.

A recurring theme in the arguments against change is that of “we’ve always done it this way”. The risk with this mindset is that fails to recognise that the basis on which existing processes were conceived may have changed. There are numerous examples in the port sector including new vessels that are larger and faster, increased port traffic, dredging and other port developments, and weather events that are more extreme, frequent, and persistent. A recent example was an analysis for a client that showed their latest average winter swell heights were



## OMC International *continued.*

20% higher than for the previous winter, and 47% higher than the annual average. The more severe conditions were managed with DUKC® to ensure the safety of every transit, and using the data captured and made available through DUKC®, the client was able to understand the operating environment and adapt accordingly.

Behavioural scientists suggest this mindset is exacerbated by the cognitive bias referred to as the Dunning-Kruger Effect. This particular bias refers to how people perceive a concept or event to be simplistic just because their knowledge about it may be simple or lacking. In short, the less you know about something, the less complicated it may appear. Where there is resistance to change, another cognitive bias can also dominate, namely confirmation bias, the tendency to search for, interpret, preference, and recall information in a way that confirms pre-existing beliefs. As the Greek philosopher Epictetus noted some 2000 years ago, "it's impossible for a man to learn what he thinks he already knows".

One behavioural model put forward describes the objections to change or adoption of new technologies in four stages. Stage 1 is rejection or denial of the data that proves the capabilities or benefits of the technology, i.e. the technology doesn't work. Stage 2 is the argument that what works elsewhere won't work for me or in my situation. Stage 3 is that whilst the technology works, the benefits don't outweigh the costs. Stage 4 is that whilst the technology delivers net benefits, the solution doesn't address every problem being faced, or can't handle a selection of very specific, infrequent situations.

## Summary

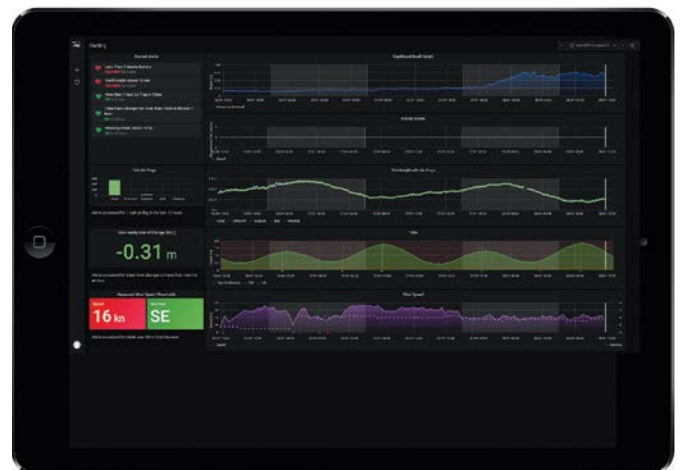
The UNCTAD 2020 Review of Maritime Transport notes that smart navigation and advanced analytics are being used to optimize ship operations and reduce fuel consumption and greenhouse gas emissions, whilst MPA Singapore emphasises that increasing adoption of digital technologies is enhancing safety. At OMC, we are seeing both these trends continue.

DUKC® has contributed on the optimisation front by increasing sailing drafts and windows. A recent study of the Pilbara iron ore exporters estimated that DUKC® reduced their shipping CO2 emission by 1.2m tonnes and their fuel costs by ~USD\$120m annually. From a data analytics perspective, OMC's Dynamic Port Capacity Model was the basis on which the declared capacity of Port Hedland was increased from 495Mtpa to 617Mtpa. DUKC® Post-Transit Analytics is being used to monitor vessel performance, assess channel risk, and evaluate decisions regarding depth declarations.

From a safety perspective, DUKC® aside, OMC's next generation BerthAlert system is being used to determine the mooring line forces and motions of vessels at berth, providing warnings when moored vessels will be risk due to the environmental conditions or passing vessel interactions. To facilitate the capture, storage, retrieval

and display of metocean data, OMC has also developed PortWeather. PortWeather is a highly customisable dashboard that can be tailored not only to a port, but to specific user groups within that port. In addition to displaying (and allowing downloading of) measured and forecast environmental data, PortWeather can display met-ocean equipment QA/QC diagnostic information, and can deliver automated alerts when operational parameters are reached. The intent is to give users as much detail as they require to make informed, data driven decisions.

This year, OMC will be releasing our latest development which will give pilots quick and easy access to more detailed transit data and analytics than ever before, enabling a more comprehensive understanding of their operating environment. The aim is to empower pilots to make the best decisions possible based on the all the data available.



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# Weather Forecasting in Australian Ports

## Who is Weatherzone and what do we do?

Over 20 years of servicing Australia's Ports and Maritime industry, Weatherzone (a DTN company) has blended the impact of severe weather on port operations with new technology to help mitigate the weather risk encountered by port users.

Australia's Ports are the gateway for international trade and coupling a hyperlocal port forecast with clear communication, allowing Ports to operate effectively and safely.

Ashleigh Lange, Weatherzone Head of Meteorology Communications discusses the main weather risk to Port Operations.

## What are the weather risks to ports?



Many of Australia's Ports were established based on natural topography, hydrography and how these protected vessels and port operations from the elements. Botany and Port Phillip Bay are examples of naturally protected locations which provide such sanctuary. As demand on Port operations increases as does the size of vessels this presents new challenges related to weather which need to be addressed by port users and weather forecasters.

### ***Sustained strong winds and gusts generated by weather phenomena other than thunderstorms.***

Broadly apparent across all Ports is the impact of wind on port operations. Sustained winds exceeding 20, 25 and 30 knots cause problems for VTS, Pilotage and stevedores. There are a few other weather phenomena apart from thunderstorms and cyclones that can generate sustained winds of at least 20 knots and damaging wind gusts. Different ports around Australia and the world have different weather phenomena that impacts the operations of their port.

## EAST COAST LOWS

For eastern Australian ports, East Coast Lows can cause storm force or gale force winds, as well as heavy rainfall and dangerous surf. East Coast Lows (ECL) are deep low pressure systems, which occur in New South Wales (NSW), southern Queensland (QLD) and eastern Victoria (VIC). They are not too frequent, only occurring a few times a year in autumn and winter, however they are most likely during June.

## SOUTHERLY CHANGES OR 'SOUTHERLY BUSTERS'

Cold fronts passing to the southeast of Australia can cause southerly changes or southerly busters that can impact NSW and VIC ports (they also occur in New Zealand and Argentina). Sydney observes around 5 southerly busters per year, usually on very hot days, which generates a cool change behind the southerly.

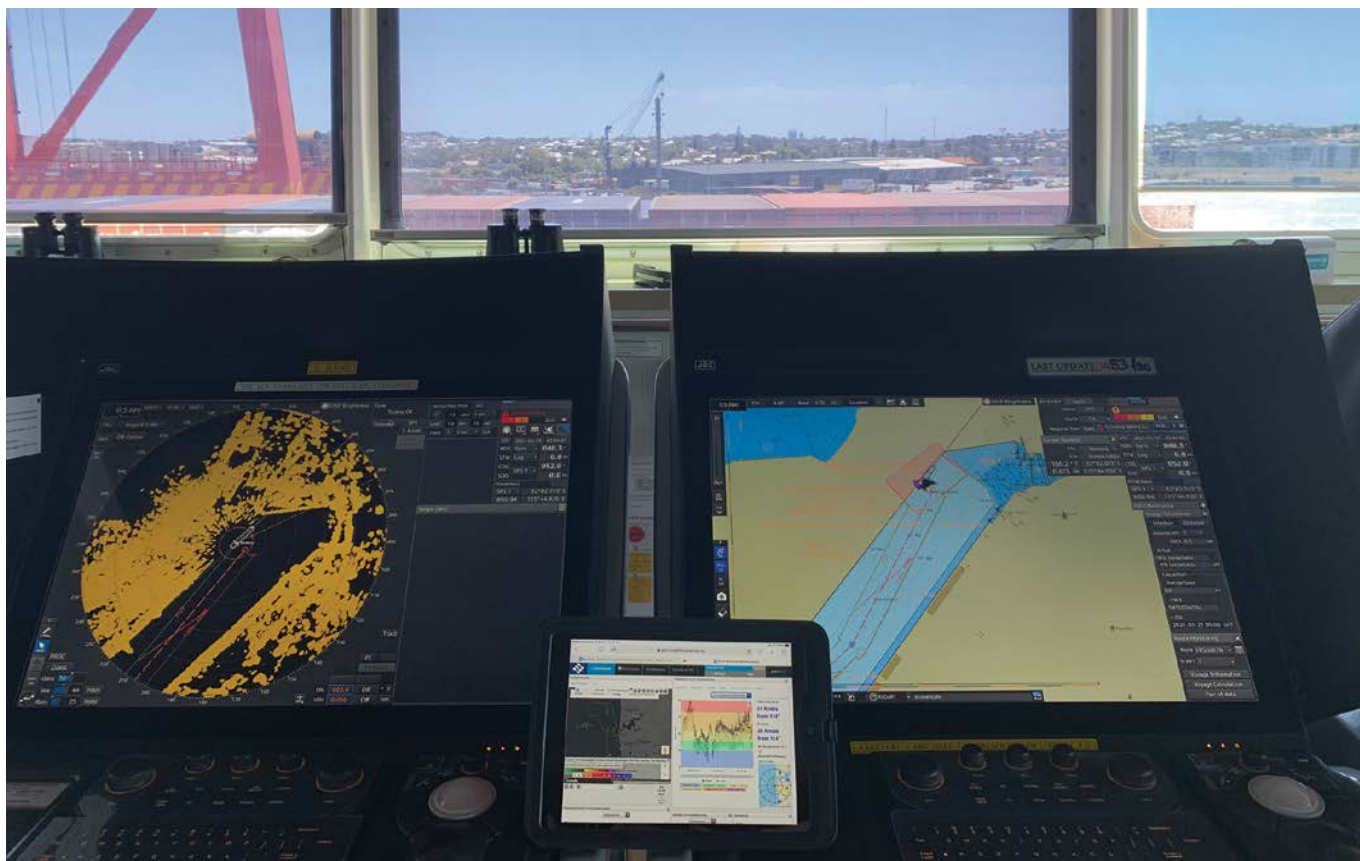
The strongest winds in the southerly buster are at the leading edge and wind gusts can exceed 40 knots (74km/h), with winds easing slightly after an hour after arrival. The strongest gust associated with a southerly change recorded along the NSW coast was 70 knots (130 km/h) at Port Kembla on 20 November 1973.

## THE FREMANTLE DOCTOR

The Fremantle Doctor is another term for a strong afternoon seabreeze that impacts the southwestern coastline of Western Australia, in particular the Perth region. Seabreezes are generated by large temperature differences between the land and the ocean, which occurs during hot days in summer. The Fremantle Doctor's winds may reach 10 minute wind strength of above 25 knots, on very hot days. The strongest winds are from the south to south to southwest, which due to the port's orientation causes issues when the ships are turning. Accuracy of Fremantle doctor's arrival time is paramount to Fremantle Ports, as delays cost time and money to many stakeholders as well as safety issues. Weatherguard is Weatherzone's app, which feeds quality and up to date data to pilots and other operators who are out in the field (Figures 1 and 2).



**Figure 1:** Stuart Proctor from Fremantle Ports using the Weatherguard app.



**Figure 2:** Weatherguard app being used at Fremantle Ports by pilots.

### THUNDERSTORMS

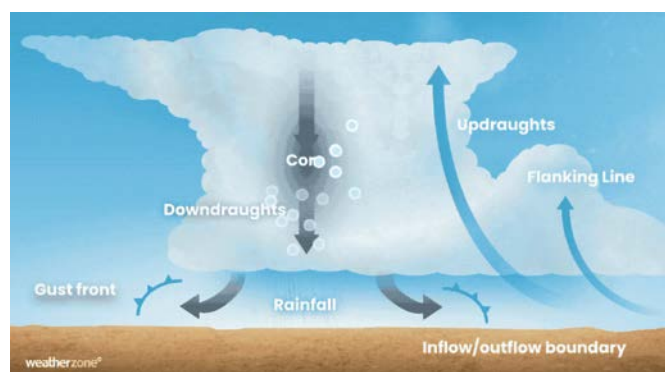
Thunderstorms are very tall cumulonimbus clouds that produce lightning and thunder. They may also produce hazards such as lightning, strong winds, microbursts, hail and heavy rainfall, which all impact port operations. Thunderstorms can happen at any time of year in Australia, but most lightning strikes are observed between September and March. The majority of storms form between these months because they need warm and humid environments.

