



NAVY LEAGUE OF AUSTRALIA  
WESTERN AUSTRALIA

February 2021  
Volume 5, Issue 2

# DOWN THE VOICEPIPE *do you hear there!*

## COMING UP

Executive meeting Monday 01st. March 2021  
at 1700

NLWA Sundowner 28th March 2021 at 1700

HMAS PERTH (I) Memorial Foundation INC  
Executive meeting Saturday 20th. March  
2021 at 1000

ALL ARTICLES PUBLISHED IN THIS  
NEWSLETTER ARE PRINTED IN GOOD FAITH  
AND DON'T NECESSARY REFLECT THE VIEWS  
OF THE NAVY LEAGUE OF AUSTRALIA

RAN COLLINS CLASS SUBMARINE



## **Navy League of Australia Western Australia Division News update**

I promised our February newsletter would contain a lot more information and photos (famous last words) but sadly the best laid plans changed on the afternoon of January 31, where, due to WA's first community Covid-19 transmission in close to a year, the Perth metropolitan area, Peel Region and South West plunged into a total lockdown for five days. This had a flow-on effect to businesses, groups and individuals within these regions, including us and as such we had to postpone our annual sundowner and the first of our planned interactive workshops. Likewise we had to postpone our scheduled February getaway.

In light of the above we can't complain here in the west as we have had it very good for a very long time and I'm sure for many, we were the envy of the country and quite possibly the world with our life goes on as usual ethos. Yes our plans had to change but so did the rest of the country when they were in their moment of need. Despite WA returning to normal, we do still feel for those in areas affected, particularly our friends and colleagues based in other States and Territories and can only hope we see the end of this terrible pandemic in the not too distant future.

Anyway, the HMAS PERTH Memorial Regatta did go ahead on Sunday 21<sup>st</sup> Feb, it was well attended and weather-wise no one could have asked for a better day though at a touch over 39 degrees, I'm sure most would have appreciated a drop in temperature.

Also going ahead was the HMAS PERTH Memorial Church Service on Sunday 28<sup>th</sup> Feb, though in a much reduced capacity when compared to previous years. Again this activity was very well attended, allowed people to pay their respects and rekindle some friendships forged over decades of attending this service. It truly is inspiring to see the Legacy of HMAS PERTH I continue some 79 years after that fateful night in the Sunda Strait.

Onto our facility, it gives me great pleasure to announce another room has been renovated with new paint, new lights and fittings, new carpet tiles and a general once over. This is yet another achievement ticked off the list and I'm certain anyone using the room will be impressed with the level of finish that has been attained. Aside from a couple of very minor finishing's this now completes the Wardroom and Passage, Galley and Classroom/Rec Space areas.

The toilets and showers were renovated only a couple of years ago and remain in good, working condition. We still have more renovations to carry out but it is nice to be able to sign off on another area as complete. It may seem a token gesture but as usual, our sincere thanks go out to everyone who helped us achieve this outcome.

Our next getaway is planned to take place over the weekend of 6 and 7 March 2021, this time to Cunderdin, a nice little town about 160km or so east from the metro area. Given the start to the month, the extreme temperatures which have been followed by a forthcoming week of rain (more than the total March average was received in just one day) and the amount of work carried out to our headquarters I feel people will be very much looking forward to getting away again.

Look out for our next newsletter with photos of our outing. I haven't included photos in this spiel as Jim has uploaded quite an array of photos throughout the newsletter and I feel there is no use in doubling up.

As we say goodbye to summer and head into autumn I hope our members and those around the country are able to get outside and make the most of the next few months before winter, be it socialising, playing or watching sport or just tidying up around the house.

Regards  
Brad



## HMAS Perth (I) Memorial Foundation Inc Round-up and events

The HMAS Perth exhibition was opened by the Governor, Kim Beazley, on 27<sup>th</sup> February at the Perth Town Hall. During the 5 days it was open, around 350 people visited and produced a very favourable feedback. Exhibits were gathered from HMAS Stirling, Navy Museum, Perth Town Hall and ourselves. A few extra members will be joining but the most important result is the developing profile and knowledge of the ship and the Memorial Foundation.

We are also very pleased to see financial support from the ANZAC Day Trust which will enable the design of the memorial to be developed for Council Approval and see us move towards the construction phase. We have a further application with Department of Veterans' Affairs to enable the first phase of construction to commence.

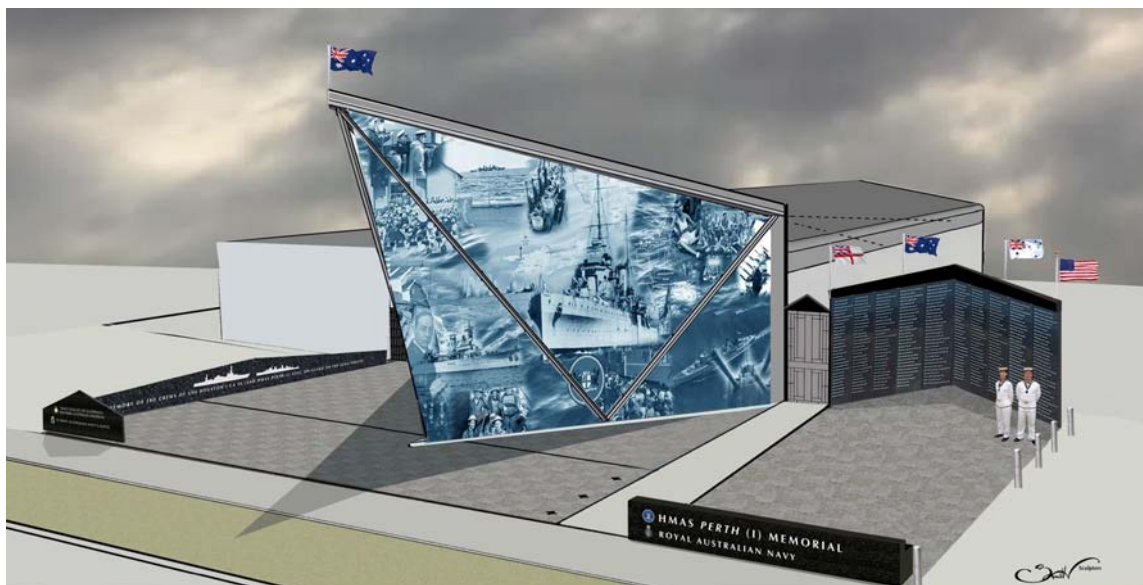
Photos of the events were taken by David Nicolson.

Mike Bailey  
President



Mr and Mrs Smith built the model of Perth for the Perth Survivors who presented it to the City of Perth.

