

The Traverse Board

Newsletter of the Friends Of The Paul McGuire Maritime Library Inc

July 2015

Proudly Supporting the Paul McGuire Collection of The State Library of South Australia.

News From The Friends

PRESIDENT'S REPORT JULY 2015

Greetings once more, and I see that Winter is here, suddenly with a vengeance; I hope your timbers are not shivering too much! A good season and reason to reach for your maritime books and settle in somewhere cosy.

Our May meeting was interesting and entertaining too, as Mark Sinclair told us of his solo circumnavigation of Kangaroo Island late last year, a voyage not undertaken by many. It is certainly a special place, with its history, ancient and modern, and the wonderful scenery all around.



And as if that was not enough, he went back there in February to do a survey of Snug Cove, in some detail, I might add. Clearly Mark, as a former RAN officer, is a thorough seaman and navigator of the old school, one might say, in contrast to his current occupation of laser airborne depth-sounding, very modern. It is good to have him as a member of the Friends.

Another fairly new member, Adrian Donald, with a little help from a few mates including Arthur Vandenbroek, took his beautiful yacht "Catriona" down to Hobart in February for the great wooden boat festival. I gather they all had a wonderful time, both in Hobart and on the voyage there and back.

Sadly, I have to report the death on June 26th of Neil Cormack. He was very generous to the McGuire Library, and had a wealth of knowledge as a marine architect and shipwright.

In future our regular meetings will take place on Tuesday, mainly to avoid any clash with long weekends. So I hope you will all be able to attend at the British on July 28th, at the slightly earlier time of 6.30pm, to allow time for viewing a DVD of the wreck of the *Mikhail Lermontov* off the New Zealand coast.

That is about it from me, so I wish you all well, and look forward to seeing you on the 28th

Regards, Julian.

Next Meeting

Tuesday 28th July 2015

Destination Disaster

The story of the sinking of the *Mikhail Lermontov* off the north coast of New Zealand's South Island.

British Hotel Port Adelaide 7:30pm (6:30pm for meal)

Please book dinner with Neil 0418 821 331 or Julian 0414 365 294.

Our State Library has been named at number 18 of the 25 "must visit" libraries in the world by the culture think-tank CITI.IO website - <http://www.citi.io/2015/07/08/the-25-must-see-libraries-in-the-world/>

The citation is:

The State Library of South Australia, located on North Terrace, Adelaide, is the official library of the Australian state of South Australia. It is the largest public research library in the state with a collection focus on South Australian information, and general reference material for information and research purposes.

The building now known as the Mortlock Wing was opened on 18 December 1884 as a Public Library, Museum and Art Gallery for the colony of South Australia with 23,000 books and a staff of three.

The State Library's rare books collection is the major collection of its kind in South Australia. It comprises Australian and international items which have been identified as having a special interest through subject matter or rarity.



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Published by:

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MH370 search discovers shipwreck

ATSB 13th May 2015

Fugro Equator's deep tow system detected a cluster of small sonar contacts in the southern part of the search area, 12 nautical miles to the east of the 7th arc. The sonar data was carefully analysed and categorised as Class 2 – “of potential interest but unlikely to be related to MH370.” It could not, however, be ruled out.

“We were cautious about this,” said the ATSB’s Peter Foley, Director of the Operational Search for MH370. “There were characteristics of the contact that made it unlikely to be MH370, but there were also aspects that generated interest, multiple small bright reflections in a relatively small area of otherwise featureless seabed. All the sonar data we gather goes through a detailed analysis and an exhaustive review process to ascertain its quality, coverage and most importantly any sonar contacts of interest. The analysis starts with the mission crew on board the search vessels, data is then reviewed again ashore by sonar analysts at Fugro’s office in Perth and then it is independently reviewed by the sonar experts in the ATSB’s Operational Search team. The process is methodical, meticulous and it is designed to ensure that nothing is missed. In this case we planned to resurvey the contact in more detail when the opportunity arose.”