While non-severe or ‘garden variety’ storms generate hazards to ports in Australia, severe thunderstorms can produce significant damage. Severe thunderstorms may generate frequent lightning, large hail (2cm diameter and greater), damaging wind gusts (90km/h or greater), tornadoes and heavy rainfall, which can lead to flash flooding. A break down of all of the thunderstorm hazards that can impact ports is below;

### DAMAGING WINDS AND MICROBURSTS

In Australia, the strongest measured wind gust during a thunderstorm was 196 km/h at Double Island Point, Queensland, on 16 December 2006. However, not all storms are severe, and some don’t cause damaging wind gusts at all. How do some thunderstorms produce damaging wind gusts and microbursts?

Within thunderstorms, there is air that moves up and down, called an updraught and a downdraft (see Figure 3).



**Figure 3:** Weatherzone’s diagram of a thunderstorm.

Severe thunderstorms are formed by a strong updraught that creates a large tall cloud. Water droplets within the updraught collide and grow larger, the longer they are suspended in the air. The droplets eventually form clouds and can develop into thunderstorms. When the droplets move above the freezing level, hail can form.

Once the hail and rain droplets are too heavy to be suspended in the updraught they fall and drag surrounding air towards the ground. A downward current of air or downdraught forms, with both rain and air falling very quickly to the surface. As the rain and hail fall towards the ground, the air cools, becoming very heavy and dense.

The downdraught then speeds up, racing towards the ground. The downdraught will then hit the ground at speed and rapidly spread out horizontally (Figure 3). This can result in a gust front, an outflow boundary or a microburst, which can all generate damaging winds (Figure 3). Microbursts are a very localised phenomenon,

## Weather Forecasting in Australian Ports *continued.*

which is less than or equal to 4km wide, which general weather models typically cannot discern.

It is best to check your thunderstorm risk each day, while also assessing the maximum wind gust that may be reached at your location. The ground level wind forecast often does not necessarily reflect winds that may be reached in a storm or shower.

It depends on the port's orientation but wind gusts in a certain direction can impact operations significantly.

### HAIL

Hail is another hazard associated with thunderstorms, severe thunderstorms in particular can generate hail greater than 2cm in diameter. Hailstones (solid balls of ice) the size of cricket balls have been observed in Australia. How do storms create hail that large? Hail forms when there is a strong updraught, which enables frozen rain droplets to collide and grow in size the longer they are suspended in the air. When the hail becomes too heavy for the updraught, it will plummet down to earth, possibly causing damage to port property.

### LIGHTNING

Lightning is one of the most dangerous and common weather hazards to ports in Australia. Weatherzone owns and operates the Weatherzone Total Lightning Detection Network, one of the most advanced networks of its kind in the world. Total lightning, dangerous thunderstorm alerting and PulseRad set our network apart from any other.

The dangerous thunderstorm alerts are issued for severe storms when our total lightning network detects high

rates of lightning and potentially dangerous conditions. PulseRad is equally as useful and is a radar alternative based on total lightning detection providing continuous radar coverage.

PulseRad is updated every minute for regions that are not covered by radar. It enables advanced warning and nowcasting of building storms, ensuring accurate alerting with increased lead times.

Weatherzone can help improve safety, optimise efficiency and provide early warnings, thunderstorm tracking and heavy rainfall detection to your ports.

### HEAVY RAINFALL

Severe thunderstorms may produce heavy rainfall that may lead to flash flooding. Heavy rainfall and flash flooding can be generated by slow moving thunderstorms, thunderstorms moving over the same area and also storms that have formed in a high humidity environment.

### TORNADOES

While tornadoes are rare, they do occur in Australia (10-20 sightings per year) and they are the most damaging of all of the thunderstorm hazards. Tornadoes are rapidly rotating air, which contacts the ground and can be from 1 metre to over a kilometer wide, (if it contacts the water it is called a waterspout). Tornadoes generate destructive winds that have in rare cases reached over 300km/h and can lift heavy objects, posing one of the greatest risks to ports. Given they are so rare and are a small scale feature, tornadoes and winds of this strength are rarely forecast by models. This is where meteorologists and radar come in,



to communicate risks and nowcast. Some nowcasting tools that meteorologists use to monitor thunderstorms and hazards are below.

## 6 ways a meteorologist monitors thunderstorms and hazards

Our meteorologists monitor a variety of systems to detect storms, including;

- Radar
- 10 minute satellite data from Himawari 8.
- Storm tracker and Titan
- Automatic Weather Station (AWS) data which show real time observations.
- Hydrological gauges- rainfall observations
- Weather balloon profiles- which show how unstable the atmosphere is.

The majority of these tools are available to our clients and are useful in forming decisions for your port and ensuring safety. Thunderstorms are certainly not the only hazard to ports, a description of the other weather phenomena is listed below;

### TROPICAL CYCLONES

Tropical cyclones are deep low pressure systems that form over tropical waters. The tropical cyclone season in Australia runs from November to April, with an average of 9-11 cyclones forming during this period in the Australian waters. On average 4 of those typically make landfall each year.

Tropical cyclones can generate gale force winds, storm surges and heavy rainfall that may lead to flash flooding.

An imminent tropical cyclone is likely to halt operations in ports as well as threatening lives and property.

Gale force wind gusts of at least 90 km/h around the centre of the cyclone are likely, however in the most severe cyclones wind gusts may exceed 280 km/h. If these winds are onshore, the low pressure and strong onshore winds may generate a storm surge, generating significant sea level rise. Storm surges may be one of the most dangerous hazards of all.

Heavy and persistent rainfall is of course a hazard of a tropical cyclone. However, if the cyclone weakens to a low pressure system, heavy rainfall and flooding can persist a long way from where the cyclone crossed the coast.

### How do we use computer models and what is Opticast?

Weatherzone's forecasters use a variety of weather models (including our own, Opticast) to forecast the weather. Weather models predict ocean and weather movements on an hourly, weekly and monthly timescale.

Weatherzone's Opticast model is an industry leading high precision forecasting system. Opticast is optimised for both "real-time nowcasting" and forecasting up to 15 days ahead. Developed by Weatherzone over the past 10 years, Opticast has become one of the most trustworthy forecasts available in the Australian market and has been independently verified to outperform other computer models.

Opticast is continuously optimised in real-time, and significantly outperforms single-model forecasts of temperature, humidity, wind speed and direction, cloud cover and rainfall (amongst over 30+ parameters). The



## Weather Forecasting in Australian Ports *continued.*

forecasts update hourly based on real-time observations and the latest guidance from a suite of Numerical Weather Prediction models.

Weatherzone's meteorologists have access to the world's best weather models. However, there are many other tools they use to forecast the weather as well. These include real time weather observations and trends, radar, lightning detection, storm tracking and TITAN storm tracking software, 10-minute satellite data and many more.

A vast number of observation sites across Australia provide real time temperature, wind, humidity, cloud, rainfall and visibility data to our meteorologists and internal weather models. These real-time observations are fed into the computer models, which learn and adapt their forecasts based on the current conditions. As the models step forward in time, the temperature, humidity and wind etc are updated and a forecast is produced based on mathematical equations to predict future weather.

### OBSERVATIONAL DATA

The observational data is also used by meteorologists to verify computer models and to check their performance. Our meteorologists will look at which model is performing the best currently in relation to the observations (model forecast vs reality). The meteorologists will then use the best performing model/s in developing their forecast, along with other tools mentioned above. If many weather models match the current conditions and have a similar forecast, there will be higher confidence in the forecast, which our meteorologists will convey through their commentary.

Whilst computer models are good - and constantly improving - they aren't perfect. One example of their shortfall, particularly for global-scale models, is that they can struggle to discern the effect of smaller-scale features - such as thunderstorms and associated damaging winds, heavy rainfall or hail. Thunderstorms may miss and move around your location, when it is on the forecast.

Again, this is where the meteorologist comes in.

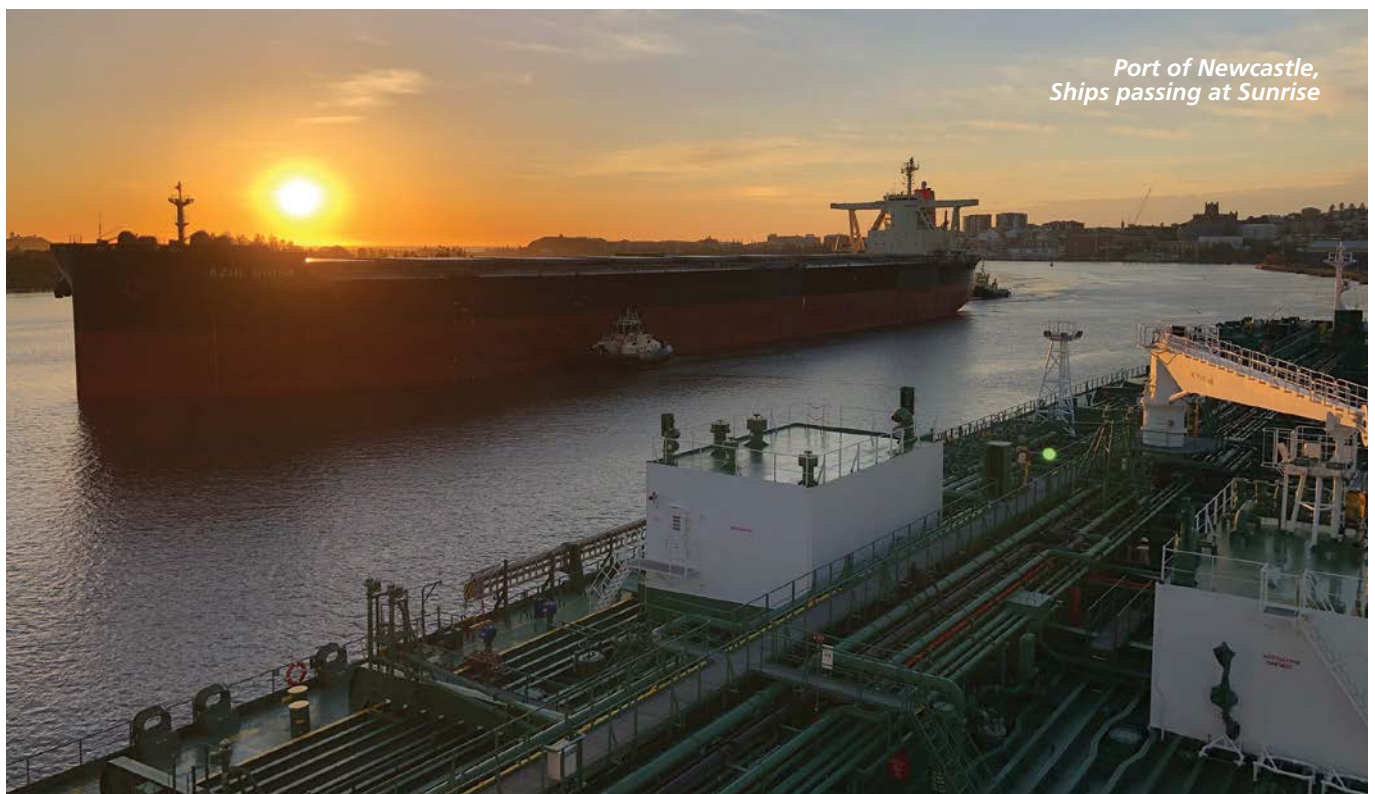
The role of a meteorologist in the modern day is to look at computer model predictions and alter them, where necessary, based on knowledge of the atmosphere and the local environment. Comparing a range of forecast models for a given region and time is also crucial to produce accurate forecasts.

Weather prediction is improving year-on-year as computers, and meteorologist's understanding of atmospheric processes, continue to progress.

Radar, storm tracker and TITAN, satellite imagery and lightning detection data are also used by our meteorologists when there is an imminent risk of storm and/or wind gusts to your port.

### How to contact Weatherzone

To contact us at Weatherzone and to learn more about our services and consulting, please contact Chris Janson at [cjanson@weatherzone.com.au](mailto:cjanson@weatherzone.com.au).