**HMAS PERTH (I) original bell retrieved from the wreck in the Sunda Strait**



## ANNUAL HEC WALLER REGATTA HELD AT THE NEDLANDS YACHT CLUB



ANNUAL HMAS PERTH (I) / USS Houston Memorial church service St John's Church Fremantle 28th. February 2021



# HMAS PERTH (I) Memorial Exhibition Perth Town Hall 27th. February 2021 to 4th. March 2021





## Commander Anthony Nagle RAN



Joining the Royal Australian Navy from the Sunshine Coast in Queensland, **Commander Anthony Nagle** entered through the Australian Defence Force Academy in 1998 where he read for a Bachelor of Arts. Commencing his Maritime Warfare and Navigation training in 2001, Nagle served in the three amphibious units, HMA Ships *Manoora*, *Kanimbla* and *Tobruk*, prior to joining the Adelaide Class Frigate (FFG), HMAS *Sydney*. In *Sydney* he saw active service in the Northern Arabian Gulf during the height of the Iraq War in 2003. He undertook the Principal Warfare Officer Course in 2006 and consolidated as the Anti-Submarine Warfare Officer and Operations Officer in the Anzac Class Frigate (FFH), HMAS *Parramatta*. Sub-specialising as a Force Warfare Officer (Surface) in 2009, Nagle returned to *Parramatta* as Operations Officer, deploying to the Middle East Area for anti-piracy and counter-extremism maritime security operations. On promotion to Lieutenant Commander in 2011, he served as the Fleet Anti-Submarine Warfare Officer prior to joining the warfare staff at the Royal Navy's Maritime Warfare School in Portsmouth. Whilst on exchange in the United Kingdom, he undertook deep specialisation training and completed the Royal Navy's Advanced Anti-Submarine Warfare Course.

Upon returning to Australia, Nagle held the role of Officer in Charge of the School of Maritime Warfare at HMAS *Watson* prior to his appointment as Executive Officer of the FFG, HMAS *Newcastle*. During a rewarding two years in *Newcastle*, he deployed in support of border protection and counter-narcotics operations domestically and returned to the Greater Middle East Area for maritime security operations. For his efforts in *Newcastle* he was awarded the Conspicuous Service Cross in the 2018 Queen's Birthday Honours List. On promotion to Commander, Nagle was appointed as Head of Maritime Warfare at HMAS *Watson* and, following a brief period as Deputy Director Training Authority Maritime Warfare, he returned to sea as Commanding Officer of the FFH, [HMAS \*Arunta\*](#), in December 2020.

Commander Nagle is a graduate of the University of New South Wales and Kingston University (London). He holds a Bachelor of Arts, Master of Business, Master of Science (Technology), and a Graduate Certificate in Strategic People Management.

CMDR Nagle RAN the new Commanding Officer HMAS Perth (III) Designate



## Alarm raised over Chinese ship intrusion in Philippine waters

Ted Regencia 1 hour ago

A Chinese survey ship, which entered Philippine waters for the second time over the past year without authorisation, has left the country, but observers are increasingly alarmed over the intrusions, amid confusing statements on why it was in the country's seas.



©

The Chinese intrusions also come as Beijing began what it said was a research expedition to the resource-rich Benham Rise, northeast of the Philippines and also within its EEZ [Philippine Coast Guard]

Philippine Foreign Affairs Secretary Teodoro Locsin Jr confirmed the incident through social media on Tuesday, writing that the government "never gave permission" for the research vessel, Jia Geng, to stay in Philippine waters. He said that his department only approved a "request for shelter" from the Chinese embassy due to "bad weather". Officials from different Philippine agencies, however, gave conflicting accounts of when the ship entered the country's territory.

According to Philippine Coast Guard spokesperson Commodore Armand Balilo, the Chinese ship left the Philippines before noon on Monday, after entering the country on Friday, January 29. He added that the ship's captain "refused to allow" Filipino coast guard personnel to board the ship, citing COVID health restrictions. In response to a follow-up question by Al Jazeera, Locsin said that the emergency request by the Chinese embassy was sent on Saturday, January 30, "before any report of intrusion".

A subsequent statement by the Philippine department of foreign affairs' maritime division, however, said the ship entered the country's Exclusive Economic Zone (EEZ) as early as Wednesday, January 27.

The following day, Thursday, the Chinese embassy "phoned in request" to allow the ship "to take wind shelter" within Philippine territory, followed by a "note verbale" reiterating the request on Friday, the statement added. According to the Manila-based newspaper, Philippine Daily Inquirer, the ship had already been spotted within the Philippine EEZ on January 25. There were no typhoons reported in the Philippines in recent weeks, but January brings rough seas in the eastern front facing the Pacific.

### Sovereign immunity

Incidents of Chinese maritime intrusions typically happen in the disputed South China Sea, west of the Philippines. But the two intrusions involving the Jia Geng happened north and east of the Philippines, near the Pacific Ocean, raising alarm among maritime experts. The intrusions also come as China began what it said was a research expedition to the resource-rich Benham Rise, northeast of the Philippines and within its EEZ. Beijing had previously aroused anger by saying that Manila cannot claim sovereignty over the area, despite a United Nations declaration that it is part of the Philippines. Those who have criticised the Chinese expeditions into Pacific waters warn that the Philippines may be giving away too much to Beijing by allowing such activities, as ties between the two countries grow closer under the administration of President Rodrigo Duterte. In September 2020, the Jia Geng was also spotted entering Philippine territory without permission, prompting Manila to file a diplomatic protest with Beijing. After Philippine authorities confronted the ship about their presence in the northern Calayan island, the Jia Geng, which is operated by the state-owned Xiamen University, said it had encountered inclement weather. In a statement to Al Jazeera, opposition Senator Risa Hontiveros criticised the refusal of the Jia Geng's crew to submit to a search by Philippine authorities saying it is "a violation of our rights" under international law. "Inside our territorial sea, we have an unambiguous right to board and inspect. If we are talking about COVID-19 protocols, our law applies, not China's." In a social media post, Jay Batongbacal, a University of the Philippines maritime expert, also pointed out that since the ship was anchored within Philippine waters, it should have been subjected to the jurisdiction of the country's coastguard.

But he also pointed out that since the ship is owned by a state university, it might have also claimed sovereign immunity.

"So the question arises, what is the status of the vessel? If it is indeed entitled to sovereign immunity as a Chinese government vessel, why was diplomatic clearance not sought earlier," he asked. "Why did they do so only when the vessel was noticed to be already inside and anchored" in Philippine territorial waters," he added. "Seeking refuge is fine, but if the vessel is a foreign government ship, then there should be no obstacle to simple diplomatic courtesy." In a statement, the Chinese embassy in Manila denied the reports of the intrusion, saying the news was being sensationalised. "The fact is that the Chinese scientific survey ship is seeking humanitarian shelter in Philippine waters due to unfavourable weather and sea conditions in the Pacific, where they are scheduled to conduct a research mission," it said.

"Malicious hype-up and irresponsible and baseless accusations that run counter to common sense, are not acceptable and should not be appeased in a society that believes in rule of law and international norms as well as mutual respect." Oceanographic surveys are legal under international law. But there is scepticism about the activities being carried out by China's research ships amid concern the data gathered could be provided to China's navy – one of the most powerful in the world.

Recently, China also angered its neighbours by passing a law that for the first time explicitly allows its coastguard to fire on foreign vessels. The Coast Guard Law passed in late January empowers it to "take all necessary measures, including the use of weapons when national sovereignty, sovereign rights, and jurisdiction are being illegally infringed upon by foreign organisations or individuals at sea".

China has passed a law that for the first time explicitly allows its coastguard to fire on foreign vessels, a move that could make the contested waters around China even more volatile, the ABC reports..

China has maritime sovereignty disputes with Japan in the East China Sea and with several South-East Asian countries in the South China Sea. It has sent its coastguard to chase away fishing vessels from other countries, [sometimes resulting in the sinking of these vessels](#). China's top legislative body, the National People's Congress standing committee, passed the Coastguard Law on Friday, according to state media reports.

According to draft wording in the bill published earlier, the coastguard is allowed to use "all necessary means" to stop or prevent threats from foreign vessels. The bill specifies the circumstances under which different kinds of weapons — hand-held, shipborne or airborne — can be used.