Therefore Fugro Supporter was tasked to divert on its passage between two search areas and further investigate the contact. A high-resolution sonar scan was performed using the AUV. The high-resolution data revealed a large number of sonar contacts lying very close to the seafloor, at a depth of around 3900 metres. The majority of the contacts were comparatively small – around the size of a cricket ball – interspersed with a few larger items, the biggest being box shaped and approximately 6 metres in its longest dimension. The debris field appeared to be of man-made origin but once again it did not exhibit all the characteristics of a typical aircraft debris field.

An additional AUV low-altitude mission was then undertaken using the underwater camera to gather images of the field. Poor weather conditions, however, prevented the safe launching of the AUV for several days.

Analysis of the images this week revealed that the debris was indeed man-made, but indicated that it was actually the wreck of a ship. This wreck is previously uncharted and the imagery will be provided to expert marine archaeologists for possible identification.

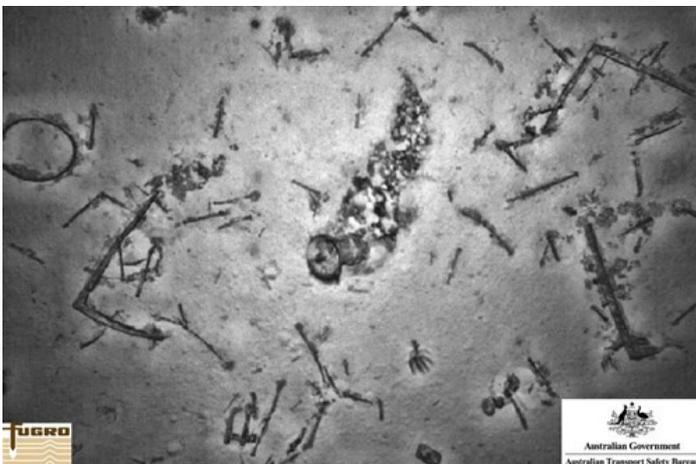
“It’s a fascinating find,” said Foley, “but it’s not what we’re looking for. We’re not pausing in the search for MH370, in fact the vessels have already moved on to continue the mission. Obviously, we’re disappointed that it wasn’t the aircraft, but we were always realistic about the likelihood. And this event has really demonstrated that the systems, people and the equipment involved in the search are working well. It’s shown that if there’s a debris field in the search area, we’ll find it.”

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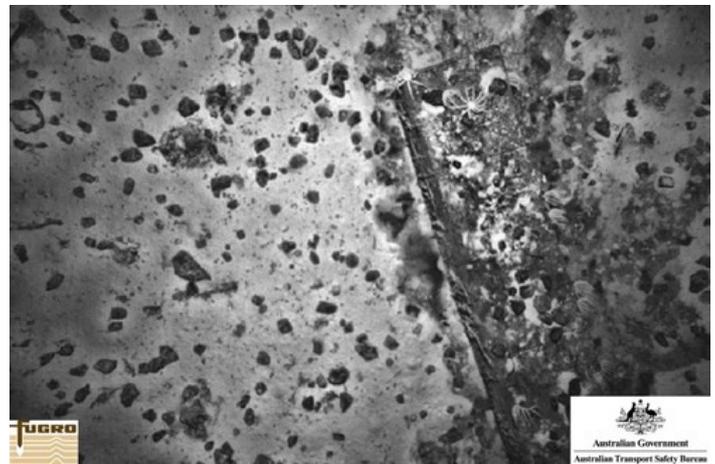
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Ship-related debris on the sea floor, including an anchor. Source: ATSB, photo by Fugro.



Ship-related debris on the sea floor. Source: ATSB, photo by Fugro



Ship-related debris on the sea floor. White sea stars can be seen on some of the debris while the black objects are believed to be lumps of coal. Source: ATSB, photo by Fugro

The capability of the MH370 search operation

Recent news reports about the search for MH370 have included highly inaccurate assertions about the search and how it is being conducted.

