

The Traverse Board

Newsletter of the Friends Of The Paul McGuire Maritime Library Inc

January 2021

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

News From The Friends

PRESIDENT'S REPORT January 2021

Happy New Year to you all, and let's make it a good one!

The tail end of last year resulted in our last meeting not possible, and then the Hobart race was scrubbed, the one boat from Adelaide being told just as they tied up at the CYC, Sydney, after sailing round there from here.

Looking ahead, please come along to a BBQ at the RSAYS, Outer Harbour, on Sunday, January 31st. This will be a BYO affair, and we will spend a little time to attend to the business of the AGM, and I hope to see you all there.



Then, on Thursday March 25th, we will meet at the Railway Hotel, Port Adelaide, to hear Wendy van Duivenvoorde telling us about the early contacts between the Dutch visitors and the locals. This will be the third attempt to hear Wendy, so please come along to make it worth her while, it should be a very interesting evening.

As usual, Neil managed to find much of interest to put in the last Traverse Board, he really does do a good job as editor, and we should be very grateful for his efforts (a round of applause, please).

In wondering what to do for future meetings, it is probably time for a day-trip somewhere, so any suggestions would be welcome, bring them to the BBQ and we can chew them over, so to speak.

That's enough from me, so all the very best to you all, and see you soon!

Regards, Julian.



One of a number of salmon Farms on Macquarie Harbour, Tasmania. f Chances are your Tasmanian Atlantic Salmon came from here!

Next Meeting

Social Gathering and AGM

Please join us for a social gathering and our AGM at the Royal S. A. Yacht Squadron, Outer Harbor.

Sunday 31st January 2021

12:00 noon onwards

BYO meats and salads and drinks for a barbeque.

We will be in the shelter at the southeastern corner of the basin.

Scheduled for February, the *One and All's* KI bushfire visit to Kingscote, fell victim to the COVID-19 virus, but went ahead in the last week of November.

The Friends are pleased to be among the sponsors for this visit. There are photos on the last page.

One and All sailing a big hit for Kangaroo Island bushfire community

Stan Gorton The Islander 2/12/2020

The One and All sail training ship's visit to Kingscote for four days of sailing over the past week was a big hit.

Captain and Glenelg Rotary member Bill Walsh said the visit had been planned since February as a way of taking Islanders' minds off the bushfire, but then COVID got in the way. Mr Williams praised recovery officer Cathie Tydeman for making the sail trips possible

Local youths Jay Whale, Portia Holmes and Samara Golder travelled over all the way from Port Adelaide and played host to the guests on the sail trips, serving up a delicious lunch and showing people the ropes.

Members of mainland Rotary groups also handed over a \$13,460 cheque Sabrina Davis for her Humans of Kangaroo Island farm fire unit safety project.

The Traverse Board

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MAYFLOWER AUTONOMOUS RESEARCH SHIP

A pioneering project which aims to design, build and sail the world's first full-sized, fully autonomous unmanned ship across the Atlantic Ocean.

At over 100ft in length The Mayflower Autonomous Research Ship will use state-of-the-art wind and solar technology for its propulsion enabling an unlimited range. The revolutionary trimaran vessel will carry on board a variety of drones through which it will conduct experiments during its voyage.

The project is being developed by a partnership of Plymouth University, autonomous craft specialists MSubs and Shuttleworth Design.

Shuttleworth Design states:

"Our approach to developing the concept was to fully explore and take advantage of the opportunities that arise from not having to carry crew, and to create a vessel that is capable of using only renewable energy. Working within the limitations of renewable energy sources has given a clear direction to the developing form of the vessel.

"A trimaran was chosen because it provides the most efficient hull form for low speed motoring. The hull configuration developed from a requirement to reduce windage, while keeping the solar array sufficiently high above the water to reduce wave impact. Without the need for accommodation, the centre hull has been kept low to the water and the wings and deck are separated and raised above on struts. This allows waves to break through the vessel and significantly reduces roll induced by wave impact. The outer hulls are designed to skim the water reducing resistance by 8%."