The bill allows coastguard personnel to demolish other countries' structures built on Chinese-claimed reefs, and to board and inspect foreign vessels in waters claimed by China. The bill also empowers the coastguard to create temporary exclusion zones "as needed" to stop other vessels and personnel from entering. Responding to concerns, Chinese foreign ministry spokeswoman Hua Chunying said the law was in line with international practices.

The first article of the bill explains that the law is needed to safeguard China's sovereignty, security and maritime rights. This law comes seven years after China merged several civilian maritime law-enforcement agencies to form a coastguard bureau. After the bureau came under the command of the People's Armed Police in 2018, it became a proper branch of the military forces.

## COLUMN | REVERSE ENGINEERING AND ADAPTATION ENABLE IRAN'S NAVAL EXPANSION [NAVAL GAZING]

By [Trevor Hollingsbee](#) - January 27, 2021



*Makran (Photo: Armed Forces of the Islamic Republic of Iran)*

Years of international sanctions against Iran have obliged the nation's maritime force providers to engage in large-scale reverse engineering. A wide range of foreign vessels and weapon systems have been reproduced, in extensively modified form, for Iranian service. Asset numbers are a vital element of Iranian asymmetrical warfare doctrine. Another feature, therefore, of the relentless expansion (older vessels are seldom retired) of Iranian sea forces has been the adaptation of existing platforms for new roles, such the fitting of support vessels, and even a former presidential yacht, with anti-shipping cruise missiles (ASCM).

A tranche of very recent additions to the Islamic Republic of Iran Navy's (IRIN) order of battle adequately illustrates Iran's parallel policies of reverse engineering and adaptation. The 40,000-tonne, 228-metre forward base ship *Makran*, which reports indicate is probably a conversion of the Chinese-built, Maltese-registered bulker *Persian Gulf*, has been at sea since late December 2020. The IRIN probably envisages the ship primarily as a force multiplier and range extender.

According to an IRIN spokesperson, *Makran* offers the following capabilities:

- Special Forces support
- Search and rescue
- Fast attack craft basing
- Hospital facilities
- Missile launching
- Electronic warfare

*Makran* features upper deck holding racks for small craft and has been observed operating Sea King, Sea Stallion and AB 212 helicopters and Pelican drones from a large forward flight deck. The ship bears a superficial resemblance to the US Navy's Expeditionary Sea Base (ESB) ships but lacks the ESB's lower utility deck, which is used for the stowage and launching of landing craft and special forces' boats as well as the transfer of stores.

Like the ESBs, *Makran* lacks fixed defensive armament and is apparently not intended to go into harm's way. The conversion reportedly only took about two months, so it is probable that the ship retains some fuel storage and transportation capability. It is therefore conceivable that another role could be support of the regular long-range deployments undertaken by IRIN frigates. These deployments are currently usually supported by the aging, defect-plagued British-built tanker *Kharg*.

Another factor could be IRIN determination not to be outdone by its sister service, the Islamic Revolutionary Guard Corps Navy, which recently commissioned the 150 -metre support ship *Shahid Roudaki*.

Active at sea – although probably for political reasons, it has yet to be formally commissioned – is the diesel engine-powered frigate *Dena*, constructed by the Shahid Darvishi yard near Bandar Abbas. *Dena*, the latest example of the Mowj-class, is built to a design which was reverse-engineered from the 1970s-vintage, British-built Alvand-class ships, three of which continue to serve with IRIN.



*Dena* (Photo: Islamic Republic of Iran Navy)

Heavily armed like its sister ships, *Dena* boasts a weapons outfit consisting of a 76-millimetre gun, a 40-millimetre gun, two 20-millimetre cannon, two machine guns, Qader anti-ship cruise missiles (ASCMs), Sayyad air defence missiles, and two triple anti-submarine torpedo tubes. There is also a helicopter flight deck, but no hangar.

Surprisingly, the new frigate is not equipped with the modern, indigenous Kamand close-in weapon system, which is fitted to its immediate predecessor, *Sahand*, and to some of the Alvand class. The main radar system is the ASR 3D phased array radar. This is a passive, electronically scanned system, which is relatively invulnerable to attack by anti-radar missiles designed to generally home in on an emitted radar signature. This latest addition to the IRIN escort inventory means that the service now has at least eight missile-armed frigates in service, and another Mowj-class ship is known to be in build.

The status of the Caspian-based *Damavand*, which was severely damaged in a grounding in 2018, remains uncertain.

Although the waters of the Middle East are frequently subject to mining by combatant nations and militant armed regional movements, the IRIN is currently very short of mine countermeasures capability. Due shortly to join the fleet, though, is *Saba*, an indigenously-constructed catamaran surface effect ship, reportedly intended for use as a minehunter or minesweeper. Analysts believe that the 35-metre ship, which was built by Shahid Darvishi, is probably based on a North Korean missile craft design.



*Saba* (Photo: Mizan Online News, Iran)

If *Saba* proves to be successful, significant numbers will probably be built to provide the IRIN with a much-needed capability.

# FAREWELL PIRIE



As HMAS Pirie prepares to decommission, the crew is taking the patrol boat on her final voyage, SGT Dave Morley reports.

As this paper goes to print, HMAS Pirie II will have departed Townsville on her final voyage before decommissioning in Darwin on March 27. The Armidale-class patrol boat departed Darwin for Sydney on February 11, and is expected to return to Darwin on March 19, after conducting various port visits.

Navigator LEUT Dean Gilbert, who posted to Pirie in December 2019, said the decommissioning trip was an opportunity for the ship's company to visit their home towns and families, with most of the crew coming from Townsville, Brisbane, Newcastle and Sydney. "So far, the support we have received from external agencies like the Patrol Boat Group, Crew Support Readiness Group – North, Port Services (various), MAROPS, COMMHP, to ensure this trip is a success, has been excellent," LEUT Gilbert said. "This trip would not be the success it has been so far without them and we appreciate everything they do for us."

LEUT Gilbert said the ship's Townsville visit was an opportunity to show family his "office". "It helped them understand why I'm not always around for the big moments. My little nieces loved it especially," he said. Local units were also offered tours of the boat. According to LEUT Gilbert the ship's company was excited to undertake the trip as it provided them with an opportunity to visit their families, which was particularly difficult to do in 2020.

"I don't think it has quite settled in yet that, as of April 5, we will no longer be a crew, and Pirie has a great reputation for being family-orientated," he said. "I believe that that moment of realisation will come shortly after we arrive back in Darwin and it will be a very sad moment for us all." ABMT-E Darcy Smith, who was shorted in Townsville and attended Cathedral School there, posted to Pirie in November 2019. He hosted his parents and brother on a tour of the vessel. His father, WOFF Craig Smith, has been a RAAF aircraft maintainer for 35 years. "Dad was incredibly proud of my achievements working within a similar technical category as him, but in a different service," AB Smith said.

"He loved the ship and thought highly of the crew and the ship's overall capability, including engineering and technical systems." When Pirie decommissions, AB Smith will post to CSRG-N in a ready role, able to be loaned to other ACPBs requiring his skills as an ABMT-E.

ABML-C Tyler Bawden, who attended Townsville's Thuringowa State High School, took his in-laws on a tour through the ship. Having been posted to the ship in July 2020, he said it was incredible to be on board Pirie and a great first posting at sea.