The ATSB strongly refutes assertions that Fugro Survey Pty Ltd was not the best choice to undertake the underwater search or that the search methods are ineffective. The search is being carried out to the highest standards of effectiveness and quality.

“These attacks are unfounded and unfair”, said Chief Commissioner Martin Dolan. “The search for MH370 represents thousands of hours of work by hundreds of people who are dedicated, expert and professional. They are fully committed to finding the aircraft.

“The opportunity to tender services for the search for MH370 was open to the international underwater search industry. We received a number of tenders which encompassed a range of different capabilities and methods.

A comprehensive and exhaustive evaluation process was conducted in line with strict Australian Government procurement and probity rules.

“I am very conscious that we must use taxpayers’ money responsibly. Fugro’s bid represented the best value for money and demonstrated that they could capably manage the technical aspects of this challenging search operation and deliver the necessary results.”

Fugro has been involved with numerous aircraft and helicopter search and recovery operations since the 1980s. They have been using the Edgetech Deeptow side-scan sonar systems since the mid-90s and have one of the largest commercial AUV fleets in the world for performing commercial surveys in deep water.

Their ability to detect man-made objects on the seafloor in ultra-deep water is evidenced by the recent detection of a previously unknown shipwreck.

“The debris in the shipwreck field was significantly smaller, and therefore harder to detect, than we expect to find with MH370,” Chief Commissioner Dolan said.

“The ATSB has put in place systems of review and expert quality assurance so we can be certain that the quality of search data meets the high standards we have specified,” said Chief Commissioner Dolan. “We selected Fugro on their capacity to meet those standards.”

As part of its quality assurance process, the ATSB has enlisted the expertise of Sherrell Ocean Services founded by Andrew Sherrell, one of the leading sonar search specialists in the world, who has worked on a number of commercial air investigations, including the search and recovery of Air France 447, TWA 800, and Egypt Air 990.

Mr Sherrell has been involved as the Quality Assurance Manager in many elements of the search for MH370, beginning with the tender process and continuing with the planning of the search and review of the gathered sonar data. Mr Sherrell said he is confident that the appropriate technology is being used.

“The equipment was tested thoroughly in ocean trials at a purpose-built test range to ensure the maximum swath width without compromising the detection capability. Fugro’s faster-than-average tow speed enables them to scan significant amounts of sea floor per operational day. As a result, we are seeing substantial coverage with the required level of resolution,” said Mr Sherrell.

“We have a rigorous and thorough quality assurance program that ensures appropriate overlap between adjacent swaths and positioning of each line as well. We are achieving very accurate and consistent results with a new state-of-the-art positioning system that gives us full confidence in the towfish position, even 9km behind the vessel.

“Furthermore, we verify this system by using the accurate bathymetry maps collected during Phase 1 of this search. By matching specific features on the seafloor, we can ensure that the positions being calculated are correct, and we do this for every single line of data collected. We also perform feature matching with the side scan sonar data between adjacent lines to ensure sufficient overlap of data is maintained. This is also done on every line as it is collected, with any deficiencies documented and catalogued.

“In addition, Fugro are using multibeam sonar to supplement the side scan sonar equipment; this covers the traditional “nadir” gap directly below the towfish. The multibeam ensures more complete coverage of the seafloor it passes over. This is optimising our rate of progress, and is a feature that is not available on some older systems that are still in use by other organisations.”

Without this type of system, a much higher percentage of seafloor would need to be covered twice to fill in this missing data. Duplicating coverage of the seafloor not only increases the cost of the search, but also the time required to cover the search area. Using a multibeam sonar in this way is a very efficient technique for covering large areas of seafloor.

“The challenges remain,” Chief Commissioner Dolan said. “The search zone is remote, the weather and sea conditions are difficult and the search area is vast, but I’ve never had any doubt about the capabilities of Fugro, their commitment to the mission or their professionalism.”