# GENERAL NEWS...

- **LNG Fuelled Bulk Carriers Maiden Voyages to Port Hedland & Newcastle**

The world's first LNG fuelled bulk carriers have made their maiden voyages to Australia, with the HL Green visiting Port Hedland on the 7th January 2021 and her sister ship the HL Eco visiting Newcastle on the 11th January. These 180,000 t bulk carriers vessels have been designed to reduce carbon emissions.

These ships are easily identified by their two large LNG fuel tanks sitting on the stern, each holding 1600m<sup>3</sup> of LNG.

The ships are expected to operate liner services between Korea and Australia.

- **Newcastle Coal Exports remain strong with only a 2.3% reduction in 2020**

Newcastle exported 158.4 million tonnes of coal in 2020, only a small reduction from the 162.1 million tonnes recorded in 2019.

- **Gladstone reaches record milestone in LNG exports in 2020**

Gladstone Ports Corporation (GPC) is forecasting a successful 2021 for the community, region and the State after achieving a record high for LNG exports for the month of December, with a 7.5 percent increase on its previous trade figures.

Acting CEO Craig Walker said throughout December, GPC exported 2,193,785 tonnes of LNG and welcomed 176 vessels to its three ports in Rockhampton, Gladstone and Bundaberg.

"We're extremely proud of our December results with the LNG trade performing a record month, demonstrating that renewables are leading the charge," Mr Walker said.

A strong final quarter of 2020 pushed Gladstone LNG shipments for the year to a new high of 22.37 million tonnes, up from 22.12 million tonnes in 2019, despite a weak July-September quarter because of low demand in key markets related to Covid-19 impacts.

- **Port Kembla Fast-tracks LNG Import Terminal**

The New South Wales Government has placed the new Port Kembla Gas Terminal on its Priority Project List to support the state's economic recovering from the impact of COVID-19.

The project would involve a direct connection from Gas Terminal to the 797km Eastern Gas Pipeline.

- **Advancing the Marine Transportation System through Automation and Autonomous Technologies**

This sixth biennial conference in partnership with the U.S. Committee on the Marine Transportation System (CMTS) will showcase current and emerging innovative science and technologies related to maritime transportation. Join your colleagues from government, industry, and academia to examine the rapidly evolving applications of autonomous and automated technologies. Through engaged discussion and debate with noted thought leaders, directed panelists, and leading scientists and engineers, we will explore the direction, technical challenges, enabling technologies, and potential hurdles to successfully navigate the future of the marine transportation system.

<https://trb.secure-platform.com/a/page/marinetransport>

- **OCIMF Recommendations on Usage of ECDIS and Preventing Incidents**

OCIMF has released a paper aimed at ship owners, operators, Masters, Navigating Officers and bridge team members including pilots as well as ECDIS system manufacturers. Key chapters in the information paper cover ECDIS carriage requirements, ECDIS training and familiarisation, passage planning and alarm management.

<https://www.ocimf.org/publications/information-papers/recommendations-on-usage-of-ecdis-and-preventing-incidents>

- **International Taskforce Port Call Optimisation has released a Port Information Manual for Ship-Port Interface Data**

The Port Information Manual (PIM) has been written by the International Taskforce Port Call Optimization (ITPCO) and aims to provide a better understanding of the data exchanged in the ship-port interface and of the existing international standards that connect ships and ports. As such, this work contributes to current efforts of the industry and IMO to accelerate digitalization (resolution MEPC 323(74) and achieve the GHG emissions reduction target for the shipping industry.

<https://portcalloptimization.org>

- **NZMPA releases Good Practice Guide to Pilotage Planning**

The NZMPA has released a Good Practice Guide to Pilotage Planning. NZMPA hopes that the document will set the standard internationally for passage planning in pilotage waters.

[www.maritimenz.govt.nz/commercial/ports-and-harbours/documents/good-practice-guide-to-pilotage-planning.pdf](http://www.maritimenz.govt.nz/commercial/ports-and-harbours/documents/good-practice-guide-to-pilotage-planning.pdf)

## General News *continued.*

- **AMSA bans Barkly Pearl from Australian waters for 24 months**

The Barkly Pearl was initially spotted on the 3rd November 2020 travelling through Australia's northern waters with a large hole in its hull.

Due to concerns over the structural integrity of the vessel, the potential threat of pollution to the marine environment and the immediate risk to the seafarers' safety, AMSA issued an intervention direction instructing the vessel to the nearest safe harbour at Geraldton.

For the past two months, AMSA ship inspectors worked with the vessel owners and operators to develop an appropriate repair solution and yesterday, 7th January 2021, the Barkly Pearl was loaded onto the MV Falcon, a semi-submersible Heavy Load Carrier to safely depart from Australian waters.

Before it could depart Australian waters, the Barkly Pearl was issued with a refusal of access direction notice, under the Navigation Act 2012.

AMSA's General Manager Operations, Allan Schwartz, said this means the Barkly Pearl is banned from entering or using an Australia port for 24 months.

'This is a significant decision by AMSA. It's the first time a vessel has been banned from Australian ports for this length of time and it will certainly affect the vessel's commercial operations.

- **Darwin Port**

Defence is investing \$520m to redevelop Larrakeyah Barracks which services the Royal Australian Navy, Army and Joint Task Force units in the Darwin Area. Part of this redevelopment is the construction of a 250m wharf able to accommodate amphibious ships, support vessels, submarines, surface combatants, specialist minor war vessels and the Canberra class LHD. Up to now, warships visiting Darwin use Fort Hill Wharf, which is part of the port's infrastructure.

Volumes of cargo handled by Darwin port, mainly LNG, livestock, refined oil products, manganese, general and specialist cargo have seen a moderate steady increase in the second semester of 2020. Exports of iron ore are planned to resume during the first semester of 2021. There are currently no plans for the return of cruiseships to Darwin for the first quarter of 2021.

The Treasurer, a Darwin pilot, also wants to remind all pilot members to keep up maximum vigilance and follow strictly your port's biosecurity protocols. It is the best line of defence we have to avoid contagion, in particular from close contacts with asymptomatic/ undeclared cases.

I had a close COVID contact with an unreported case whilst piloting a cattle carrier vessel. The vessel called in Darwin and submitted a pre-arrival COVID declaration to

the port and authorities that all crew were in good health. Unbeknown to all, the helmsman, an engineer and an AB were COVID positive.

The vessel in question has a small bridge so there is not much room to maintain a 1.5m social isolation among the bridge team. However, we were all wearing masks, maintaining as much distance as possible and, in addition, I was wearing glasses, sanitising hands and wiping radar controls and binoculars on a regular basis. I was also lucky this was the last vessel assigned to me on that day so I arrived home to a shower and changed clothes.

A few hours after disembarking from the vessel I was notified of a possible COVID case found by the NT health nurses that board the vessel on arrival. The following day, two more crew were found positive and I was sent into 14 day isolation at home. Most of the crew were transferred from the vessel into isolation ashore whilst the confirmed cases ended up in hospital. I was confirmed a close contact as I had been standing for about one hour at a distance of 1.5m or less from a positive yet asymptomatic individual (the helmsman).

After two COVID tests (on day 5 and 11 of the isolation period) I was given the all clear. I firmly believe that following the biosecurity protocols as best as I could saved me from having an extended holiday in hospital. Please keep vigilant at all times, is your best line of defence.

- **Change of Directors**

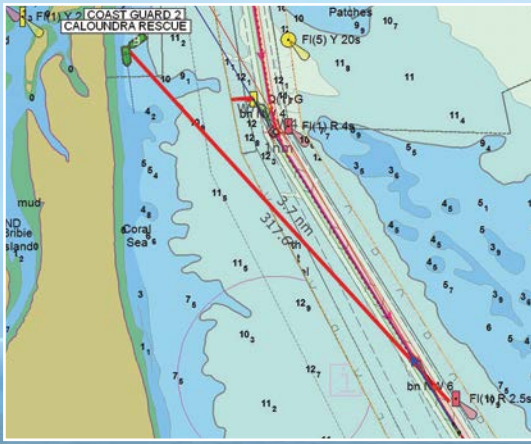
**At the 2020 AGM the following Directors retired from their roles on the AMPI Board.**

Captain Stuart Proctor  
Captain Nick Hess  
Captain Warwick Bell  
Captain Luke Felsing

**Also, please let us welcome our new Directors:**

Captain Nicolas Fischer  
Captain Andrew McClymont  
Captain Marcus Barret





# Marine Pilot Captain Ryan Miller *finds stranded boatie*

**On Sunday, 29th December Brisbane Marine Pilot, Ryan Miller found a stranded boatie from the bridge of his outbound ship, after being requested by VTS to keep a look out for a person suspected to be in the water around the North Brisbane Island area.**

"We weren't given much information at all. I had lookouts posted with binoculars, predominantly searching towards the Island. I was doing occasional scans to the East and as we approached NW6 beacon, it looked a little different. When I looked at it through the binoculars, I could see a man jumping and waving both arms in just a pair of red shorts, blending in with the overall structure of the beacon. You don't realise how large the beacons in the Bay are until you see someone standing on top of one. I immediately ran out to the wing with the Aldis lamp and flashed him so that he knew he'd been seen. VTS were then contacted.

Initially, it was a bit of a weird feeling, you know, you don't expect to find someone once they have gone overboard – the sea state was around 4 or 5 at the time, there was little information about where, how or when he'd gone overboard and it was getting late in the day – he could have been anywhere. At the time of spotting him it was 1848LT, with the main search efforts by SAR parties being made more than three and a half mile away from the beacon, twenty minutes later it was dark.



I didn't think much of it to begin with and it wasn't until later, after a couple of conversations with other merchant seafarers, that I realised it kind of was (a big deal). The situation brought back memories of revising IAMSAR for orals and the many search and rescue drills and the associated discussions throughout my years at sea.

The knowledge you build over years of experience as a merchant seafarer and the studies required to attain your Master Unlimited CoC helps to prepare you for the many situations that can occur whilst having the conduct of a vessel under pilotage – this was another one of them."

Photos of the beacon and of Ryans PPU at the time showing where the search vessels were looking.

# International Standard for Marine Pilot Organisations - ISPO

**ISPO was first conceived by Rotterdam Pilots in the 1990s due to recognition of the fact that pilotage Safety Management System (SMS) were not able to adequately address the management and legal support required in pilotage operations. The solution to this unique issue was to mix the ISM Code with some critical pilotage requirements.**

ISPO has now been in place for over 15 years

The three core values of ISPO are -

1. ISPO is a marine litigation benchmark
2. ISPO is a defensible and tailored SMS for marine pilotage management
3. ISPO is an internationally recognized SMS for marine pilotage and is third party verified

Gladstone Marine Pilot Service (GMPS), a subsidiary of Gladstone Port Corporation made a decision in mid 2020 to seek ISPO certification through Lloyds Register.

The process commenced in late 2020 and took approximately 3 months. This process involved London Offshore Consultants, on behalf of Lloyds Register reviewing our current SMS and suggesting some changes to certain documents and processes. This was done remotely, not just due to COVID restrictions but also to prevent the need for a consultant to be on site for possibly many months.

London Offshore Consultants then visited the ports of Gladstone, Port Alma and Bundaberg to meet certain members of the management team, our wonderful administration staff and accompany a pilot on a pilotage. The administration staff were heavily involved in the process providing evidence of training and records. A good administration system and an existing SMS made the process quite straightforward and management acknowledge that it would be a far more difficult task without either of those in place.

Unfortunately, we are not able to reveal the cost of this certification although management can confirm that the benefits of being ISPO certified - being able to inform stakeholders (some of which are multinational companies) of such outweigh the costs involved.

GMPS will shortly introduce a feedback form which will be sent to ships with arrival documentation via the ship's agent. There will be a survey which the master can complete either via a website or a QR Code to provide feedback to us so that we can continue to improve our pilotage service.

Finally, ISPO accreditation could make a bold defence statement in the event of an incident within the environment of port operations so long as it is correctly applied and audited.

**Marcus Barrett – Marine Pilot**  
**Gladstone Marine Pilotage Service**

Port of Gladstone,  
Panamax Bulk Carrier



# The Port of Newcastle

The port of Newcastle is located 60 nautical miles north of Sydney. Captain James Cook sailed past Newcastle in 1770 and sighting Nobby's described it in his log as a 'small clump of an island lying close to shore'. It was not until 1797 that Lieutenant John Shortland whilst pursuing escaped convicts from Sydney discovered what is now the Hunter River and collected coal samples from the shore. In 1799 the first commercial export of coal left Newcastle for India on the barque 'Hunter'.