"The crew and the routine makes life even better and I feel part of the Pirie family," he said. "I'm going to miss the culture and the crew mentality we have as a unit; we have an incredibly strong bond as a team and it's unfortunate we are being split up." On *Pirie's* return voyage she will conduct an in-company departure from Sydney with HMAS *Canberra*, as well as visit Lady Elliot Island off Bundaberg.

## Navy tests sub detection and tracking capabilities



### MARITIME AND UNDERSEA WARFARE

24 FEBRUARY 2021

By: **Charbel Kadib**

**HMAS *Hobart* and HMAS *Sheean* have engaged in a military exercise off the coast of South Australia to test the Navy's submarine detection capabilities.**

Guided missile destroyer HMAS *Hobart* and Collins Class submarine HMAS *Sheean* have linked up off the coast of South Australia for a military exercise, designed to test the Royal Australian Navy's submarine detection and tracking capability. Crew aboard HMAS *Hobart* attempted to visually identify *Sheean*, submerged at periscope depth. Able Seaman Boatswain's Mate Ricki-Leigh Viney was the first person to detect the Collins Class submarine from the bridge wing of HMAS *Hobart*. "The upper decks were full with people using binoculars," AB Viney said. "No one thought it would be that hard to spot the periscope, but it was really difficult." Upon completion of the naval exercise, the crew of HMAS *Hobart* conducted tests and trials of the ship's integrated sonar system, with the ship patrolling the gas and oil platforms in the Bass Strait.

This formed part of the Commonwealth government's commitment to maintaining a military presence in the region.

HMAS *Hobart* is now en route to Fleet Base East in Sydney, where it is expected to gear up for Exercise Tasman Shield in March.

## LITTLE DOVE FLIES THE COOP

December 4, 2020 in [Shipping News](#)

Words by our *Shipping Correspondent PA Sinclair*

Images by *Deanna Shanahan*

A journey of several millennia, our 21 year-old Dutch sailing ship replica, the Duyfken is moving to the Australian National Maritime Museum today.



Duyfken at Fremantle today. Credit. Deanna Shanahan

The six million dollars of funding she needs for the next 20 years couldn't be raised in Western Australia. Her historical significance to this State is extensive, and even more so to maritime history in general.

The Duyfken (Little Dove), first navigated our coast in 1606, mapping a safe passage from the Banda Islands of Indonesia, then the Dutch East Indies, where the spice trade was flourishing. She was one of the Dutch East India Company's – the VOC's – first ships to trade with the 'spice islands', and reportedly, her crew were the very first Europeans to have contact with the Aboriginal people here, when the Duyfken touched land in the Gulf of Carpentaria.

The replica was built in Fremantle in 1999, then became a permanent resident in 2012. Today she is to be lifted onto the Marsgrascht, Newcastle bound, where she will be unloaded and her mast and sails readied for a 70nm journey into Sydney Harbour just before Christmas. Here's a gallery of lovely photographs, taken by Deanna Shanahan, of the Duyfken arriving in Fremantle this morning in readiness for her penultimate voyage.



A spokesperson for the Duyfken Foundation said that without government funding, lamington drives and raffle tickets wouldn't cover the annual running cost of approximately \$300,000 per annum. The one hundred or so members of the Foundation will no doubt particularly feel the loss of their little dove, though may take solace in her esteemed resting place. But we will all miss seeing the Duyfken here and there and up and down the Derbarl Yerrigan/Swan River

## SWEDISH DEFENCE AWARDS CONTRACTS FOR WARSHIP ACQUISITIONS, UPGRADES

By **Baird Maritime** - January 29, 2021



*Photo:*

### *Saab*

The Swedish Defence Materiel Administration (Försvarets materielverk; FMV) and local defence contractor Saab have entered into two agreements concerning mid-life upgrades (MLU) for the Swedish Royal Navy's existing Visby-class corvettes and the development of upgraded vessels of the same class.

The contracts include requirements' analysis and are respectively the start of the modification work of five existing corvettes and the acquisition of the Visby Generation 2 ships. The newer Visby-class corvettes will each have a modern anti-ship missile system, torpedo system, and air defence missile system.

Meanwhile, the existing Visby-class ships, which were first introduced in the early 2000s, are expected to undergo modifications that will enable them to serve beyond 2040. The modifications will include upgraded anti-ship missiles and torpedoes as well as the incorporation of air defence missiles, a capability which was not present in the vessels' original design.

The two contracts have a total value of approximately SEK190 million (US\$22.7 million).

## FIVE MISSING AFTER CHINESE LONGLINER CAPSIZES OFF OKINAWA

By [Baird Maritime](#) - March 4, 2021



*pan Coast Guard patrol vessel (Photo: Japan Marine United)*

*A Ja-*

Japanese media reports that five people have gone missing after a Chinese-flagged fishing vessel capsized off Okinawa on Tuesday, March 2. The Japan Coast Guard received a distress call at 08:50 local time on Tuesday from the crew of the tuna longliner *Shen Lian Cheng 707* stating that their vessel was in danger of sinking in rough waters.

The coast guard dispatched a vessel and an aircraft to the area. The aircraft arrived on-scene around 30 minutes after the distress call was sent.

The coast guard aircrew said they spotted the overturned longliner and eight people adrift in the water at a point 330 kilometres north of Okinawa's Ishigaki Island.

Japanese officials later told local media that five of *Shen Lian Cheng 707*'s 10 crew were picked up out of the water by another Chinese vessel. However, no traces of the five other crewmembers have yet been found.

# Australian Naval Institute



## Ships: US cannot outbuild China



In this photo released by China's Xinhua News Agency, a newly-built aircraft carrier is transferred from dry dock into the water at a launch ceremony at a shipyard in Dalian in north eastern China's Liaoning Province

**By Marcus Hellyer\***

The most often quoted line of the ancient Chinese strategist [Sun Tzu](#) is that 'supreme excellence consists in breaking the enemy's resistance without fighting'. By that measure, the Chinese Communist Party and the People's Liberation Army have shown themselves to be excellent by winning a bloodless battle with the US. China's anti-access/area-denial strategy has already broken the US's willingness to operate close to China's coast in a conflict. It won that first battle through asymmetric means when it couldn't match the US military in conventional might.

Now it appears China is moving to win a second bloodless battle by using its industrial strength to outbuild the US Navy in conventional military power and push the US further away from the western Pacific and its allies there. The goal of these two battles is to win a bloodless war by making the cost to the US of intervening to counter an invasion of Taiwan too high. The Chinese strategy has put the US military in a bind, perhaps best illustrated by the US Navy's struggles to develop an achievable force structure that can deter or defeat Chinese ambitions at an acceptable cost in treasure and, if necessary, blood.

US presidents, congresspeople and the navy have held a view that 355 ships was the magic number. It's debatable in world of growing Chinese power and evolving technology whether that was the right number, but the reality was the navy couldn't have gotten there anyway. The cost of new ships has spiralled upwards, driven by the need for the sort of exquisitely complex, multirole vessels that can defeat the broadening range of threats posed by Chinese systems. [Independent analysis](#) indicated that achieving the 355 goal would require around 60% more spending on shipbuilding than the US had averaged. Consequently, ship numbers fell as the retirement of old vessels outran the launch of new ones, reaching a low of around 280.