ATSB 4th June 2015



Fugro Discovery in the Southern Indian Ocean

Early 19th-century schooner discovered in condo development site

Archeologists have discovered the remains of the oldest ship ever found in Toronto — a schooner from before 1833.
By: Alyshah Hasham Staff Reporter, Published on Thu May 07 2015

It is the oldest ship ever discovered in Toronto, an early 19th-century schooner found this week by archeologists doing a routine exploration of the site for a condo development near Fort York Blvd. and Bathurst St.

At the ship's day, everything south of Front St. would have been underwater, with several wharves jutting into the lake, the largest of which was the Queen's Wharf, a major commercial hub built in 1833.

"We suspect this ship was scuttled deliberately to provide a scaffold for the workers building the wharf," said David Robertson, senior archeologist at Archeological Services Inc.

The archeological dig began in early March with the intent of documenting the wharves built there in the early 1800s, Robertson said. On Monday, they discovered the wooden skeleton of the schooner.

Only a small portion of the ship remains: the ship's keel, or spine — which runs about 15 metres from bow to stern — and a portion of the hull.



Neil Hylton, senior project manager with the Newton and Ford condo projects at 190 Fort York Rd., stands on the remains of an early nineteenth-century schooner near Toronto's old shoreline.
BERNARD WEIL / TORONTO STAR



Neil Hylton, senior project manager with the Newton and Ford condo projects at 190 Fort York Rd., stands near the remains of an early nineteenth-century schooner near Toronto's old shoreline.
BERNARD WEIL/TORONTO STAR

They also found possible debris from the crew, mostly broken ceramic plates that would have ended up at the bottom of the ship. That is what archeologists used to date the vessel.

"This is a very exciting discovery. It is not too often we come across (vessels) from 1830, particularly in landfill rather than the water," historian and York University archivist Michael Moir said.

"This is Toronto's maritime heritage," he added. "It's discoveries like this ship that remind us of how Toronto grew and developed into the city is today."

Studying it "will give us some insight into aspects of 19th-century ship-construction techniques," Robertson said. They will continue to expose and document the ship and the sections of the Queen's Wharf they have already found on the Concord Adex development site, he said.

The ship's future remains under discussion, he said, but it would be difficult to preserve.

One possibility being explored, Robertson said, is using 3D imaging technology to create a model of what the ship may have once looked like.

This is only the fourth ship to have been unearthed in Toronto, though it is believed there may be many more beneath the paved streets.

"This shows two worlds coming together, the old and the new," says Councillor Joe Cressy.

He added that discoveries like this is why archeological excavations are now common practice and are an example of good city planning policy.

"We often think of our city as a new city and our country as a new country then you realize, we have tremendous history just beneath the surface."



Spikes rise out of the remains of an early nineteenth-century schooner near Toronto's old shoreline at Newton and Ford condo projects at 190 Fort York Rd.
BERNARD WEIL/TORONTO STAR

Toronto Star

3D anthropometry experts help steer the Navy of the future

by Kelly Stone, UniSA, May 2015

HEALTH



A UniSA research project worth \$1 million will use 3D body scanning technology to help the Royal Australian Navy optimise their work environments and improve the design of their uniforms and specialist clothing

Run by the University's Division of Health Sciences in collaboration with the Defence Science Technology Organisation (DSTO) under the Defence Science Partnerships Program, the project will use cutting-edge digital anthropometry to measure body dimensions and proportions of 1500 Navy personnel.

The results from the project will inform the customisation of internal specifications for the submarines and ships of the future.

UniSA researcher Dr Grant Tomkinson. Given that the population is generally taller and wider than 30 years ago, lead researcher Dr Grant Tomkinson (pictured right) says the data will inform decisions around working environments such as the height and width of doorways and the length and width of bunks in submarines.