"The two masted soft sail rig will enable a top speed of around 20 knots. Each sail is simply controlled by a single sheet, and can furl into the boom and allow multiple reefing configurations for varying wind speeds. Stowing the sails while motoring reduces windage and eliminates shadows cast over the solar cells on the deck, while allowing the masts to stay standing to carry navigation lights."

Professor Kevin Jones, Executive Dean of the Faculty of Science and Engineering at the University, states:

"MARS will be a genuine world-first, and will operate as a research platform, conducting numerous scientific experiments during the course of its voyage. And it will be a test bed for new navigation software and alternative forms of power, incorporating huge advancements in solar, wave and sail technology. As the eyes of the world follow its progress, it will provide a live educational resource to students, a chance to watch, and maybe participate in history in the making."

Plymouth-based firm MSubs will be leading on the construction, using their expertise in building autonomous marine vessels for a variety of global customers. Managing Director Brett Phaneuf states:

"The project will confront current regulations governing autonomous craft at sea". He also confirms that conversations have already been initiated with bodies such as the Maritime and Coastguard Agency and DNV GL, the international certification and classification society. "While advances in technology have propelled land and air-based transport to new levels of intelligent autonomy, it has been a different story on the sea". Brett states. "The civilian maritime world has, as yet, been unable to harness the autonomous drone technology that has been used so effectively in situations considered unsuitable for humans. It begs the question, if we can put a rover on Mars and have it autonomously conduct research, why can't we sail an unmanned vessel across the Atlantic Ocean and, ultimately, around the globe? That's something we are hoping to answer with MARS."



"The vessel will conduct all manner of meteorological, oceanographic and climate data gathering and research. It is intended to house one or more modular payload bays, much like a Space Shuttle, into which a diverse range of mission equipment will be fitted to support the various research tasks. Equally important, we will be conducting research on renewable energy and propulsion systems for marine vessels, research on the software for automated and autonomous operations for extended duration, advanced satellite communications and co-operative behaviour between nested automated and autonomous vehicles operating below, on and above the water simultaneously. We'll also be looking at data harvesting issues - how to know when something is significant enough to alert the scientists at mission control in Plymouth (UK) and Plymouth (USA) and perhaps 'goal oriented programming' to create dynamic mission plans that better serves the scientific goals of a specific mission without significant human intervention through direct operation of the Mayflower Autonomous Research Ship. ... page 3

MAYFLOWER AUTONOMOUS RESEARCH SHIP



"An Atlantic crossing could take as little as 7-10 days with optimal wind conditions but what's important is that it could take 7 - 10 months if we so choose, so that the ship could collect voluminous data for ongoing analysis by shore based teams of scientists and not worry about refuelling, or re-provisioning, or illness.....or loneliness. It is optimized to be AT-SEA supporting science, not racing across the Atlantic, however speed will be useful when the MARS needs to head to remote areas of the globe and again, collecting data all along the way!

"MARS will be monitored continuously therefore vandalism and piracy is a minor concern when compared with concerns about structural, mechanical, electrical, corrosion and software issues....the sea can be punishing on equipment and there will be no one present to repair the vehicle, hence it will need to have redundant systems and be as robustly built as possible using the latest in composite materials."

The multi-million pound project is part of the University's 'Shape the Future' fundraising campaign, recently launched at the House of Lords. Initial funding has been provided by the University, MSubs, and the ProMare Foundation, and corporate and private sponsorship will be sought for ongoing support. MARS will also create a large number of student internship opportunities for the University.