Failed attempts to break out of the cycle, either by deploying advanced new technologies, in the case of the Zumwalt destroyer, or by building cheaper ships, in the case of the littoral combat ship, only exacerbated the problem by siphoning resources away from other programs in return for little or no useful capability. Moreover, they destroyed the navy's credibility with Congress. The result was that the navy was losing capabilities such as vertical launch cells, a key metric of naval power, much faster than it could replace them.

Other ways to break out of the cycle are being explored, but so far remain largely conceptual. Whether under the name of [mosaic warfare](#), distributed lethality or some other term, they involve [disaggregating capabilities](#) such as weapons, sensors, processing power and communications systems into smaller vessels and vehicles, some manned, some unmanned. The individual components would be cheaper, but when linked into a resilient network or mesh [enabled by artificial intelligence](#), together they would provide greater, more responsive lethality while being able to suffer attrition. Such concepts have made some progress towards reality, but overall have struggled to gain traction. The [Report to Congress on the annual long-range plan for construction of naval vessels](#) released by the Office of Secretary of Defense on 9 December reveals the tension at play between these factors. While the report was released after Secretary of Defense Mark Esper was 'terminated' by President Donald Trump, it was developed on his watch after he rejected the navy's previous attempts to develop a viable force structure and a plan to get there.

Crucially, the report doesn't yield the battlefield to China; it is focused on reasserting the US's warfighting advantage against China (and Russia). To do so, it breaks out of the shackles of the 355-ship formula. Strikingly, it does this by planning for more ships—around 400 manned vessels teaming with around 140 unmanned. A key element of the plan is to acquire more smaller ships, both combat and amphibious vessels. The number of small surface combatants will grow from 34 now to 68 by the middle of the century, while large surface combatants will fall from 91 to 74. These aren't small ships—the [small surface combatant](#) will be Fincantieri's FREMM frigate, which was one of the contenders in Australia's future-frigate competition. They will be a lot more capable than the littoral combat ships but will have significantly fewer vertical-launch cells than the Ticonderoga-class cruisers that are retiring (and whose replacement is still undecided). The plan also includes the [smaller amphibious](#) ships [sought by the commandant](#) of the US Marine Corps to allow his forces to operate within range of China's A2/AD capabilities.

Yet this is far from a wholesale move to mosaic warfare. For one, the plan is still committed to large numbers of extremely expensive manned platforms. In addition to the 74 large surface combatants, it maintains 10 or 11 aircraft carriers, plus it increases the number of nuclear attack submarines—one key area where the US still has a substantial technological advantage over China—from 52 to 80.

The navy's commitment to unmanned systems, meanwhile, seems a little wobbly. While the plan envisages acquiring eight Orca extra-large unmanned underwater vessels over the next five years, things are not so rosy for unmanned surface vessels (USVs). The navy had been pressing ahead with two unmanned surface ship classes that it is already [testing with the fleet](#) at sea: the Sea Hunter medium USV, which was to act as a sensor platform; and a large USV, which would act as an 'adjunct fires magazine', that is, a cheap way to get more launch cells to sea.

But while the plan states that 'significant resources are added to accelerate fielding the full spectrum of unmanned capabilities', it foresees acquiring only one medium USV over the next five years. And while the plan sought 12 large USVs, a [sceptical Congress](#) has intervened, questioning whether the technologies and concepts for their use are sufficiently mature. It wants the navy to explore other affordable ways to get launch cells to sea before committing to an unmanned solution.

The biggest flaw in the plan is that it still hasn't cracked the nut of affordability. The reduction in large surface combatants is nowhere near enough to offset the additions. The 2021 budget assigned US\$20.3 billion to shipbuilding, growing to US\$28.2 billion in 2026. Under the new plan, it grows to US\$38.4 billion. That's 89% more than now, and 36% more than the old plan envisaged for 2026. Across the next five years it's a US\$38.8 billion increase over the current plan. And that's before those numbers are scrutinised by agencies such as the Congressional Budget Office.

The accompanying [fiscal planning framework](#) identifies US\$45 billion in funding that can be redirected to shipbuilding, but those funds can only be described as illusory: US\$35 billion is 'savings' in operations funding to be realised by 'getting the US out of endless wars'. But even if President Joe Biden stops those operations, it's unlikely that Congress would still appropriate the same level of funding but redirect it to shipbuilding. Other savings come at the expense of the army, which won't go down without a fight. Meanwhile, the air force is facing exactly the same problem of [ageing platforms](#) and massive recapitalisation shortfalls as the navy—and its fighter and bomber programs also have constituencies in Congress.

It may appear to be academic to analyse a shipbuilding plan in the week after the administration that published it left office. But the Biden administration faces the same thorny issues. Simply seeking to outbuild China doesn't seem to be viable, particularly if it requires massive increases in funding, which likely isn't a high priority for the new administration. Yet turning mosaic warfighting concepts into an affordable reality will take time, something the US's ageing fleet doesn't necessarily have.

If the key threat is the growing Chinese navy, then effective, timely responses will require moving beyond focusing on ships to be built in future decades to planning for joint responses drawing on all US assets. The US Marine Corps' [reconceptualisation](#) of itself as a ship-killing force is one hint towards a different way of thinking. Resuscitating the US Air Force's [bomber fleet's role](#) as ship-killers is another. Even the US Army can play a role here with its own long-range strike platforms. And that's before we think about the role the US's coalition of allies can play.

**Marcus Hellyer** is ASPI's senior analyst for defence economics and capability.

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## Chinese submarine sailors report major mental health problems in rare study

**By CNN**

4:52pm Feb 2, 2021

More than one in five sailors on Chinese submarines [operating in the South China Sea](#) reported mental health problems, according to a new study that provides a rare insight into the inner workings of one of the country's most guarded assets. The research by China's Second Military Medical University and Navy Military Medical University, published in the [British journal \*Military Medicine\*](#), showed submariners reported severe psychological problems at much higher rates compared with People's Liberation Army (PLA) forces as a whole.

"This study demonstrates for the first time that soldiers and officers in the submarine force in the South China Sea are facing mental health risks and suffering from serious psychological problems," the researchers concluded.



Chinese People's Liberation Navy sailors have reported mental health problems while serving in submarines. (AP) The study surveyed 580 male submariners in the PLA Navy's South China Sea fleet, with 511 of those returning complete responses. While the overall condition of submariners' mental health was only slightly worse than PLA troops in general, the research showed significantly worse problems among the sub force in four areas. PLA Navy submariners showed higher rates of anxiety, phobias, paranoia and somatisation - where mental issues surface with physical symptoms - than among Chinese troops overall, the study found.

Conditions and the military situation in the South China Sea exacerbate the problems, the researchers said.

### South China Sea conditions

The South China Sea has become a hotspot for military tensions in recent years. Beijing claims almost all of the 3.4 million square kilometres South China Sea, and since 2014 it has built up tiny reefs and sandbars into man-made artificial islands, [fortified with missiles, runways and weapons systems](#) - antagonising regional governments with overlapping claims.



A file photo of a Chinese nuclear submarine. The vessels sail on regular patrols through the South China Sea. (AP)

Washington doesn't recognise those claims and regularly sends US warships and military aircraft through the region. China in response has increased military exercises in the region, which means submarines can spend two to three months submerged in tight, noisy confines that lead to sleep deprivation among submariners, the researchers said. "The physically unfriendly environment means that submariners are not only living in an isolated, constantly closed environment, but they also sleep in a cabin that is exposed to excessive noise," the study said.



A file photo of the confined conditions inside a Royal Australian Navy submarine. (Nine) Constant exposure to artificial light can also lead to mental problems, the researchers said.