"Submarines are built to last across many generations, 20 to 30 years or more," Dr Tomkinson says.

"So while we have a piece of machinery that can last for many decades, the average sailor – just like the average person – is changing over time. People are now on average about an inch or so taller, and a bit wider, than they were 30 years ago.

"This research project is a way of surveying body size and shape for the Navy which will give them some good predictions on how they might change in the future, and then how their equipment and machines should look.

"If you're not fitting in your environment well, you're not going to be as efficient and it will create more stress and strain. You're more likely to have physical niggles, and those niggles can lead to injuries. The main driver behind this research is ergonomics – to optimise the fit of the person to their environment, to help them work better and ultimately to build a stronger defence force."



Dr Tomkinson and UniSA Research Fellow Dr Nathan Daniell will work with a team of postgraduate and undergraduate students to measure 1500 Navy personnel based in New South Wales and Western Australia.

He says the team is contracted to take about 90 measurements of the body, including standard measurements like circumferences, heights, lengths and breadths of the arms, legs and torso.

"Our survey of body size and shape uses both traditional methods and a digital approach," Dr Tomkinson says.

"We use a 3D whole-body scanner, which is like stepping into a large changing room and 15 seconds later we get a 3D image of your body from which we can extract measurements at a later stage.

"It captures about half a million data points on the surface of the body and then we can measure dimensions such as waist circumference without needing to measure the person again.

"We're also doing some customised measurements such as eye spacing to help viewing through periscopes, head measurements for helmet fit, hand length to navigate controls, and the length from the knees to the buttocks to help with seating size."

Captain (Dr) Simon Reay Atkinson says the Royal Australian Navy and the Australian Defence Test and Evaluation Organisation (ADTEO) are collaborating with UniSA and DSTO in the research to solve real-world defence problems.

"We live in a world in which we can no longer isolate the information from the technological from the human. In this world we need to better fit our people to the work spaces and organisations they occupy, such as operations rooms, so they can solve pressing problems, healthily and over prolonged periods away from base ports," Captain Atkinson says.

The Spirit Of Kangaroo Island Annual Maintenance



For the past week, SeaLink Kangaroo Island have been doing maintenance on one of their Kangaroo Island ferries on the Defence SA Common User Facility (CUF) at Techport Australia. The CUF is situated between ASC North (Submarines) and ASC South (AWD Shipyard).

In the image you can see the first Air Warfare Destroyer Hobart in the water undertaking final fitout whilst the second ship Brisbane is on the hardstand where the final blocks are being consolidated.

The CUF is part of Techport Australia, Australia's premier naval industry hub. It features a wharf, runway, dry berth, transfer system and the largest shiplift in the southern hemisphere. It is an important part of our shipbuilding and submarine maintenance operations at Outer Harbor.

ASC via Facebook 9/7/2015

The Techport Common User Facility

FEATURES

The Common User Facility consists of three key areas:

WHARF

The fully serviced wharf is 213 metres long and 25 metres wide. It can support heavy load equipment and is capable of servicing an AWD vessel through:

- final outfitting
- test and activation
- harbour trials
- sea trials
- maintenance and repair activities.

SHIPLIFT

The shiplift is the largest in the southern hemisphere, capable of supporting a vessel up to 9,300 tonnes. At 156 metres long and 34 metres wide, it descends 18 metres into the water to launch ships.

The shiplift's design incorporates the potential to expand to 210 metres with a 22,000 tonne lifting capacity.

RUNWAY AND DRY BERTH

The runway - with embedded and separate dry berth - can support the consolidation of two AWDs concurrently. The runway and dry berth are supported by a rail-based transfer system that enables vessel movement both around the site and onto the shiplift.

The runway and dry berth are fully serviced via an underground service duct. This duct is over 700 metres long and contains:

- high voltage electricity
- potable water
- seawater
- fire services
- communications
- compressed air.