TECHNICAL

General	Performance	Design
Length Overall 32.5m	Speed Max Electric	Exterior Styling Shuttleworth Design Ltd
Beam 16.8m	Motoring 12.5 knots	Naval Architecture Shuttleworth Design Ltd
Draft 0.875 m (1.78 m to tip of rudder)	Speed Max Sailing 20 knots	Structural Engineering Shuttleworth Design Ltd
Sail Area 159 m ²	Range at 5 knots Electric Motoring Unlimited	
Hull Construction Composite (Glass/Aramid/Foam)		
Deck Construction Composite (Carbon/Nomex)		

<https://shuttleworthdesign.com/gallery.php?boat=MARS>

Mayflower Autonomous Ship Launches

- Robot research ship from ProMare and IBM takes to sea
- New Mission Portal features Artie - a seven-armed octopus chatbot

PLYMOUTH, England, Sept. 15, 2020 /PRNewswire/ -- Ocean research non-profit ProMare and IBM (NYSE:IBM) have announced the completion and launch of the Mayflower Autonomous Ship (MAS) – an AI and solar powered marine research vessel which will traverse oceans gathering vital environmental data.

Autonomous-Ships

Following two years of design, construction and training of its AI models, the new fully-autonomous trimaran was today lifted into the waters off the coast of Plymouth, England ahead of its official launch tomorrow.

Designed to provide a safe, flexible and cost-effective way of gathering data about the ocean, the new-generation Mayflower promises to transform oceanography by working in tandem with scientists and other autonomous vessels to help understand critical issues such as global warming, micro-plastic pollution and marine mammal conservation. ProMare is co-ordinating the scientific studies working with IBM Research and a number of leading scientific organizations.

MAS features an AI Captain built by ProMare and IBM developers which gives MAS the ability to sense, think and make decisions at sea with no human captain or onboard crew. The new class of marine AI is underpinned by IBM's latest advanced edge computing systems, automation software, computer vision technology and Red Hat Open Source software.

"Able to scan the horizon for possible hazards, make informed decisions and change its course based on a fusion of live data, the Mayflower Autonomous Ship has more in common with a modern bank than its 17th century namesake," said Andy Stanford-Clark, Chief Technology Officer, IBM UK & Ireland. "With its ability to keep running in the face of the most challenging conditions, this small ship is a microcosm for every aspiring 21st century business."

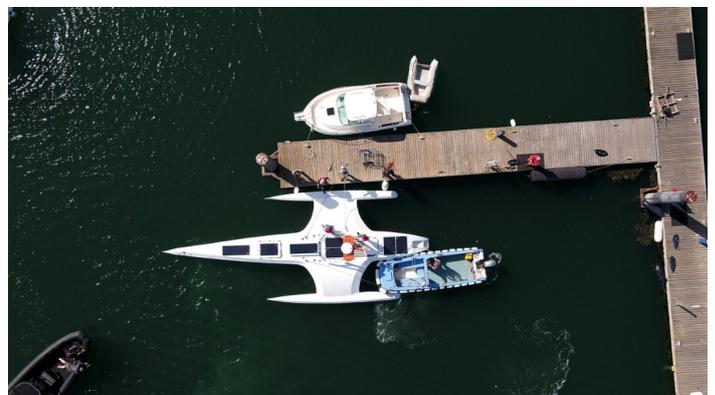
To enable followers around the world to stay updated with MAS as it undertakes its various missions, IBM and ProMare have today launched a new interactive web portal. Built by IBM iX, the business design arm of IBM Services, the MAS400 portal is designed to provide real-time updates about the ship's location, environmental conditions and data from its various research projects. Live weather data will be streamed from The Weather Company, as MAS is receiving forecast data and insight from the new IBM Weather Operations Center.

The portal even features a seven-armed, stowaway octopus chatbot called Artie, who claims to be hitching a ride on the ship. Powered by IBM Watson Assistant technology and created in partnership with European start-up Chatbotbay, Artie has been trained to provide information about MAS and its adventures in a lively, and accessible format.