The researchers found submariners with college or post-graduate degrees suffered more mental problems than those with lower levels of education.

They suggested two reasons for this: the highly educated have no way to relieve psychological pressures in their isolated environment and long for "freedom and integration into society".

The researchers also said the problems were more pronounced among those on nuclear-powered submarines versus those that were conventionally powered.

Not only do complex nuclear-powered submarines require better educated personnel, those aboard them tend to worry more about accidents and the effect of radiation on their health, the researchers said.



the aircraft carrier USS Theodore Roosevelt that is currently deployed in the South China Sea. (Supplied)

A file photo of

### China's nuclear submarine plans

Although the mental health of submariners has been explored in Western navies, the researchers said few studies have been published from non-English speaking countries.

They said they hoped the study could be a baseline for China to monitor the mental health of its submariners and suggested expanding the research to the entire PLA Navy submarine fleet. China has a fleet of at least 60 submarines, according to a 2019 report from the Washington-based Nuclear Threat Initiative (NTI). At least 10 of those are nuclear-powered.

But the country is in the midst of an ambitious shipbuilding program of which submarines play an important part.

## HMAS Canberra work an Australian first



The recent completion of HMAS Canberra's maintenance is the first time an operation on such a scale had been performed in Australia. CAPTION: The completed pod installation includes a new four-blade propeller arrangement. Capability Acquisition and Sustainment Group's Head Maritime Systems Rear Admiral Wendy Malcolm said successful completion of the maintenance period at Fleet Base East in Sydney was testament to the collaboration between Defence and Australian industry. Rear Admiral Malcolm said the maintenance period of the landing helicopter dock (LHD), undertaken at the Captain Cook Graving Dock, was a challenging undertaking. "This task was particularly complicated, not just because of the sheer size and weight of the equipment, but also because this has never been undertaken in Australia, and all while in a COVID-19 environment," Rear Admiral Malcolm said. "HMAS Canberra had her two pods and associated propellers replaced and returned to Navy service in great shape with some much improved capabilities. "The magnitude of this undertaking exemplifies the commitment of so many people, including Prime contractor NSM and our own Amphibious Combat and Sealift Enterprise," she said. Rear Admiral Malcolm said the pod replacement entailed intrusive internal work and significant preservation activities, but also required a large number of support structures and accessories, which were designed and constructed locally, in order to complete the installation. "The Australianisation of the supply chain and upskilling of the local Siemens technicians has also been a real highlight of the project, underscoring our commitment to a sovereign shipbuilding and sustainment industry," Rear Admiral Malcolm said. "A naval maintenance operation of this scale has never before been undertaken in this country's history, from the design and manufacture of a range of supporting equipment, the complicated logistics of delivering the huge pods and propellers and, finally, to a suite of engineering and sustainment challenges involved with conducting a task of such large proportions." After the completion of the pod installation, Canberra is now preparing for sea trials, where the new pod and propellers will be put through their paces. Meanwhile, the National Naval Shipbuilding Enterprise is already planning for Navy's second LHD, HMAS Adelaide, to enter the dock to begin the same maintenance activity.

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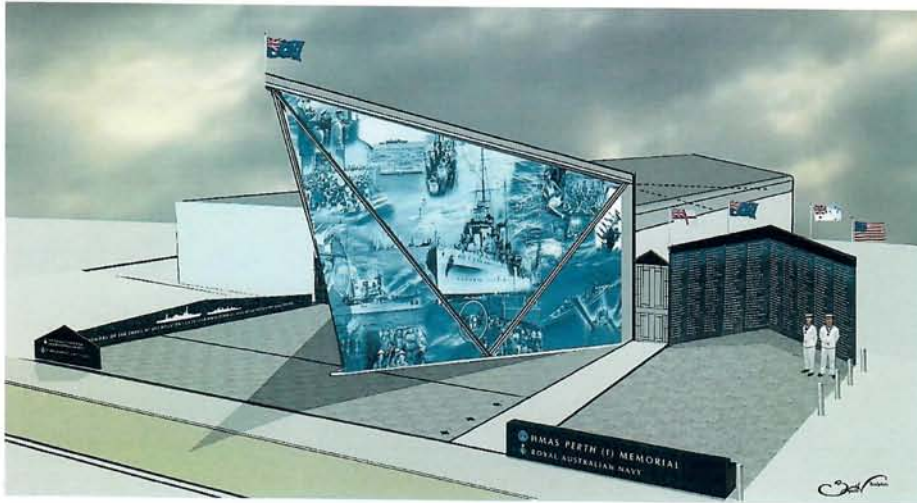
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China has world's biggest navy. Now what?



Shandong, China's newest carrier

In 2018, Chinese President [Xi Jinping donned military fatigues](#) and boarded a People's Liberation Army Navy destroyer in the South China Sea. Spread out before him that April day was the largest flotilla Communist-ruled China had ever put to sea at one time, 48 ships, dozens of fighter jets, more than 10,000 military personnel, [CNN reports](#).

For Xi, the country's most powerful leader since Mao Zedong, the day was a way point to a grand ambition — a force that would show China's greatness and power across the world's seven oceans.

"The task of building a powerful navy has never been as urgent as it is today," Xi said that day.

China was already in the midst of a shipbuilding spree like few the world has ever seen. In 2015, Xi undertook a sweeping project to turn the PLA into a world-class fighting force, the peer of the United States military. He had ordered investments in shipyards and technology that continue at pace today.

By at least one measurement, Xi's plan has worked. At some point between 2015 and today, China has assembled the world's largest naval force. And now it's working to make it formidable far from its shores.

In 2015, the People's Liberation Army Navy (PLAN) had 255 battle force ships in its fleet, according to the US Office of Naval Intelligence (ONI).

As of the end of 2020, it had 360, over 60 more than the US Navy, according to an ONI forecast.

Four years from now, the PLAN will have 400 battle force ships, the ONI predicts.

Go back to 2000, and the numbers are even more stark.

"China's navy battle force has more than tripled in size in only two decades," read a December [report by the leaders of the US Navy, Marines and Coast Guard](#).

"Already commanding the world's largest naval force, the People's Republic of China is building modern surface combatants, submarines, aircraft carriers, fighter jets, amphibious assault ships, ballistic nuclear missile submarines, large coast guard cutters, and polar icebreakers at alarming speed."

Some of those will be the equal or better of anything the US or other naval powers can put in the water.

"The PLAN is not receiving junk from China's shipbuilding industry but rather increasingly sophisticated, capable vessels," Andrew Erickson, a professor at the US Naval War College's China Maritime Studies Institute, [wrote in a February paper](#). Those include ships like the Type 055 destroyer — which some analysts say betters the US Ticonderoga-class cruisers for firepower — and amphibious assault ships that could put thousands of Chinese troops near foreign shores.

While China is expected to field 400 ships by 2025, the goal of the current US Navy shipbuilding plan, a goal with no fixed date, is for a fleet of 355 — a substantial numerical disadvantage.

That's not to say the US Navy has seen its days as the world's premier fighting force come to an end. When counting troops, the US Navy is bigger, with more than 330,000 active duty personnel to China's 250,000.

Analysts point out several other factors in Washington's favor.

The US Navy still fields more tonnage — bigger and heavier armed ships like guided-missile destroyers and cruisers — than China. Those ships give the US a significant edge in cruise missile launch capability.