It goes without saying that the maritime history of Newcastle is as old and as rich as any port in the country. The people who live and work here are immensely proud of the city and port, it is a major cog in the economy of NSW and Australia and is one of the largest and busiest ports in the country.

## Who is responsible for what in Newcastle?

**The 'Port Authority of New South Wales' are responsible for:**

- Pilotage services and the Harbour Master
- Promulgation of depths
- Vessel Traffic Information Centre (VTIC)
- Port Safety Operating Licence, including incident reporting, emergency response (including oil or chemical spill response), permit notifications (e.g., dangerous goods, bunkering and hot works)
- Coal framework arrangements
- Inductions for access to Port Authority of NSW sites
- Maritime security functions for Port Authority of NSW activities
- Nobbys Headland

**The operators of the port are the 'Port of Newcastle' a private consortium and are responsible for:**

- Trade and port development
- Management of 792 hectares of port
- Trade and port development
- Wharf and berth services
- Maintenance of major port assets
- Vessel scheduling
- Dredging and survey services
- Cruise shipping
- Legal, planning and environment
- Finance
- Community and stakeholder relations

## Some interesting facts and facets of piloting in Newcastle



***A large ballasted Cape entering the port***

There are currently 24 Pilots in Newcastle comprising 10 Check Pilots, several unlimited pilots and several pilots still progressing through various training and licence levels. All trainee pilots progress through a Newcastle 'Marine Pilot Development Program' that is extremely comprehensive, and we believe is best practice. Pilot licencing requirements in NSW are detailed in the NSW Marine Pilotage Code.

In Newcastle, there are 8 licence progressions before becoming an unlimited pilot and this takes a pilot approximately 3 years to complete. Apart from all of the observation, supervised and check pilotages required during training, there is a very structured simulator training matrix that is conducted and run at the AMC simulator by Newcastle Check Pilots at three specific stages of the training: initial licencing, Panamax licence upgrade and Cape licence upgrade.

At each of these stages of the training, a very thorough oral exam is also conducted by the Harbour Master and a Check Pilot to ensure that the pilot has attained the appropriate knowledge to handle this increased class of vessel. Very comprehensive oral questions have been developed and documented and are used in the process.

Pilot transfer is mainly by helicopters operated by Babcock's (Hughes 500) and approximately 80% of transfers occur this way. To date in excess of 70,000 safe helicopter transfers have occurred in the port. The other 20% of transfers take place by pilot cutter utilizing our state-of-the-art cutter 'Henry Newton'.



***Hughes 500 helicopter***

## The Port of Newcastle *continued.*



**'Henry Newton' -pilot cutter**

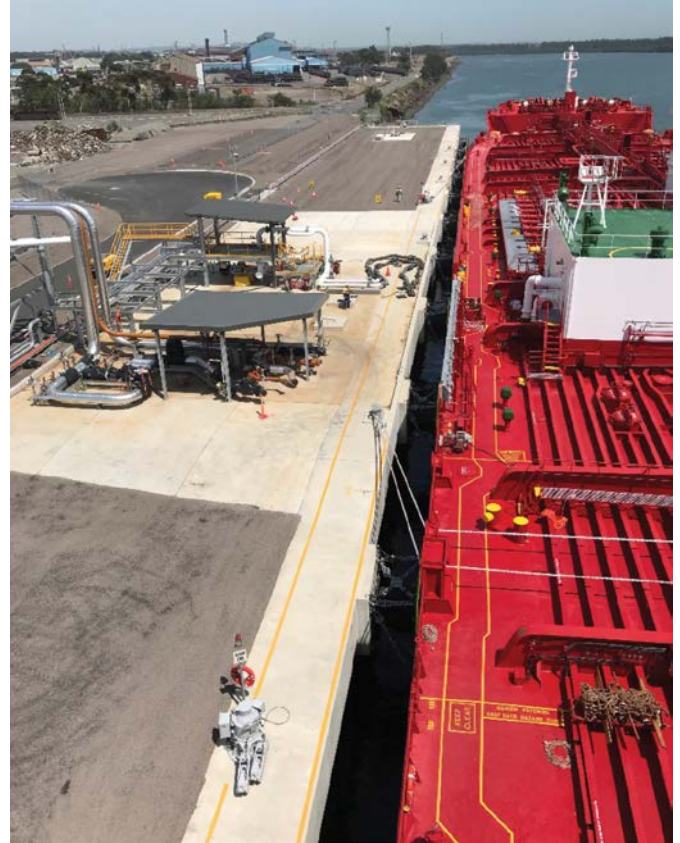
The three pilot boarding grounds off Newcastle are approximately 4 to 5 miles ExS to SE of Nobby's (Alpha, Bravo and Charlie), the furthest berth in the port being Kooragang 10 some 4.4 miles from the entrance. Boarding ground 'Charlie' is specific for tankers. For those who have sailed into Newcastle, one thing that sticks into most minds is the prevalence at times of significant south easterly to southerly swells.

Although we have specific operational criteria for loaded handy size vessels and loaded tankers entering in swell conditions, and various wind limitations on vessel movements, generally non tanker vessels would be piloted in swells ranging up to 4.5m.

Due to the vessel's port quarter generally being exposed to the swell when entering port, there is always a tendency for the vessel to yaw or sheer to port, sometimes very dramatically, and it is quite common to enter Newcastle in bad weather using starboard helm the whole time to counter the port sheer even though the vessel is altering course to port to enter the harbour.

For non-tanker vessels we utilise passive escort whereby at least half of the attending tugs escort the vessel from 0.5 miles off the entrance. These tugs are in close proximity to the vessel and all pilots are extensively trained at the AMC simulator in the emergency use and procedures should the vessel lose engine power or have a steering failure and the pilot needs to use the attending tugs to safely get the vessel into the port to then stabilize the situation.

Just over two years ago loaded LR1 and LR2 tankers started calling at Newcastle and significant analysis and development of operational procedures for active tanker escort was carried out at the AMC simulator to define the maximum operational limitations that these vessels could be handled in should there be engine or steering failures.



**One of the first LR1 tankers to enter port at berth M7 (M.V Brook Trout)**

There are three tugs in the port that have been fitted with special high load rendering winches that are certified and capable of active escort and are able to apply loads up to 120 tonnes or more to the high load capacity escort bits fitted to the stern of the tankers. The active escort tug rendezvous with the tanker 2.5 miles from the entrance and are required to be made fast no closer than at 1.5 miles from the entrance.

Specific requirements for arriving tankers can be found in Newcastle Harbour Master Directions found on our website. Any tanker with a draught  $\geq 11.0\text{m}$  requires a SAUCS approval to enter. Pilot boarding ground 'Charlie' was specifically positioned to ensure that loaded tankers could make the safe controlled approach to the port entrance and have sufficient time to make fast the active escort tug. Extensive trialling of handling loaded tankers utilizing active escort for emergency use was undertaken at the AMC simulator and all of our procedures for these vessels are based around minimising the risk envelope for these high-risk pilotages. All pilots undertake simulator training in active escort tanker operations.

Manoeuvrability issues for vessels at Newcastle are certainly not only confined to arriving vessels. The loaded Capes that depart have minimal underkeel clearance and always must comply with a SAUCS approval to depart. All departing vessels with draught  $\geq 13.6\text{m}$  require a SAUCS approval to sail. Our dynamic underkeel clearance system was developed by OMC International and is similar to

that used in many ports in Australia and overseas. Our main channel is 15.2m promulgated depth so sailing on the high tide tidal window, departure draughts can be up to approximately 15.5m with loaded displacements approaching 200,000 tonne or more depending on the tidal range for the day.

For those who know Newcastle well, rounding the 'Horseshoe' with a loaded departing Capesize vessel can at times present challenges, it not being uncommon to experience 'rudder stall' whereby the vessel just wants to go in a straight line ahead, no matter how mush rudder or engine power is applied. Of course, all the pilots are highly trained for and familiar with this unique situation and deal with it effectively by utilization of the attending tugs (on a 4-tug vessel there is always one made fast on the port quarter to push the stern to starboard should rudder stall occur).



**Starting the turn into the 'Horseshoe' on departure**

Our main 'Steelworks Channel' is in most parts only 180m in width and bank effect, tidal flows and wind effects all have significant effects on piloting. It is commonplace with strong NE or NW winds when piloting inbound Capesize vessels in ballast, that to safely navigate the 'Steelworks Channel', the lee side shoulder tug is squared off and pushing to maintain the pivot point of the vessel in the correct channel position. Due to the size of the large Capes and the channel width, to steer the vessel only to allow for leeway would result in a dangerously large and unacceptable swept path of the vessel.

Being a river port, significant rainfall events create their own issues for pilots, including significant tidal flows on the ebb tide due to the water in rainfall catchment areas of the Hunter region flowing down the river to sea and an unusual water cushion effect that occurs in the port when berthing a vessel with significant fresh water in the harbour. Sometimes it is quite difficult to push a vessel to the berth, due to the inability of the freshwater layer to find its way around and under the vessel hull when in proximity to the berth.

Another very interesting piloting feature in Newcastle is taking ships to the NCIG berths (Kooragang 8, 9 and 10).

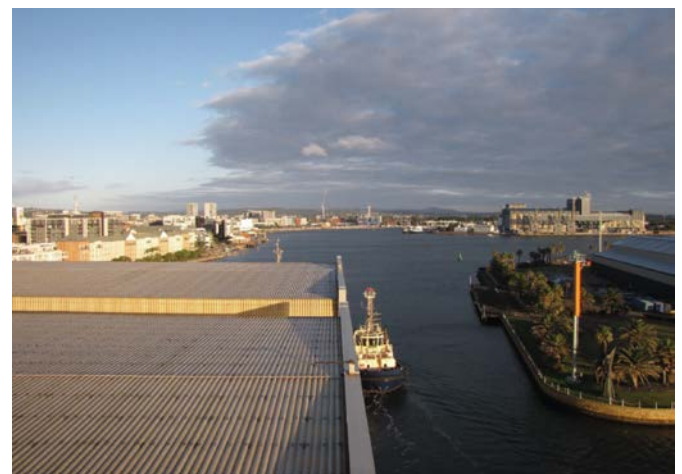
For this manoeuvre we swing the vessel at the Kooragang swing basin and back the vessel a full mile as far as Kooragang 10 berth. Although generally pilots use PPU units, well designed leads are in place so that during the backing manoeuvre and when standing on the port bridge wing to see astern, offset leads (designed offset by half a beam width of a Cape vessel) allow the pilot to exactly know to within a couple of metres how far north or south from the centreline of the channel they are positioned.



**View aft from the port bridge wing looking at the lead arrangement**



Another interesting part of the harbour is the 'Basin Cut' which leads from the main entrance channel into the 'Basin' area. The largest vessels that can be piloted through this narrow opening (122m wide) are 265m Ro-Ro vessels. General cargo vessels and car carriers generally use the Basin berths. The Basin entrance is subject to significant tidal effects and is always a challenging area for any new pilot.



**View into the Basin Cut on a Gear Bulk vessel**

## The Port of Newcastle *continued.*



### Cargoes and commodities and port layout

People often think that Newcastle is only a coal export port, but it is far more diversified than that. Other ship types that call include passenger vessels, general cargo vessels, tankers ranging in size up to LR2, heavy lift vessels, car carriers, small container vessels and warships.

In 2020 there was 4514 shipping movements in Newcastle. The largest vessels we handle are 300m x 50m Cape size bulk carriers, the largest passenger vessels well over 300m in length.

Export commodities include, Aluminium, Ammonia, Ammonium nitrate, concentrates, general cargo, grinding media, machinery, meals and grains, pitch and coal tar products, silica sand, steel, timber and wheat. In 2019 the non-coal exports totalled 880,290 tonnes with a trade value of \$1.859 Billion dollars. Total export trade (including coal) in 2019 was 166,132,596 tonnes with a trade value of \$19.772 Billion dollars. Coal exports represent 96% of the trade through the port. In 2020, 158,400,000 tonnes of coal were exported. Some 22,000

trains per annum deliver coal to the port from mines some over 400km away.