"MAS400.com is one of the most advanced ocean mission web portals ever built," says Fredrik Soreide, Scientific Director of the Mayflower Autonomous Ship project and Board Member of ProMare. "Protecting the ocean depends on our ability to engage the public in important matters affecting its health. This MAS400 portal is designed to do exactly that and tell people where the ship is, what speed it's travelling at, what conditions it's operating in and what science we are conducting. Users can even help Artie the Octopus fish out surgical masks, cigarette butts and other increasingly common forms of ocean litter from a virtual ocean of facts and data."

MAS will spend the next six months in sea trials and undertake various research missions and voyages before attempting to cross the Atlantic in Spring 2021. MAS's transatlantic voyage will be based on a similar route and pioneering spirit to the 1620 Mayflower which made the same crossing 400 years ago.

<https://newsroom.ibm.com/2020-09-15-Mayflower-Autonomous-Ship-Launches>



MAYFLOWER AUTONOMOUS RESEARCH SHIP

Journey Map



The World Wide Web contains many articles on this project.

The two I have drawn from are:

- <https://shuttleworthdesign.com/gallery.php?boat=MARS> and
- <https://newsroom.ibm.com/2020-09-15-Mayflower-Autonomous-Ship-Launches>

A search on “autonomous Mayflower Ship” will yield a considerable number of results. Of the over half million returned, the first page will yield several useful links, fortunately, with a number going into considerable detail.

While you are hunting around the web,

<https://www.abc.net.au/radionational/programs/backgroundbriefing/450-days-trapped-cargo-ship-coronavirus/12900952>, leads to a very interesting podcast on the life at sea for those stuck aboard ships in this current corona virus crisis.

Cross-country dash to repair Kangaroo Island ferry propeller

Stan Gorton, The Islander November 30 2020 - 2:29PM

Details about the mission to get one of Kangaroo Island's two ferries back in service after propeller damage have come to light.

David Mullighan from Veith Engineering at Port Adelaide said the Sealion 2000 came to the Australian Naval Infrastructure facilities on November 11 to be lifted out of the water for an emergency docking.

There was some weeks of planning prior mostly coordinated by Jon Wilson from SeaLink, he said.

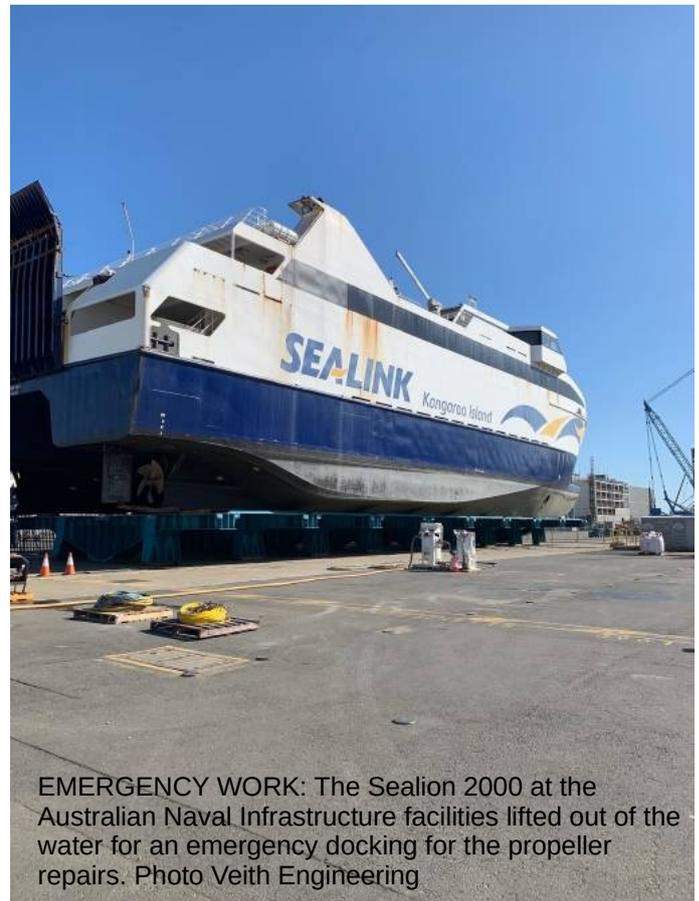
The propeller was damaged and required repair, due to its size it was decided to send it to Austral propellers in Peakhurst, NSW.