The US has more than 9,000 vertical launch missile cells on its surface ships to China's 1,000 or so, according to Nick Childs, a defense analyst at the International Institute for Strategic Studies.

Meanwhile, the US attack submarine fleet of 50 boats is entirely nuclear powered, giving it significant range and endurance advantages over a Chinese fleet that has just seven nuclear-powered subs in its fleet of 62.

Close to home, however, the numbers move in Beijing's favor.

"The big advantage the Chinese navy holds over the US Navy is in patrol and coastal combatants, or corvettes and below," Childs said. Those smaller ships are augmented by China's coast guard and maritime militia with enough ships combined to almost double the PLAN's total strength.

Those are troubling signs for Washington as it grapples with budget and pandemic problems that are much larger than China's. Analysts worry the trend lines, including China's announcement Friday that it will increase its annual defense budget by 6.8%, are going in Beijing's direction.

You can't have the world's largest navy if you can't build a lot of ships. China gives itself that ability by being the world's largest commercial shipbuilder.

In 2018, China held 40% of the world's shipbuilding market by gross tons, according to [United Nations figures cited by the China Power Project](#) at the Center for Strategic and International Studies, well ahead of second place South Korea at 25%.

Put in a historical perspective, China's shipbuilding numbers are staggering — dwarfing even the US efforts of World War II. China built more ships in one year of peace time (2019) than the US did in four of war (1941-1945).

"During the emergency shipbuilding program of World War II, which supported massive, mechanized armies in two theaters of war thousands of miles from home, US shipbuilding production peaked at 18.5 million tons annually, and the United States finished the war with a merchant fleet that weighed in at 39 million tons," said Thomas Shugart a senior fellow at the Center for a New American Security and former US Navy captain, [in testimony before Congress](#) last month.

"In 2019, during peacetime, China built more than 23 million tons of shipping, and China's merchant fleet ... totals more than 300 million tons," Shugart said.

The Chinese state-owned companies churning out commercial shipping are also the engines of its naval buildup.

"In conflict, excess PRC industrial capacity, including additional commercial shipyards, could quickly be turned toward military production and repair, further increasing China's ability to generate new military forces," Erickson, of the US Naval War College, wrote last year.

The infrastructure in place, the workforces involved and the technology employed in those commercial shipyards is applicable in turning out warships in quantity. That's something China does very well.

"Between 2014 and 2018, China launched more submarines, warships, amphibious vessels, and auxiliaries than the number of ships currently serving in the individual navies of Germany, India, Spain, and the United Kingdom," according to the China Power Project.

"At the rate China is building naval vessels, and with the capabilities those newer warships have, I would say that they've already progressed from what was a coastal defense navy, to what is now probably their region's most powerful navy — with some global reach — and are on their way to building a world-class power projection navy if they continue growing as they have," Shugart told CNN. Beijing has been methodical in its naval buildup, with much of its numbers to date concentrated on craft such as corvettes, frigates and diesel-electric-powered submarines that would be useful in waters around China, said Sidharth Kaushal, research fellow at the Royal United Services Institute in London.

"The bulk of China's shipbuilding, such as its force of (approximately) 75 [Type 056 corvettes](#), are smaller vessels of the corvette/frigate size," Kaushal said. Contrast that to the US Navy, whose closest ship to the frigate class, the littoral combat ship, now numbers only around 15 combat-dedicated vessels.

The corvette force is ideal for tighter, shallower ocean environments, like China's key areas of concern, the [South China Sea](#); around Taiwan; and the Senkaku/Diaoyu islands in the East China Sea, controlled by Tokyo but claimed by Beijing.

The ships the PLAN puts to sea near Chinese shores are protected by a large ground-based missile force.

The missiles "problematize US power projection and prevent overwhelming naval and air power from striking the Chinese mainland," said Kaushal. "However, this also has the effect of facilitating power projection against local nations, as these nations are far more vulnerable when the maritime links that enable the US to support them are severed."

For instance, if the US Navy was unable to operate in the South China Sea because of the Chinese missile threat, it would have a hard time protecting the Philippines, with which Washington has a mutual defense treaty.

US military leaders are also cognizant that in 2021 the PLA Navy is much more than ships.

"Take a look at what China's really investing in," US Chief of Naval Operations Adm. Mike Gilday said this week in [an interview with Breaking Defense](#). "Yes, they are putting more ships in the water, but they're investing heavily in anti-ship missiles as well as satellite systems to be able to target ships." All that gives China a strong hand to play in any possible conflict close to home. And China is adamant its military is defensive.

"The development of China's national defense aims to meet its rightful security needs and contribute to the growth of the world's peaceful forces," said the country's 2019 defense white paper, titled "China's National Defense in the New Era."

"China will never threaten any other country or seek any sphere of influence."

So why is the PLA Navy building aircraft carriers, amphibious assault ships and large, powerful destroyers and cruisers suitable for operation far from China?

Protecting the Chinese mainland and its territorial claims around the region are what Beijing calls "near seas defense."

China's massive naval buildup coincides with it reinforcing its claims to almost all of the 3.3 million square-kilometer (1.3 million square-mile) South China Sea by building up tiny reefs and sandbars into man-made artificial islands heavily fortified with missiles, runways and weapons systems.

"Islands and reefs in South China Sea have unique advantages in safeguarding national sovereignty and maintaining a military presence in the open sea," read a December 2020 [article in Naval and Merchant Ships](#), a Beijing-based magazine published by the China State Shipbuilding Corporation, which supplies the PLA Navy.

But they can't stand alone, the magazine noted. In the events of hostilities, outposts in the southern reaches of the waterway could require reinforcements from near China's southern coast, more than a day's sailing away, it said.

Piling resources in the near seas to achieve that level of control could be problematic for China, some argue. It may leave China vulnerable to a distant naval blockade that could deprive it of vital materials from abroad, severing what are termed sea lines of communication, or SLOC for short.

"China does not control the straits and transit lanes on which its economy depends and 'once a crisis or war at sea occurs, (China's) sea transport could be cut off,'" Jennifer Rice and Eric Robb, senior intelligence analysts at the US Office of Naval Intelligence, wrote in [a paper for the US Naval War College's China Maritime Studies Institute](#) last month. "The regional focus of near seas defense is also insufficient to address the increasingly global scope of China's economic interests."

To bring Chinese military power to bear on its global interests, they said, China has begun implementing "far seas protection."

"Far seas protection reflects Beijing's direction for the PLAN to 'go global,' ... part of a larger Chinese government policy to encourage the expansion of China's economy and cultural outreach," Rice and Robb wrote.

Part of the play is perception. For decades now, nothing has quite projected military power as the image of a US Navy aircraft carrier in waters far from home. It's something China craves, analysts say.

"Some Chinese military analysts suggest it is imperative for the PLA to safeguard China's overseas interests and note that sending out the PLAN is essential to establishing China's image as a great power," Rice and Robb wrote.

Dozens of corvettes can't do that. So China has ramped up its production of ships that form an aircraft carrier task force, like guided-missile cruisers and nuclear-powered submarines, which have much longer endurance than the diesel-electrics that comprise most of the PLAN fleet.

The PLA Navy has two aircraft carriers in service, but their endurance without refueling is limited to less than week, according to the China Power project. That makes them more suitable for use in places like the South China Sea rather than in far oceans.

But more carriers are in planning and production. The newest planned Chinese carrier is expected to be equipped with a nuclear power reactor and electromagnetic catapults that will enable it to launch aircraft with more firepower and greater range than the existing carriers.