There were some 15 different commodities imported via Newcastle in 2019 totalled 5,239,307 tonnes with a trade value of \$4.797 Billion dollars. The latest figures for 2020 are not available at the time of writing this article.

In the future there is the possibility of large LNG vessels and exceptionally large container vessels calling at the port. Should this occur, this will impose even greater demands for specialist pilot training and further refinement of the excellent pilot skills that Newcastle pilots already attain to.

### 'Trustworthiness Personified'

#### Joseph Conrad 1857-1924

The famous Polish-British author Joseph Conrad described marine pilots as 'trustworthiness personified'. It is fair to say that Australian marine pilots are regarded as some of the best in the world.

The feedback that we get locally from very experienced Masters (both on cargo vessels and passenger vessels) is that they regard Newcastle as an exceptional port to visit where the skills exhibited by the local pilots are in their opinion 'world's best practice'. Certainly, a wonderful compliment for the methods and systems of pilot training that has evolved in Newcastle over many years, and the very highest of standards practiced by the pilot group day in and day out.

Conrad's description of a pilot is integral to the history of the Newcastle pilots both past and present.

#### Captain Malcolm Goodfellow

#### Check Pilot – Newcastle



Picture courtesy of Port of Newcastle



# News from Port Ash *January 2021*

Our team of retiree facilitators, largely born around WW2, reflect on how lucky our generation has been with no wars, no depressions and mostly with modern conveniences and medicines to keep us comfortable and safe. The Covid-19 comes as a surprise in our autumn years but we also reflect how lucky we are to be tucked away in the southern hemisphere with control over our borders - and leaders to enforce them!

Domestically there is little to report with few courses. The weather has been variable, the rain welcome and balanced by a recent east coast heat wave. More 'weedbergs' appeared and disappeared in the deep-water section over the Christmas break. Where necessary we sink them with a boathook to release the methane or use the dinghy's weed cutting propellers. Clearly this is only a short-term solution and major maintenance dredging is planned for February to keep the lake navigable in the long term.

Navy have now confirmed a model of the new Arafura class Offshore Patrol Vessels (OPVs) this year. There will eventually be twelve in the class and some sources report that it will eventually be extended to twenty to replace the present ageing mine hunting and hydrographic ships using the same hull and machinery design. I can't immediately see any use for it in pilot training.

Two Adelaide pilots here in December were interested as they observe the real Arafura grow over time. I wish I could see the same as we cross Hexham bridge and pass by the long disused Carrington Slipways. Many ships such as the recently retired Aurora Australis of 1990 were built there and of them all, only Accolade II is still working to the best of my knowledge.

For 2021, three new Intermediate Navigation Courses per annum are planned and we understand there will

be about six OPV trainees per course. As beginners their training will clearly be confined to the safe handling of small twin-screw ships and a specific course will be designed for them. Selected extracts from our generic Course Notebook - familiar to many of you - will be adapted for class-specific twin-screw ships with wind, current and anchor use in simplified form.

I mention this because it is an interesting first stab at an 'ab-initio' pilot training course, a subject discussed on and off for over twenty years. As the Australian merchant fleet continues to shrink, the question of where future Australian pilots will come from is already problematic. This country has always relied heavily on immigrants - self included - so that Australia can avoid the cost of training, but there are still young Australians interested in the sea and ships. There are also others such as masters of tugs and other craft who would make good future pilots with appropriate training.

There are many aspects to being a pilot, but the primary task is port protection in handling ships to and from the berth with or without tugs. 'Ship driving' is a crude expression but an accurate one. Doing it well is within most people's gift and this is where ship-models show their value.

Simulators, commonly used since the 1980s, show a picture of the real world which has valuable uses and works well for e-navigation. Training ships such as AMCs Wyuna were damageable, expensive to run and long retired but on reflection, their task continues with scale manned ship-models which also work as real ships in the real world. The accelerated time fazes some people initially, but we observe the advantage is that trainees very quickly become automatic in the skills required for slowing, swinging and berthing in a way not otherwise possible.



## News from Port Ash *continued.*

The new course will therefore be an interesting experiment in teaching young people to acquire ship handling skills before they handle their ship, and it will be interesting to see how an evolved course might benefit the training of future pilots. Navy call it the 'seaman's eye' – a term not generally heard aboard merchant ships. Our observation is that it is all learnable with very few exceptions.

On the lake, berth identification signs have been erected by our staff and look very smart and professional. I have updated a new version of the chart to include the entrance to West Dock plus some chart corrections that a proper harbour master would have done long ago. Plan is to create one or two berths within West Dock using rigidly moored barges for the time being. We will evaluate what might be required for the future somewhere down the track but meantime it is a good manoeuvring exercise for the existing ships. The entrance is long enough to steer through using a centre-aft tug to brake as is done in European locks and is built wide enough to accommodate future models which will probably be larger bulk and container/gas ships.

Recently we have had contact with the All-India Pilots Association. They are interested in building a manned-model centre for Indian pilots with possible participation by the Indian Navy. The initial contact came through Ravi Nijjer with whom Andrew did a presentation during an online meeting last year. It seems to have aroused interest and I have written an article for the AIMPA magazine.

Like many others, our business was severely affected last year but the team is still intact and life goes on. We finished December with two courses, the first for three Gladstone pilots and one pilot here privately, the second comprised two Adelaide pilots for a 3-day Refresher & Emergency course.

There was a degree of nervousness about short-notice border closures - something we will have to get used to while the plague is upon us and a vaccine still in the wings. More Queensland pilots have been here since Christmas and courses are booked for March and later in the year with vacancies to be seen on our website.

*Happy New Year to you all.*

**Cliff Beazley & Team**  
**28th January 2021**



# PORT ASH

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## REAL FEEL REAL WORLD

SHIP HANDLING  
TRAINING AND  
RESEARCH CENTRE



Port Ash Australia utilises manned ship models to provide real feel, real world training on its purpose built 2 Ha (5 acre) lake, and employs experienced Marine Pilots to provide world class training.

Providing specialised training for:

- ✔ Masters
- ✔ Marine Pilots
- ✔ Officers
- ✔ Naval Officers

# SMARTSHIP

Smartship Australia's traditional service delivery to mariners has been face-to-face. With the onset of the COVID-19 pandemic and its impact on services, Smartship reassessed its training and simulation services to continue to provide as many services as possible to Australia's maritime industry.

Smartship's Director and Principal Instructor, Captain Peter Listrup noted that without continued access to these training services, our customers' pilotage services were likely to be adversely affected.

Thus, Peter and the team at Smartship implemented several options for remote simulations of ship handling and port development projects as well as redesigning some courses to provide online learning options. This has included Port specific pilot training, Port development and Pilot licensing as well as Advanced Marine Pilot training and Check Pilot training.

Mirrored simulations have also enabled pilot interviews and simulator assessments to proceed across Australia and New Zealand.

Peter stated that these new training options continue to provide viable alternatives for our customers and noted that some customers have also invested in hardware to enhance the interaction at their home offices. "We are particularly excited that mirrored simulation services open up a range of opportunities for our international customers or customers with a broad stakeholder base. We expect that the demand for these services will continue to develop and evolve, providing opportunities for more stakeholder engagement in simulation activities".

There are two main methods for remote (mirrored simulations):

1. Only Smartship's instructors and technical support on site and all other stakeholders' interacting from office, conference venues or home.
2. Having only the involved pilots at Smartship, with mentors and harbourmasters etc staying in their office interacting with the simulations.

Peter also stated that Smartship has developed procedures and agreements with pilot service providers' IT departments and a range of conference venues. This provides a standardised approach to setting up remote sites, including hardware, monitors and projectors. Furthermore, Smartship has invested in an in-house video streaming server with 10 times higher resolution than zoom, using the stream from the simulator's visual channels and the bridge instrument.

Apart from the mirroring of the visuals, bridge equipment and providing a bird's eye view, we are also transmitting the PPU data across to the mirror simulator setups, hooking up Smartship's PPU antennas with a Wi-Fi router at the receiving end. On the bridge at Smartship, we have several 4K video cameras and adaptive microphones to provide for the face to face interactions with the mirrored setup.

In parallel with the mirroring of simulations we have also launched a Learning Management System enabling the delivery of interactive online and hybrid courses and the creation of subject knowledge centres.

Smartship's expansion project is also in full swing. This expansion will add 400 sqm of training and office space, enabling us to meet the increasing demand for training. The expanded facilities are expected to be commissioned in March 2021.

## Mirrored simulations at Cliftons conference centre, Melbourne 11-12 June 2020



*Port Philip Sea Pilots, Melbourne*



*Smartship Australia, Brisbane*



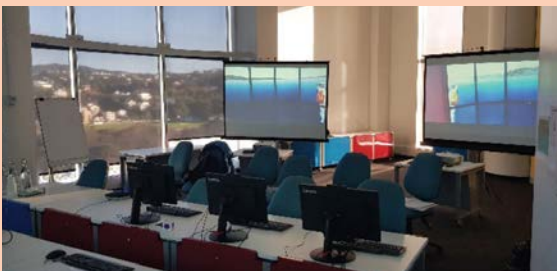
*Smartship Australia, Brisbane*



*Smartship Australia, Brisbane*

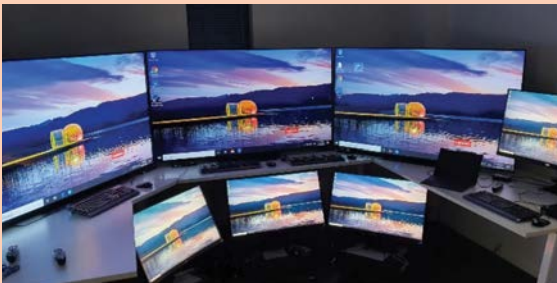
# News from AMC Search

## Mirrored simulations for Kiwirail, Wellington 11 December 2020



*Cliftons conference centre, Wellington, NZ*

## NQBP's permanent mirrored simulation setup in Mackay



*Mackay's current setup*



*Soon being upgraded to this setup*

AMC Search is pleased to report that it is operating at full capacity under COVID-19 safe conditions. This includes safe campus check-in processes for contract tracing purposes, advanced hygiene practices, and implementing strict social distancing requirements.

These measures have been institutionalised to make sure AMC Search can deliver the courses industry needs to be compliant and safe. The major focus for 2021 is on refresher training that is hitting the five-year peak period.

To help Port Pilots refresh their STCW Certificates, AMC Search are running Continued Competence Refresher courses every week during 2021.

For Port Pilots that need to revalidate their full CoC, AMC Search has also scheduled Part A with CPSC and AFF.

Similarly, GMDSS renewals are due to hit a five year high during 2021-2022 and courses will be held regularly throughout the year in both Launceston and Sydney.

The Kongsberg powered Centre for Maritime Simulations is also operating normally under COVID-19 safe conditions with BRM scheduled in March, June and November while both AMPT and Human Factors training courses can be delivered on-demand.

For Pilots interested in Port Operations, AMC Search has also launched the world's first internationally accredited online remote VTS training courses.

AMC Search would like to take the opportunity to thank AMPI and its members for their continued support and we look forward to seeing familiar faces and hopefully some new ones on campus throughout 2021.



*This article was first published in the Cruising Helmsman magazine and is aimed at the yachties exploring the Great Barrier Reef, however I thought it would be a great article to diversify the content. I hope you enjoy it as much as I do.*

*Editor - Ricky*

# Yachting in the Great Barrier Reef

## A Pilots Perspective

**First thing is the “Wet (Cyclone) Season” i.e. NW Monsoon is usually between December and April, but it can be earlier or later. Don’t be there then. If for some reason you are and there is a cyclone in the offing – take shelter. If you tie up to wharf you could get bashed to pieces. If you go to anchor, you might be safe yourself, but if someone else drags their anchor.....? A good safe place is a mangrove creek. It is mud all round you, and you are pretty well sheltered with most of the wind deflected overhead.**

The rest of the year is the “Dry Season” and it is the SE Trades and great sailing weather.