Techport Australia Website: <http://www.techportaustralia.com/common-user-facility/features>



The Spirit Of Kangaroo Island in No 2 dock on 23rd August 2014 for its service for that year

Launch of first destroyer Hobart

A crowd of nearly 6,000 people are gathering at Techport Australia in Adelaide today to celebrate a major milestone - the launch of the first destroyer built as part of the Air Warfare Destroyer (AWD) program.



Hobart Keel Laying Ceremony,
September 2012 – Techport
Australia

The AWD workforce and their families will be joined by dignitaries and industry leaders for the launch ceremony which will see the first destroyer Hobart lowered into the water until it floats for the first time, from the Government of South Australia's Common User Facility ship lift.

AWD Alliance CEO Rod Equid said today's event is the culmination of the efforts of thousands of Australians and other members of the AWD enterprise, reaching back more than 10 years. The launch ceremony will celebrate the transition of the ship from the hardstand to the water.

"As shipbuilders and systems integrators, we are undertaking one of the most complex projects of its type in Australia's history," Mr Equid said. "Our teams take enormous pride in the work we are doing, which is why this launch is such a big day and I wouldn't be surprised to see a tear in the eyes of many of our workers when Hobart floats for the first time."

"It is hard to believe that the AWD Shipyard was opened just five years ago following considerable investment by State and Federal Government and ASC. Australia now has a highly skilled and professional naval shipbuilding capability."

Hobart's launch is a big step forward in the delivery of three next-generation warships to the Royal Australian Navy (RAN). Over the coming months, progress will be accelerated as the second destroyer, Brisbane, takes the place of Hobart on the hardstand to undergo final block consolidation, and the keel for the third destroyer, Sydney, is laid.

The AWD Alliance is responsible for delivering three Hobart Class DDG destroyers and their support systems to the Navy. The Alliance is made up of shipbuilder ASC, mission systems integrator Raytheon Australia and the Government's Defence Materiel Organisation.

AWD Program Manager Peter Croser said: "Hobart has a strong and important lineage with many who have served in the previous HMAS Hobart who take a keen interest in their name-sake ship which now sits in the waters south of Adelaide. They have watched the progress of this ship and some of them will be represented today at the launch. Many members of the RAN future crew are already here working at Osborne contributing expertise for the launch and the next phase of the program. We look forward to setting to work Hobart and proving her capabilities at sea in the coming two-year period, whilst maintaining a focus on the construction of the next two DDGs."

ASC Shipbuilding CEO Mark Lamarre said the launch of the first destroyer is a momentous occasion when masses of steel, pipe, wire and machinery come to life. It is an emotional and solemn moment for those who build ships and for those that take them to sea.

"The highly skilled workforce at ASC have consolidated and outfitted a ship, they are learning and improving every day contributing to the nation's shipbuilding capability," Mr Lamarre said. "The construction of Hobart, and the other ships under construction at our shipyard represent the dedication and determination of all who are involved in this important national program. It is a project of which the whole of Australia should be incredibly proud."

Raytheon Australia Managing Director Michael Ward congratulated the AWD Alliance on the launch of Hobart.

"As the AWD mission systems integrator it is a source of pride for Raytheon that we have applied our unique engineering and project management skills to delivering a project that is integrated in Australia," Mr Ward said.

"The AWD's combat system integration activities represent some of the most advanced engineering accomplishments yet undertaken in such a project in this country and will contribute to making the AWD the most sophisticated warship ever operated by the Royal Australian Navy.

"Adding to our experience and US reachback has been a strong investment in local capabilities in systems architecture, engineering and program management which have all contributed to this launch milestone.

"Not only are we one step closer to the delivery of this vital new capability but we can take pride in the fact that Australia now has a highly skilled workforce able to apply key learnings from this project to future naval shipbuilding activities."



Hobart Launch Day, May 2015 – Techport Australia

Vale Neil Cormack.

In the Advertiser Death Notices, 4/07/2015.