"Time was obviously critical, the vessel was lifted and once out of the water work started to remove the propeller," Mr Mullighan said.

"We had until 1800hrs to get it on transport the same day. Special arrangements had been made with transport company Mainfreight to stay open and accept the propeller.

"When it arrived in Sydney special arrangements were made to get it to Austral propellers so they could start the repair ASAP.

"Austral had a team of repairers on standby, they worked Friday into the night and completed it late Saturday."



EMERGENCY WORK: The Sealion 2000 at the Australian Naval Infrastructure facilities lifted out of the water for an emergency docking for the propeller repairs. Photo Veith Engineering

Cross-country dash to repair Kangaroo Island ferry propeller

Mr Mullighan and employee Brenton Voysey flew to Sydney where they hired a van to pick up the propeller and start the trip back to Adelaide.

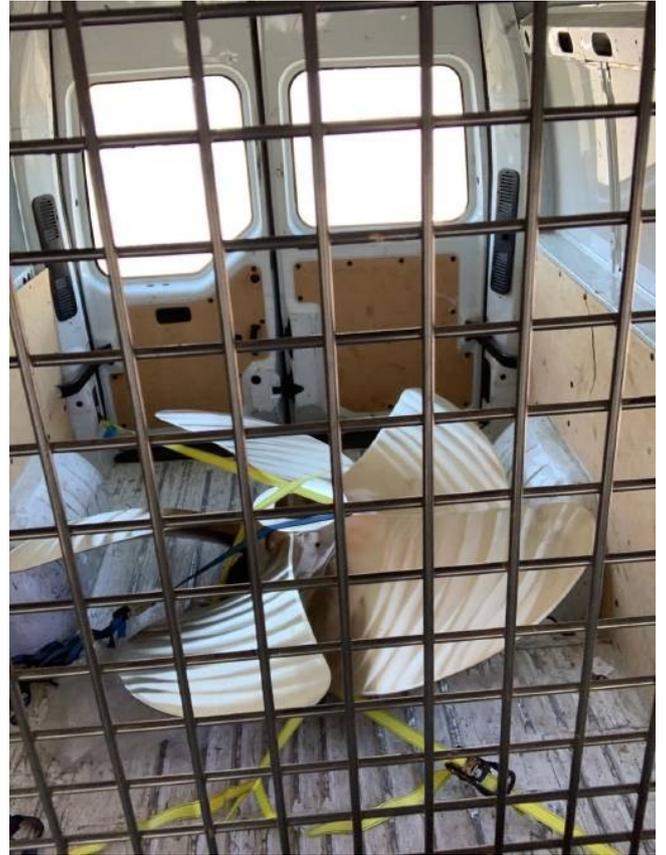
The 15-hour trip was done and the propeller was fitted to the ferry and the following day the ferry was returned to service.

"If the prop was freighted back by truck it would have taken an extra two days and due to the statewide lockdown it would have stayed on the ship lift an extra four days," he said.

"In actual fact the ship lift was closed four hours after the ferry left the facility!"

There was a local connection to the propeller repair mission as KI resident John McEvoy's son-in-law also Adam works for Veith Engineering.