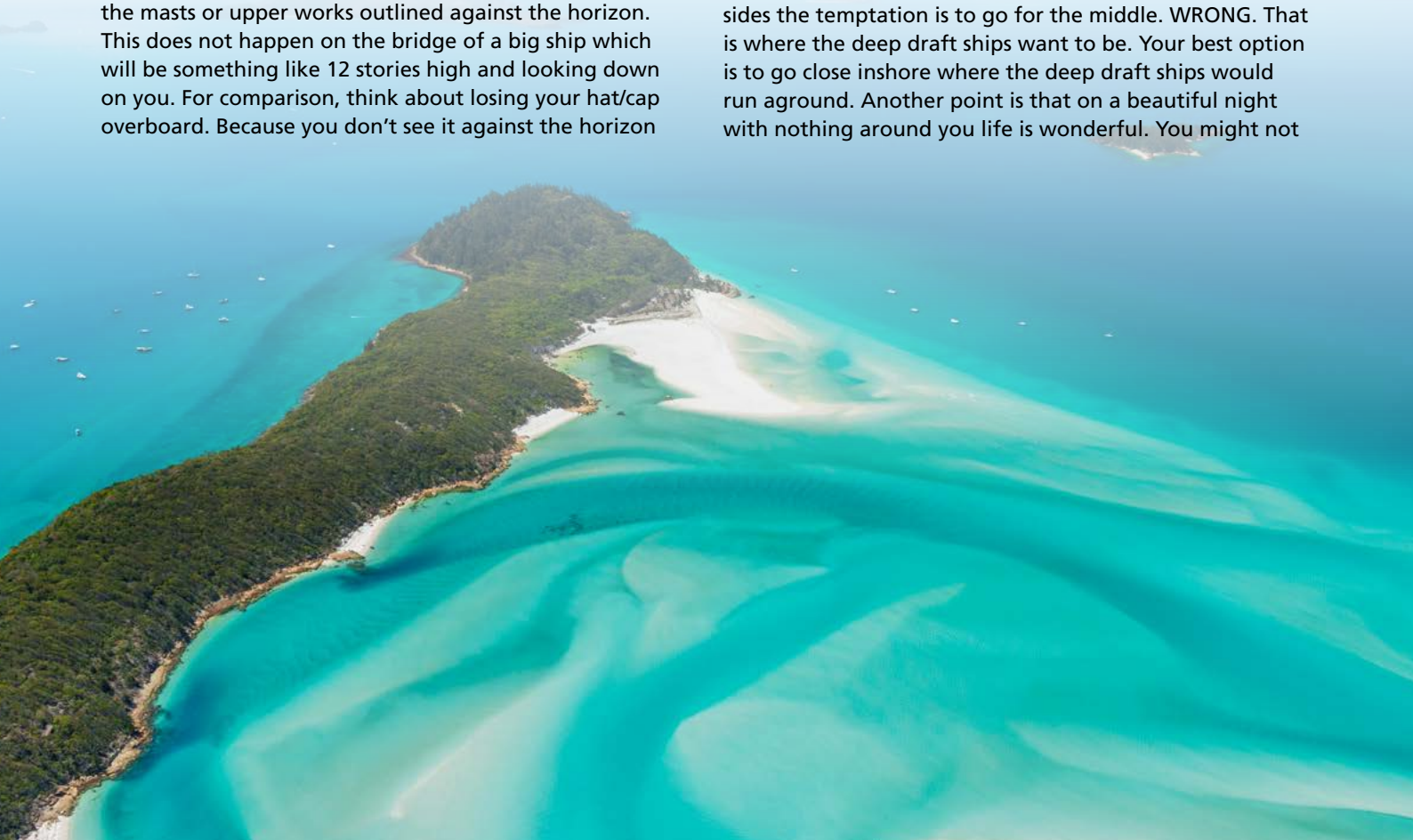
Now let’s look at some of the other points. The first thing to appreciate is that you are virtually invisible. We normally pick up other boats or ships visually by seeing the masts or upper works outlined against the horizon. This does not happen on the bridge of a big ship which will be something like 12 stories high and looking down on you. For comparison, think about losing your hat/cap overboard. Because you don’t see it against the horizon

you soon lose sight of it, in spite of it being in garish colours your wife hates.

“But I have got a radar reflector!” Same thing only worse. The radar is a lot higher than the bridge and its blind spot downwards extends a long way forward. (This is where the term “flying under the radar” comes from.) Personally, I do not want to see that mountain range 40 miles away, but I would like to see that buoy, or yourself, 3 cables (1 cable is 1/10 of a nautical mile) away in monsoon rain when I cannot see that far visually. In the old days a ship would often have a second “river radar” which was mounted on the foc’sle and therefore quite low down and was very good at seeing buoys etc. However in the name of progress cost accountants have got rid of them.

The safest option is to invest in an AIS. Money well spent.

Before yachts got GPS, at night they would often anchor in the lee of an island and open a bottle of red. When GPS came along the inclination to keep going was often irresistible. Because you have got reefs fairly close on both sides the temptation is to go for the middle. WRONG. That is where the deep draft ships want to be. Your best option is to go close inshore where the deep draft ships would run aground. Another point is that on a beautiful night with nothing around you life is wonderful. You might not



notice the 20 knot containership dead astern of you. (1 mile in 3 min.)

The next problem with travelling at night is prawn trawlers. Unfortunately the prawns lie on the sea bed during the day and come up to feed at night. This is when the trawlers come out. They have their working lights on, which makes them blind to see oncoming traffic, and to say their courses are unpredictable, is being very polite.

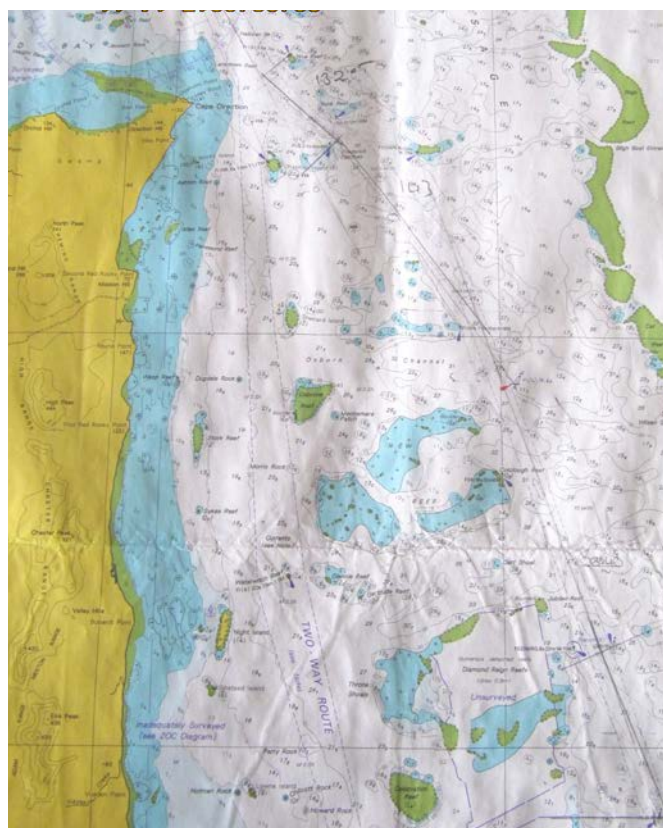
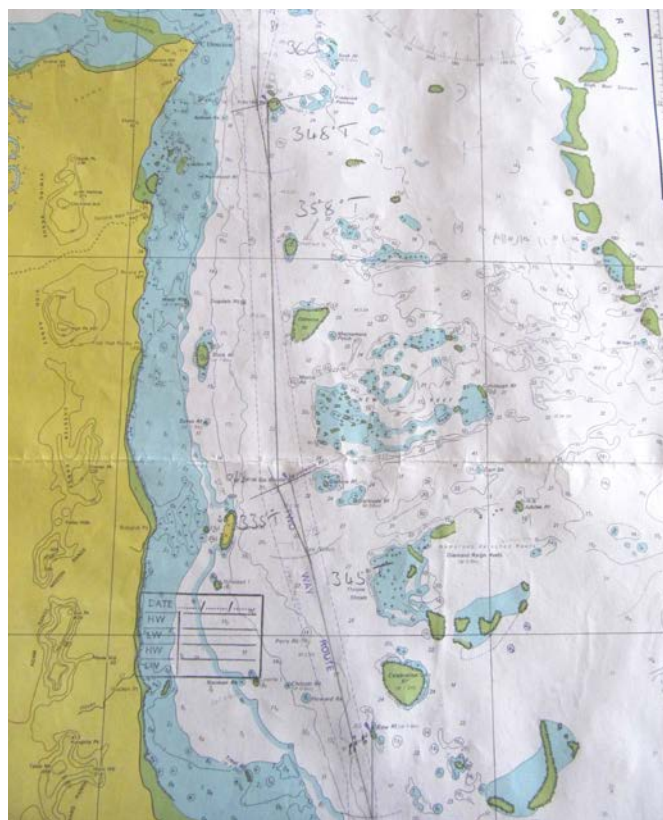
The next thing to lookout for is the charts. Most of the Reef is uncharted, or incompletely charted. With a large coastline, and keeping the existing shipping lanes updated on the charts, the Australian Hydrographic Office has its hands full. The traditional passage is the well charted "Inner Route" which has been in use for about 150 years. It is basically between the shore and the first line of reefs. On Australian charts they have a Zone of Confidence, formerly known as a Reliability Diagram. Consult this before you go off exploring!

At this point I must apologise for the battered state of the charts. As backup I always liked to carry my own set of paper charts. Of necessity these had to be carried in my brief case, and when they have been in and out a few hundred times they do tend to look a bit "pre loved."

I have dug out one of my old charts and put on it my Northbound courses.

The second diagram shows part of the original "Inner Route". If you look to the East you will see a lot of white paper where there are no soundings, and also places where the depth contours have not been joined up because there is insufficient data.

When I started we did not have electronic charts. There is a very easy, useful formula which says if you put a light dead ahead and alter course 10 degrees 3 miles from it you will pass 5 cables off it. At 2 miles A/C 15 degrees. When I was a watch keeping officer a pilot pointed this out to me. He said "Dead easy – aim for it and miss it!" That was "Jim" Mort, author of "Blue Water Seamanship" (for yachtsmen) in print for 30 or 40 years. We became friends and in my 40's he taught me to sail.





The third diagram shows where the Hydrographic Office had surveyed between the Inner and Outer Reef which allowed us to use the new "LADS Passage/Fairway Channel" between them. It is both shorter and easier. Compare with the previous diagram and you can see all the extra soundings – and some hitherto unknown dangers.

On the original "Inner Route" the above is part of an approx 10 hour stretch where you would only get a couple of breaks of about half an hour to put your feet up on the chartroom settee. If you started it at 19:00 on a moonless night, it seemed to go forever. It was colloquially known as "Sh\*t Alley" When the LADS Passage/ Fairway Channel started there were a couple of places where you could go down to your cabin for an hour at a time. This got christened "Pyjama Passage". These days they are aiming to have two pilots to a ship.

The good news for you is that the "Inner Route" is much more interesting and most of the big ships now stay away from a large part of it.

When you get up to Cape York if you are heading West the easiest way is to go through Endeavour Strait. However Thursday Island is a well worth while place for a stopover. If you go there approach from the South. Avoid the Prince of Wales Channel. Hammond Rock in the middle is basically where the Indian Ocean meets the Pacific Ocean and the tidal stream can be up to 7 knots. And then you meet the big ships....

Through talking to "yachties" over the years I realise that as fellow seafarers you are interested in my job. I had a 30 foot sloop myself, until the Government changed the rules and I took a big financial hit - the boat went then (and the rebuild on the 1962 Lotus Super 7 went back about 8 years.)

First thing to do as a pilot is get aboard. You used to ask the ship to "Make a Lee". This, of course, is to put the ship between the wind and sea to act as a breakwater for the pilot boat. Unfortunately with declining standards on some ships they do not appreciate what is involved and it was often best to give them a course to steer. A lot of inexperienced pleasure craft do not understand what is happening either when a ship alters up to 90 degrees and is a "hampered vessel" until the pilot boards. Hint – look for the pilot boarding ground symbol on the chart, and keep well clear of it if there is a ship heading in or out of port.

Next thing is the Pilot Ladder. If Nelson were to be reincarnated and come aboard a modern ship, the only thing he would recognise is the pilot ladder – the only thing that hasn't changed in 200 years! The pilot boat deckhand gives both the ladder and the manropes a good tug to try to check if their knots are good. It can be a bit disconcerting to get to the top and look at some of the knots you were depending on. The regulations say that the pilot ladder can only be 10 metres long before it meets the lowered gangway. The junction between the two is often badly designed and then not well executed. If you were ashore and said that access to a worksite was via a three storey climb up a rope ladder with no safety net you would be laughed out of court.