CORMACK, Neil William. Died at home on June 25, 2015. Husband of Beth (deceased). Father and father-in-law of Kathryn and Allan, Margaret and John. Grandfather of five and great-grandfather of eleven. Privately interred on July 1, 2015. ALFRED JAMES Accredited Member Australian Funeral Directors Association Holden Hill.

Neil was a well known character in Port Adelaide for many years.

He was a Fellow of the Royal Institution of Naval Architects, Member of the Society of Naval Architects and Marine Engineers, Former Senior Shipwright Surveyor, S.A. Dept Marine & Harbors, Former C.O. RANRC (HMAS Encounter).

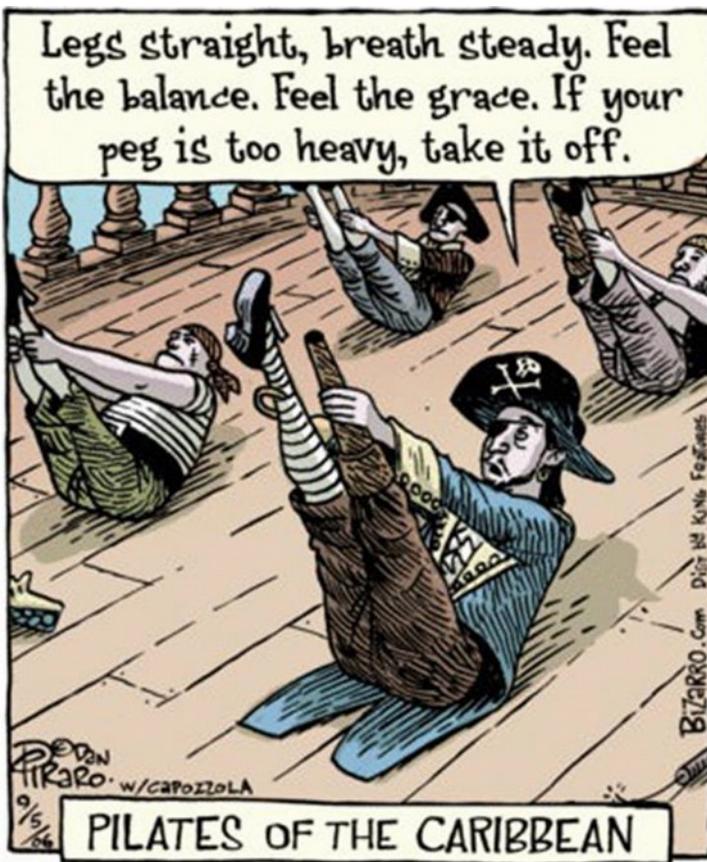
Neil was a prolific writer on maritime subjects - among his titles were ..

- Sagas of Steam and Sail.
- Herzogin Cecilie : the flagship of the Gustaf Erikson fleet of Mariehamn, 1921-1936.
- An incept into ship stability.
- The shipwright, Boatbuilder and Naval Architect.
- Port Victoria, 50 Years On.

I first met Neil when I was about 15 years old and we had many talks over the years. We did not always agree, and sometimes we argued, but always parted friends. A real Gentleman.

The Photo is of a model Neil built of the *Herzogin Cecilie* which is now in the possession of the Paul McGuire Maritime Library (SLSA)

Trevor Powell



**** Next Meeting ****

Tuesday 28th July 2015

Destination Disaster

Join us for the story of the sinking of the *Mikhail Lermontov* off the north coast of New Zealand's South Island.

British Hotel Port Adelaide 7:30pm (6:30pm for meal)*

Please book dinner with Neil 0418 821 331 or Julian 0414 365 294.

* Note the earlier time.

See <http://www.nzmaritime.co.nz/lermontov.htm> for a brief history of the final voyage.



The *Mikhail Lermontov* approaching Fremantle, WA , 13th December 1985 (NZ National Maritime Museum)