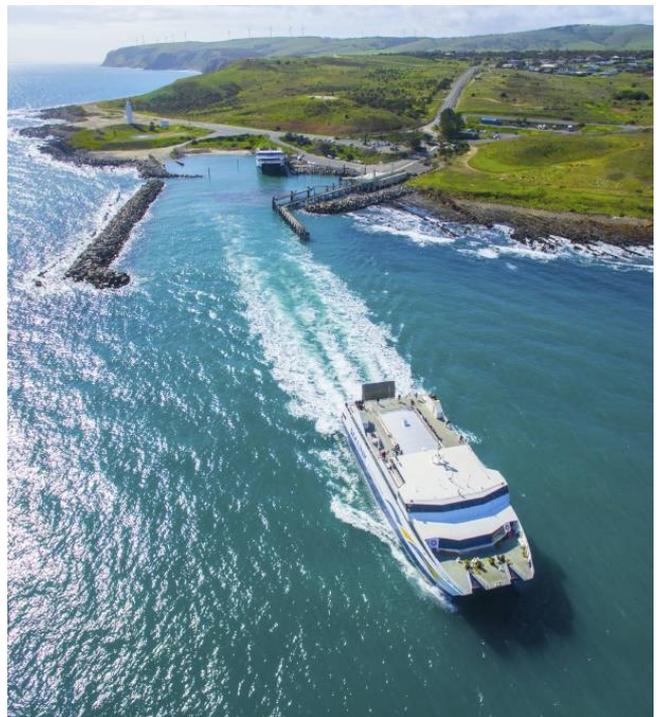
"They need credit for getting the SeaLink vessel back in the water swiftly," John said.



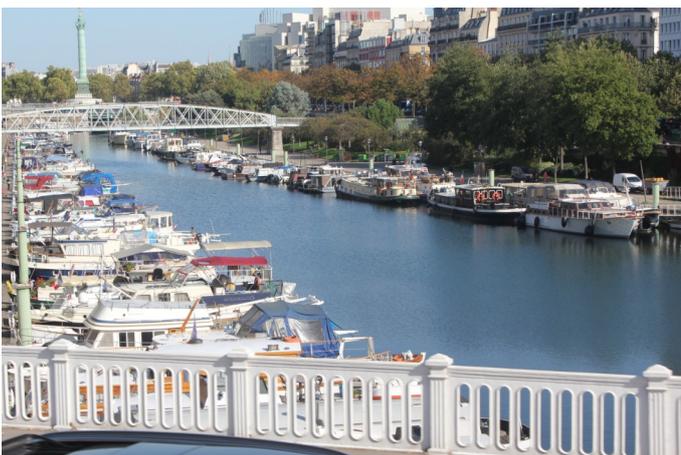
The repaired propeller in the back of the van on its way back to Adelaide.



The repaired propeller back on the Sealion 2000.



Sealion 2000 leaving Cape Jervis



At left are one or two pleasure boats on the River Seine in Paris on a warm October day in 2019 back in the days when we were allowed to travel.

Europe seems very much out of bounds to the casual traveller these days.

Pilot whales recorded along Great Australian Bight found to be mimicking predators' calls

ABC Eyre Peninsula / By Evelyn Leckie 14/12/2020



The five-year study has returned some surprising results. (Supplied: Curtin University)

Researchers working at the Great Australian Bight have discovered that long-finned pilot whales can mimic the calls of their predators, which may help them to stay alive while they stealthily scavenge.

Curtin University lead author Rachael Courts said the five-year study revealed surprising findings.

"This mimicry may be a clever strategy employed by the whales to disguise themselves from predators including killer whales," Ms Courts said.

"It may also allow them to scavenge food remnants from killer whales undetected."

Ms Courts said the data was recorded between Western Australia and South Australia during research cruises along the Bight.

"We used underwater recorders such as a hydrophone arrays and self-contained underwater sound recorders," she said.

"It's been a long study, and the reason behind that is, not a lot is known about the pilot whales, especially their distribution.

"It's a little bit hard for Southern Hemisphere researchers to know where and when the population will actually appear."

Duetting discovered

The research group also found evidence of pilot whales carrying out coordinated, patterned singing.

"This is typically heard in birds and primates, however it's rarely observed in these mammals," Ms Courts said.