You get on deck, and the next thing is to get to the bridge. Only the minority of ships have lifts/elevators and it can be 10 decks to the bridge. Then you meet the Captain. In the old days he would give you a verbal handover. These days it is Check Lists. When they first started coming in I was pleasantly surprised to be given a very comprehensive one on one ship with all the boxes ticked and signed. I did notice that there were more pages on the clipboard. Turning the pages over I saw that the Check List was ticked and signed for the next 4 ports.

After that there is the Passage Plan. Again, in the old days the pilot would put his own courses on the chart and explain them to the Captain and Officers as they went along. Then for insurance/compliance purposes ships had to have a full plan between the two ports so the ship would prepare its own plan before the pilot came aboard. I have had the odd vigorous discussion with a 2/O who has sweated blood on his plan and hated to see the pilot changing a lot of it. (Good training for when he becomes Captain and has to deal with the authorities!) These days The Australian Maritime Safety Authority puts out a guide for ships coming through The Reef and our office makes sure they have downloaded it before the Pilot comes aboard. It is then finetuned by the Pilot and Master when the pilot boards. Look up AMSA.QCPP- or directly - <https://www.amsa.gov.au/safety-navigation/navigating-coastal-waters/about-queensland-coastal-passage-plan>

This will give you a very good idea of where you will see the commercial ships.

People sometimes ask about living conditions aboard. They vary enormously. You can have a luxury liner and then next





ship will be a rust bucket, where they keep two sets of books to try to disguise the fact that they are underpaying the crew. When on these ships I had my own silk (packs into nothing) sleeping bag liner, and a lightweight camping towel, just in case. If you were joining a suspect one, I would take a stock of muesli bars, chocolate bars etc. A useful food to ask for is hard boiled eggs – they come in their own hygienically sealed container. Always check that the water bottles are actually sealed.

One of the attractions of joining the pilots was the wide variety of ships you sailed on. I had been worldwide on most types of ships, but cable layers, fish factory ships, offshore rig vessels etc were all new to me. Some of the cattle carriers I could have done without.

Warships were another new experience. The Command Ship for the US 7th fleet was an eye opener. It only had one token 5 inch gun turret. Its main "armament" was banks of computers headed by two Cray super computers. In the Ops Room, at the end of a long desk there was a Red Phone which was a direct line to the President. Later the ship got into Brisbane where I lived, and as I was at home, I got an invite to their cocktail party. I thought it would be nice to have a beer with the watch keeping officers I had been working with. No chance – the generation gap fixed that! They were up the road at the nightclubs out of sight of the senior officers. On the other hand when Uncle Sam is putting on the canapés and drinks, there were serried ranks of gold braid that I had never seen before.

Another interesting ship was the, then, World's biggest yacht. At nearly 10,000 gross tons it was bigger than most of the ships I had been cadet on, although the crew of about 60 was approximately the same. When the pilot boat came alongside the boat landing platform I was issued with a set of overshoes to maintain their pristine decks. (I still occasionally use them in the garden) On the bridge alongside all the shelves of Admiralty Pilot Books, Light Lists, Port Instructions etc there was also a shelf of "Lonely Planet Guides". I noticed a small helipad on the foc'sle, and asked the Captain what it was there for as I had tramped over a big helideck on my way to the bridge. "That is where we park the small chopper, when we are using the big one". "How silly of me, doesn't everyone have two choppers?" Needless to say, the 10 man submarine was painted yellow.

A ship I did not pilot was the replica of Cook's Endeavour. On a voyage from the East Coast to Fremantle they could use an extra watchkeeper. Half a dozen of us did one leg each from Brisbane to Torres Strait. Mine was from Bundaberg to Gladstone via the Outer Reef. We were signed on as "Guest Navigator" (For that read unpaid 3rd mate! What a busman's holiday) As well as the Master, two navigators and a number of sailors they also took people who paid to become crew members for each leg. They were instructed and supervised by the permanent crew. When Covid finishes get a couple of your mates and give it a go! The ship was ingeniously laid out. In the hold, which had carried the scientific gear originally, they put the 20th cent. gear –bathrooms, galley etc. The rest of the ship was as original. It was the first time I had slept in a hammock since my training ship days. One of my memories was when we anchored off the town of 1770. After dinner they showed a movie on deck. The movie itself was a 1930's Pirates of the Caribbean. It was so corny that it sent itself up, Watching it with the mainsail as the screen while the ship rolled gently and the rigging creaked was magical. The cook was a very extrovert lady said and when she heard that they were showing it she said "Oh no – I know what's going to happen." She was right. The following morning when everyone came in for breakfast the air was full of "Shiver my timbers – Yo ho ho" etc.

I envy you guys. I had to stick to the main road and go past all the interesting side roads that you will be able to explore. The only time we ever saw anything like that was when Captain Cook Cruises (founded by Capt. Trevor Howarth, who had been on the sister ship to my training ship in the UK) made a cabin available for a pilot and his wife for their week long cruises. We never went on the bridge, but were there to answer fellow passengers questions and give them a run down at breakfast and lunch of forthcoming attractions.

I did of course get to see some of the off the beaten track places I had long wanted to see, and as for the BBQ's on the beach of an uninhabited coral island.....

*Anyway that is all for now.  
Happy Sailing.*

**Capt. Peter Hay**

# People of Ports



*Captain Neil Farmer,*  
Immediate Past President of AMPI  
Check Pilot – PANSW Sydney

## How did your sea-going career commence?

I think my Mum was trying to get rid of me! She was looking through the employment section of the Sydney Morning Herald and found an add for Cadet Deck Officer with ANL. She thought a career at sea suited me because I liked surfing and spear fishing! So the next day my Dad and I went into Pyrmont and visited half a dozen ships to see what a ship looked like. The ships we visited were dank and a little scary but it excited something in the 18 year old me. The prospect of working at sea, travel and a girl in every port appealed to me so off to sea I went in 1975, along with another 19 ANL cadets, into a vibrant Australian shipping industry.

As always it turned out my Mum was right and my career choice suited me, although the girl in 'every' port didn't work out quite the way I had imagined.

## Where did you commence your pilotage career?

In 1997 I was a Sydney Tug Master and was approached to apply for a position with Sydney Sea Pilots, which was privately owned at the time. Lucky for me I was the successful applicant. I found that my experience as a tug master helped me during my training.

## Tell us about your most memorable pilotages?

Every pilotage in Sydney Harbour is memorable.

One that stands out for me was New Years Eve around

2010, I was taking a car carrier out of the harbour, just before the harbour was to be closed to shipping and large crowds were gathering all around the harbour. As I was passing under the bridge, I received a phone call from a good friend who was anchored in Farm Cove in his yacht, he asked me to blow the ships whistle. Naturally I obliged and to my surprise and delight, the crowds of people all around the harbour erupted in cheers, whistles and boat horns that I could hear from inside the wheelhouse. Probably the largest audience I have ever had and for a brief moment I was the most important person on the Harbour.

I have piloted all the flash passenger ships over the years including the first visit to Sydney of the QM2. The thing that stays with me most from that morning is when we got to the bridge and took our first look back towards the heads, we were greeted by a huge flotilla of small craft that came out to sea to greet her at 05:00 am on a calm glassy morning. The maze of navigation lights mixed with the flashing lights of all the escort, police and maritime vessels was an amazing sight.

## What do you most enjoy about piloting and what has been the highlight of your career?

In no particular order; I like the independence, meeting and working with fellow mariners, the fresh air, the responsibility, the unique nature of the job, Sydney Harbour, mentoring and training new pilots, being addressed as 'Captain', my involvement with AMPI including two years as President and most importantly - getting home safely.

One of the most satisfying thing for me is when the ship's Captain turns to me after a challenging pilotage is completed and says "nice job Mr Pilot"

## What advice can you share with new pilots?

There are plenty of things to learn when starting out as a pilot so it is important to spend time with the senior pilots in your port and ask them to verbalise what they are thinking during the pilotage. Even they will be surprised what they know.

Don't make piloting too complicated. Continue to re-prioritise your intentions throughout the pilotage as conditions change.

Learn to trust your 'gut feeling'. This will take a little time and can only be achieved on the water, it is called "experience".

Speed and complacency are the two things that will get you into the most trouble.

## Where do you see yourself in 5 years?

After September this year I hope to be sitting on the beach on the south coast of NSW enjoying a happy and healthy retirement with my beautiful Wife, Children and Grandchildren.

I also intend volunteering some time with the Sydney Heritage Fleet, using my old boat more, trips away in the caravan, fishing and paddling my sea kayak.

There is no doubt, I will miss piloting.

# AMPI PEER SUPPORT PROGRAM

## *Perspective on 2020*

Clearly the past year has been overshadowed by Covid-19 and its flow-on effects. The management of contagion has required quarantining and the realignment of work practices. Associated with the foregoing has been the disruption of social connection, income streams, plans and commitments. Individuals, families and organisations have variously had to manage the challenges of adjustment. These challenges were not distributed evenly and some had more to contend with than others, as well as there being a complex socio-economic and psychological impact.

The 'rhythm of life' was disrupted in our relationship to roles, space and time. Paradoxically, social isolation could become a goal for some, in families where child minding, home schooling and work occurred in limited space and members were used to a variety of external sources for connection, contribution and positive engagement. Others, for example aviators quarantining at either ends of international flights or parents alone with children, were experiencing solitary confinement and would welcome being isolated at home. Clearly where there were pre-existing stressors, Covid-19 effects amplified these.

Compounding issues appeared regarding intra and inter-organisational decisions that occurred in an already stressed psycho-social-economic environment. These issues varied from loss of entitlements in the loss of work, euphemistically termed 'stand-downs' or, quarantining requirements that forced a choice between ongoing work or supporting one's family. Other synchronous events perhaps without the intent of exploiting the situation, included organisational redesign and cost cutting or realignment of industry practices in the developing context of diminished predictability and control. Positive interventions could be seen in the Job-Keeper and Job-Seeker support packages and moratoriums on mortgages.

The Peer Support Program had lower exposure with the absence of the regular AMPI Workshops and conferences during 2020. Nevertheless, there were 10 new contacts of individuals experiencing difficulties and 3 enquiries from pilots supporting their organisations. Interestingly all ten of the new contacts were referrals from another pilot, four simply noting that they had been given contact details by another pilot. Perhaps of note is that nine of the individual contacts occurred after Covid-19 concerns became enacted.

The presenting problems for those that made contact were predominantly relationship, parent-child or family issues, most declaring that there were pre-existing stressors amplified and brought to a head by



Covid-19 related factors. Therein six of the ten could be defined as relationship issues. Two of the remaining four contacts were struggling with social isolation and balancing family commitments in blended or already separated couples, given work requirements including quarantining. Two contacts were concerned about their confidence and fluctuating anxiety in the work setting. The representations regarding organisational issues were concerned with the management of pilot issues portrayed in the foregoing, quarantining for FIFO pilots and the current pressures on the industry regarding the stimulation of competition and tendering.

In each of the cases where a pilot was referred by a peer, there were supporting and similar narratives from the referrer about current impositions on the industry by authorities or legislators, and the impact this was having on safety and pilot wellbeing.

Similarly, the referrers were describing individuals under stress due to some state's quarantining intentions and practices and domestic stresses that were building in some families dealing with the accumulating consequences of the pandemic.

Contact frequency and duration varied from one contact with resource information provided, to six contacts over five months. All contacts were by telephone or Tele-Health.

Three contacts derived from contact with pilots who had attended courses at Smartship.

All contact with the Peer Assistance Program of AMPI is strictly confidential within the requirements of law about risk of harm to self or others. All contact with the program psychologist is free of charge and funded through AMPI's support of the program to pilots. Each Pilot Service has peer supporters who are as the statistics identify, an excellent resource. Direct contact with the program psychologist can be made by telephoning Marcus Romanic on 0419 382 352.

# Dear Colleagues,

## AMPI Membership

AMPI subscriptions are due for renewal and I encourage you to rejoin and support the only organization that gives marine pilots a voice when it comes to the maintenance of professional standards. AMPI is for all marine pilots, whether government or privately employed, whether from a large or from a small port. AMPI is there to ensure you have a voice and will be heard on important issues that affect our profession.