"It highlights the complexity and sophistication of the pilot whales' acoustic communication system.

Space to play or pause, M to mute, left and right arrows to seek, up and down arrows for volume.

"Some long-finned pilot whale calls were found to be remarkably similar to those of the same species in the Northern Hemisphere, which is surprising as non-equatorial aquatic mammals.

"They're not expected to cross the equator for large-scale migrations, meaning the last contact the two hemispheres' populations would've been more than 10,000 years ago."

Ms Courts said the findings raised questions about how far these two populations' home ranges really extended.

Emerging data

Christine Erbe, the director of Curtin's Centre for Marine Science and Technology, said the study was the first to be published on long-finned pilot whales in the Southern Hemisphere.

"Our research discovered three unique vocalisations recorded from southern Australian long-finned pilot whales, which have not been reported for the species," Dr Erbe said.

"These were very complex, multi-component calls, much like killer whale calls — but given this is the first Southern Hemisphere study, we don't know how common the calls might be in other Southern Hemisphere pilot whales.

"This aspect could be the focus of future research."

SA Sydney to Hobart entrant the Enchantress docks to news of race cancellation

The Enchantress had sailed eight days from Adelaide to Sydney to race in the Sydney to Hobart. Then, as they docked, they found out it was cancelled.

Caleb Bond – *The Advertiser* December 20, 2020 - 7:00PM

The Enchantress had been docked in Sydney for about two minutes before its crew found out the Sydney to Hobart had been cancelled.



John Willoughby on the Enchantress in Sydney. Picture: Julian Andrews.

Skipper John Willoughby and his crew, most of whom hail from Queensland, had just completed the week-long – now futile – journey from Adelaide.

The Enchantress would have sailed her seventh edition of the country's most prestigious yacht race, but for the troubles of coronavirus again gripping Sydney.

Most of the crew scarpers to their native Queensland as quickly as possible, fearing an imminent border closure.

On Sunday afternoon, Mr Willoughby – a 72-year-old eye surgeon from Gawler who owns the boat and also owns a winery on Kangaroo Island – was also preparing to board a flight back to Adelaide. He said the news of the race's cancellation was not entirely unexpected; they had been logging on for news updates whenever they could get close enough to land for phone reception.

But Sydney's overcast and rainy skies really set the mood for such a downer.

"That's the way it is," Mr Willoughby said.

"It's a nasty disease that has beaten all the biggest nations and all the best plans and it's unfortunate this happened right as we landed."

It wasn't his first taste of coronavirus disruption.

The Haystack Island Race between Adelaide and the Yorke Peninsula – in which the Enchantress had to compete to qualify for the Sydney to Hobart – fell just days before the state was plunged into lockdown last month.

Most of the crew again fled to Queensland as early as possible – but two members had to isolate for two weeks on arrival.

"All they'd done was be on a yacht," Mr Willoughby says.

"It's not as though they'd been out partying at all the nightclubs."

Mr Willoughby says the work he has to put into maintaining the wooden boat, first launched in 1983, is immense. After a day at work, he often finds himself tinkering with the vessel into the wee hours of the morning.

"The maintenance on the woodwork is a bit like painting the Sydney Harbour Bridge – you start at the back, you get to the front and then you start all over again," he says.

Having set aside three weeks to get the boat to Sydney, race it and bring it back, he is now looking forward to a rest.

The Enchantress will now likely remain in Sydney, with some of its crew keen to buy the boat and Mr Willoughby wanting to focus on other projects.

But he can't quite let go just yet.

"I'll probably end up doing more comebacks than John Farnham."



One and All skipper, Captain Bill Walsh, maneuvers the ship against the breeze to allow for easier transfer of guests on board. The Kingscote jetty is in the background. Photo Stan Gorton



BLAZE AID HEROES: BlazeAid volunteers Jules Raes, Greg Howard and Ian Chan take a selfie and much needed break on the One and All on Thursday. Photo: Stan Gorton