Rejoin and have your say on the future direction of marine pilotage. In this article I canvass some of the changes that are occurring in our industry and encourage you to stay alert to any changes which erode our professional standards. If something is worrying you, let anyone in the AMPI executive know.

Through the introduction of competition, pilots are facing a concerted assault on the standards of our training, operation and recruitment. The professional standards of pilots are closely aligned with the public interest/benefits. However, if unchecked, competition will impact on those professional standards, resulting in an unacceptable increase in risk. This is not an argument against competition, not at all. All I am saying is that standards of safety and professionalism should never be compromised as a result of competition.

A competitive model that pits service against service in a way that is viewed and evaluated not by the safety outcomes, reliability or efficiency but rather in terms of costs and risks, then the outcome invariably goes to the bottom line and the cheapest service. We also have to be realists as commercial bodies need to create a profit or dividend for their shareholders, which is revenue directed away from safety outcomes.

I urge all marine pilots to consider the consequences of not actively discussing and defending pilotage models that best support good pilotage and safety outcomes, not just business profits.

Most, if not all marine pilots would have been fortunate enough to walk the path of BRM's evolution. We understand the complex training requirements and unique "checks and balances" needed to train marine pilots and also to maintain their levels of skill. If AMPI isn't involved in the development of "all-things-training" for marine pilots, we will end up having to accept whatever is dealt to us, whether we like it or not.

The end-users, such as Port Authorities, regulators and society in general, will only be aware of any resulting shortcomings as a consequence of serious accidents, whereas we are informed about the risk and appreciate what needs to be done. Business isn't just business.

Business, safety, environment, health and our communities are all connected. Good business should allow pilots to focus on what they do best and get the best training to do so. There are no short cuts in this process, as we all know it takes years.

The article, How Pilots and Ship Handlers learn their skills well articulates the International Maritime Pilots' Association's (IMPA's) and AMPI's views on training. I encourage everyone to read and discuss the articles conclusions. It's a refreshing article as it draws on a survey of practicing pilots and gathers their views on what works in terms of learning our special skills. Unsurprisingly, on water training is seen to play a major role in the successful development of marine pilot skills. If anyone doesn't have access to the article, let me know and I will be happy to send it to you.

Despite AMPI being a signatory to the AMPT (Advanced Marine Pilots Training) course curriculum, it seems there is a broad-based dissatisfaction with some elements of this course. If that is allowed to go unchecked, it means the course will no longer be relevant to the maintenance of standards for marine pilots. AMPI needs to address any concerns. The dissatisfaction can't continue and be left to grow unanswered. Without improving pilot engagement, this situation and AMPI's credibility, will only further worsen. I cite this to illustrate engagement as the best influence on the educational direction that pilotage requires.

Another issue of importance is the apparent exploitation of the AMPI brand attached to some consultancies, without permission or the endorsement by AMPI. If left unchecked, this will undermine the value of AMPI's reputation and independence, as well as reduce membership. Pilots will leave as they don't want to be associated through AMPI with such consultancies, which have their own commercial interests.

It is important that going forward, AMPI maintains strong custody of our brand and a discipline to uphold it. Again, this can only be done if we have robust, in-house discussions to come to a consensus, whatever that will be. This process takes time and effort and needs to be conveyed articulately. At the moment, the passing off of the AMPI brand by some consultancies is impacting on the reputational standard of our organization.

I, like many of my colleagues, have enjoyed years of being in a fortunate position of having a safe and well-resourced work environment. It is the responsibility of us all to uphold these standards. Port Authorities, regulators and the wider community are all beneficiaries of the high safety standards that have guarded our waterways for decades. Nevertheless, this is being eroded by new entrants that don't hold the corporate memory. There seems to be an assumption that the baseline performance of these high safety standards is guaranteed.



But we all know that these standards weren't achieved overnight. If we look at the overtures of change over the horizon, it is clear that pilotage and training is under threat. Unattended, the profession's direction won't be driven by broad-based knowledge of the training needs, but rather the individual focus group's interests. The introduction of competition on our waterways, without maintaining a governance model that protect against the erosion of safety standards, would be unacceptable to most people.

My views should not be interpreted as an industrial relations statement that opposes competition per se. Rather, it is a fact that simple competition without the necessary checks and balances, if applied in the on-water environment, will have a detrimental effect on the safety case and any possible training outcomes.

I am not encouraging AMPI to act in the industrial relations space. That is the domain of others. However, AMPI has a role, acting at arms-length as an independent professional body, to ensure that competition does not erode the important safety outcomes of our profession. AMPI serves our profession and the broader maritime community.

AMPI has ties to IMPA and their standards and knowledge to draw upon. This is another benefit for individuals as well as organizations such as regulators or government bodies engaging with AMPI.

As a general observation, in what appears to be yet another cost cutting exercise, some regulators seem to be passing on their responsibilities for the maintenance of safety standards on to the pilotage provider's safety management systems, which sets the standards. Regulators need to be more proactive, engaged and protective of the safety standards, rather than leaving it to trust. Otherwise, as I've mentioned before, it's only when things go wrong that the regulators become involved or visible.

There needs to be informed pushback so that the on-water environment we operate in is as close and pure to an unencumbered, professional environment as we can maintain. Little regard is given to the imposition of time pressures, job security, heightened risk of COVID exposure, among many other issues influencing the working environment of a pilot. AMPI is best placed to define and defend that environment.

Regulators have not upheld their obligations as the responsible body for marine safety to define the limited functionality of safety management systems, particularly in competitive environments. The safety management system should not be a substitute for the maintenance of the highest safety standards, unaffected by commercial pressures.

The proposed reduction in the on-water training by simulator training in New South Wales has highlighted the single-minded focus on outcomes rather than the merits of real life on-water training. The proposed reduction in on-water training appears to have been driven by ulterior motives that cross into the industrial relations arena.

Australia, and more particularly NSW, are blessed with access to Port Ash, a world class training facility that has helped us navigate a proven pathway in training. This was on the back of the well known SA Fortius incident in Port Kembla. Training at Port Ash was not in substitution of on-water training, but was introduced to accelerate the exposure of someone training to be a pilot or advance their skills to those on-water risks. The key point is that the on-water training component was not reduced or substituted by any training at Port Ash, it was in addition and accelerated earlier.

We need to remind all those interested parties of how and why we got here. If not AMPI, who answers these questions and champions the cause our profession. Port Authorities, consultants and regulators all have vested interests and these are not always aligned to the interests of the pilot. "Opinions for hire" and shipping operators desire to cut costs should not bring a disproportionate expectation on the delivery of pilotage.

AMPI along with our parent organisation IMPA remain strongly opposed to any changes which reduce on-water training requirements for marine pilots. Despite the mandate that AMPI and IMPA hold regarding marine pilot training, the Australian engagement and consultation of such changes has been counter to AMPI's view, the exception being the Western Australian Government and Ports WA.

Covid19, is a timely reminder of the Peer Assistance Network (PAN) that is operated by AMPI and available to members, with the use of peer assistance or professional counselling and advice. PAN is another benefit offered by AMPI.

There is no "they" in AMPI. It is "us". It is the duty of all of us, at the very least, to subscribe to AMPI and better still, contribute with your voice to what is important. At the very least, I would expect all of us should be keen to see a significant contribution by AMPI in our endeavors to continue the delivery of safety, infrastructure protection and efficiencies in pilotage.

I have attempted to summarise a number of drivers to encourage your membership and participation in AMPI and look forward to working with you all in a collegiate, constructive manner in the coming years.

*Yours sincerely*

*Nicolas Fischer*

*Vice President, Australasian Marine Pilots Institute*

# AMPI EXECUTIVE

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Ricky Rouse	Editor	Newcastle	editor@ampi.org.au	0416 153 441

## Welcome new AMPI Members

A warm welcome to our new AMPI members, we look forward to seeing you at our next workshop or conference.

Captain Hugh Ripley, Port of Townsville,  
 Captain Phil Hawke, PANSW Newcastle  
 Captain Meredith Ramsey, Woodside



Port of Newcastle,  
 Pilot Boat Approaching

## Membership Fees

AMPI membership fees are due 31/3/2021. Invoices will be automatically issued in March.

Members can also pay online by credit card via PayPal.

Please also be reminded that if membership fees are not paid by the 30th of June this is the last edition of Safe Passage that will be sent out.

### DIRECT DEPOSIT of \$660

Account Name: Australasian Marine Pilot Institute  
 \* Bank & Branch: Westpac Bank , New Farm  
 BSB: 03-40-65 Account Number: 217548

Please include your full name as the reference. A receipt will be issued once payment is processed.

An increasing number of pilotage organisations have made agreements for a single invoice to cover all of their pilots. If you would to talk to us about arranging an agreement to cover all pilots in your organisation, please contact admin@ampi.org.au

Please submit your photos to editor@ampi.org.au



# PAN PEER ASSISTANCE NETWORK



Caring for Marine Pilots and their Families

## WHAT IS PAN

AMPI established and continues to finance a Peer Assistance Network to give support to Marine Pilots and their families.

PAN Members are Marine Pilots who come from a variety of ports around Australia we are trained and committed to supporting the well-being of our peers.

## WHAT CAN I CONTACT PAN ABOUT?

Any issue at work or home that may be causing you difficulty. Common issues we see are relationships, problems at work, training and/or assessment problems, health, stress, fatigue and financial issues.

If you have ANY issue causing you concern you can talk to a PAN Member.

## SUPPORT NETWORK

PAN is designed to provide support over the phone. Initial contact can be made to a Marine Pilot peer who is on our list of trained PAN Members.

PAN Members are trained to listen and offer support in a non-judgemental way, AMPI also has retained the services of a professional counsellor who you may also wish to contact.

## PAN IS CONFIDENTIAL

All PAN members sign a deed of confidentiality and they know that this is the main principle that ensures PAN continues to work effectively.

The PAN network provides an independent confidential place for you to freely discuss your problems.



## PAN MEMBERS

Neil Farmer  
Sydney - 0417 212 780

Kirk Whitman  
Sydney - 0410 475 006

Neil McKenzie  
Sydney - 0437 704 571

Lyndon Clark  
Sydney - 0404 042 591

Jacqui Kenyon  
Sydney - 0405 443 483

Jon Dicker  
Melbourne - 0427 378 911

Bruce McMinn  
Melbourne - 0408 558 486

Doug Dow  
Adelaide - 0417 834 910

John Ball  
Fremantle - 0418 939 236

Rory Main  
Fremantle - 0437 870 007

Julian Thomas  
Fremantle - 0418 949 817

Shannon Nicholson  
Mid-West Ports - 0409 171 482

Ross Halsall  
Mid-West Ports - 0478 011 372

Adam McPhail  
Cape Cuvier - 0407 089 967

Peter Dann  
Woodside - 0448 842 218

Glenn Attril  
Woodside - 0407 948 735

Elliot Bibby  
Woodside - 0459 979 758

Craig Eastaugh  
Port Hedland - 0438 500 570

Matt Shirley  
Port Hedland - 0427 197 272

Mick Wall  
Port Hedland - 0400 085 988

David Murgatroyd  
MSWA - 0437 288 300

Ben Ranson  
Mackay - 0438 121 584

Peter Liley  
Brisbane - 0407 655 926

Chris Kline  
Brisbane - 0409 548 412

Geoff Dawson  
Brisbane - 0418 714 058

Sean Liley  
Brisbane - 0408 558 486

Jake Pattison  
Newcastle - 0448 107 311

Scott Clinton  
Newcastle - 0419 808 668

## PROFESSIONAL COUNSELLOR

Marcus Romanic  
0419 382 352  
mromanic@bigpond.com

## EXTERNAL SERVICES WHICH MAY BE OF ASSISTANCE

Beyond Blue - [beyondblue.org.au](http://beyondblue.org.au)

Black Dog Institute - [blackdoginstitute.org.au](http://blackdoginstitute.org.au)



Photo: Tauri Minogue Photography

# Hart

marine

## THE ORC PILOT BOAT

As used by:  
Port Phillip Sea Pilots  
Mid West Ports  
Flinders Ports  
Svitzer  
Rio Tinto  
Esperance Port Authority  
NSW Ports - Port Kembla  
Port of Townsville  
Gladstone Ports Authority  
Tasmanian Ports Corporation  
Lyttelton Ports Corporation - NZ  
PrimePort - NZ



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