Rice and Robb point out that two Chinese defense white papers, from 2015 and 2019, say long-range naval forces are necessary to help with international peacekeeping, disaster relief and naval diplomacy — in other words, flying China's flag overseas.

But they issue a warning. "The peacetime nature of these activities can obscure far seas protection's wartime applications. The concept encourages offensive operations during wartime, despite the defensive strategy its name implies," they wrote.

Citing Chinese publications, they add, "One source urges naval forces to 'control key strategic channels' far from China. Another source advocates employing strategic 'fist' forces formed around aircraft carriers. ... Another wartime mission is to strike important nodes and high-value targets in the enemy's strategic depth to 'ease pressure on the near-seas battlefield.'"

But in the near term, the center of attention is Taiwan, the democratic self-governing island that the powers in Beijing say is a historical and inalienable part of their sovereign territory.

Beijing's [2019 defense white paper](#) said the island's authorities were "intensifying hostility and confrontation, and borrowing the strength of foreign influence."

"The 'Taiwan independence' separatist forces and their actions remain the gravest immediate threat to peace and stability in the Taiwan Strait and the biggest barrier hindering the peaceful reunification of the country," the paper said.

And in a press conference in January, a Chinese Defense Ministry spokesman made clear where the military stands. "Taiwan is an inalienable part of China," Senior Col. Wu Qian said.

"The PLA will take all necessary measures to resolutely defeat any attempt by the 'Taiwan independence' separatists, and firmly defend national sovereignty and territorial integrity."

In a speech in 2019, Xi said "not a single inch of our land" could be ceded from China.

"We should safeguard the sovereignty and territorial integrity of the country and achieve full unification of the motherland," he said.

In many ways concerning Taiwan, Xi has set up the PLA Navy fleet to do that.

As noted, the concentration of smaller surface ships like corvettes and coastal patrol craft are suited for combat near shores. And there's only about 130 kilometers (80 miles) of relatively shallow water between Taiwan and the Chinese mainland, ideal for the corvettes.

Those six dozen or so corvettes, for example, can carry two anti-ship missiles each with ranges of up to 200 kilometers (125 miles). Imagine the tracking and missile defense headache that creates for the US Navy surface fleet in the Pacific, which can only muster about three dozen destroyers.

PLA capital shipbuilding can also be seen in the lens of Taiwan.

Late last year, the Type 075 landing helicopter dock (LHD), a 35,000- to 40,000-ton multipurpose ship about half the size of China's two in-service aircraft carriers, embarked on sea trials.

As one of the biggest amphibious assault ships in the world, the Type 075 has a full flight deck to handle helicopters, and a flooded well deck that can launch and recover hovercraft and amphibious vehicles, according to [an analysis from the Center for Strategic and International Studies \(CSIS\)](#). It also has the capacity to carry 900 ground troops, who the helicopters and hovercraft can put ashore. The ship, the first of three in the water or in production, "considerably elevates China's ability to transport, land, and support ground forces operating outside the Chinese mainland," analysts Matthew Funaiole and Joseph Bermudez Jr. wrote for the CSIS.

"The new class of ship ... represents a significant step forward for enhancing China's amphibious capabilities."

But if China were to invade Taiwan, it would need far more than 900 ground troops to control and occupy the island.

And that brings us back to those numbers, including the coast guard, the maritime militia, even those merchant ships China produces like no one else can.

"We would be wise to assume that China will bring all of its tools of maritime power to bear in ensuring success in a cross-Strait invasion," Shugart, the CNAS analyst, told Congress, who drew an analogy to the escape of British forces from France in World War II to visualize his point.

"In something like the form of a reverse-Dunkirk, we should expect that instead of only dealing with dozens of gray-painted PLA Navy amphibious vessels and their escorts, we would likely see a Taiwan Strait flooded with many hundreds of fishing boats, merchant ships, and Coast Guard and Maritime Safety Administration vessels.

## **" Japanese Navy submarine collides with bulker**

**February 9, 2021, by Naida Hakirevic**

A Japan Maritime Self-Defense Force (JMSDF) Soryu-class submarine collided with a Hong Kong-flagged bulk carrier in the Pacific Ocean. The incident occurred off Kochi near Shikoku Island, Japan, on 8 February 2021. The Soryu diesel-electric attack submarine (SS-501) scraped the hull of the ship as it was surfacing while conducting routine training, the Japan Times [reported](#), referring to the country's defence ministry. Three sailors assigned to the submarine suffered slight injuries. The 2009-commissioned submarine sustained only minor damages and was able to continue sailing. The ship in question has been identified as Ocean Artemis, a 2010-built Post-Panamax bulk carrier. According to data provided by VesselsValue, the ship is controlled by China's Centrans Ocean Shipping Logistics. The 92,500 dwt vessel reportedly resumed voyage at a reduced speed after investigations were completed.

## South Korea's unnecessary aircraft carrier



**By Bradley Perrett\***

South Korea daily faces a risk of cataclysmic war: invasion by an army of more than 1 million, mass artillery bombardment of its capital and even nuclear attack. And its latest proposed acquisition? An aircraft carrier—a meaningless hole in the water into which the Republic of Korea Navy hopes the country will pour about US\$5 billion.

And US indirectly finances such wasteful spending, paying several billions of dollars a year to protect South Korea from North Korea while officials and industrialists in Seoul divert domestic funds to national vanity projects.

Others include an [indigenous fighter](#) (essentially, a reinvented Boeing F/A-18E/F Block II Super Hornet that will be built 21 years after the original), a [space launcher](#) that will hardly be used, and an [attack helicopter](#) with a bulky, compromised design forced on it by the program's need for a civil version.

The navy's main justification for building an aircraft carrier is to make naval operations independent of air support from the land when fighting unnamed current and future threats. The defence ministry is calling the ship 'CVX' (previously, 'LPX-II'). It would be equipped with Lockheed Martin F-35B Lightnings, capable of short take-off and vertical landing.

For war with North Korea, the justification is nonsense, because the Korean peninsula is so small that land-based fighters can indeed cover the navy's ships, especially with tanker support. Also, all North Korean targets are in fighter strike range of South Korean air bases, so a costly mobile base at sea is unnecessary.

If the unnamed future threat is China or (fervently imagined) Japan, then building CVX makes even less sense, because it would be so vulnerable to attack by land-based missiles, aircraft and submarines. The real, childish reasons for South Korea buying an aircraft carrier are all too plain. One is that naval officers love big ships and are especially proud of aircraft carriers. The other is a persistent factor familiar to every observer of South Korean technology and defence programs: a desire to match or outdo Japan.

The push to build this ship strengthened immediately after 2017 news reports, since confirmed, that Japan would adapt two helicopter carriers [to operate F-35Bs](#). (Japan also has plenty of costly and doubtfully justifiable indigenous programs, but the inexpensive adaptation of the helicopter carriers is not one of them. And Japan has a reason for taking F-35Bs to sea: air defence over the Pacific.)

South Korea's aircraft carrier is so far following a familiar path for questionable acquisitions in that country: decades of strengthening advocacy has finally achieved defence ministry backing but, with it, rising criticism and still no parliamentary approval. After this stage in such a program, we normally see more setbacks but relentless advocacy until, almost always, a full acquisition budget is allocated.

So there is a good chance that CVX will be built. The defence ministry is planning on full funding beginning in 2022 and the ship entering service in 2030. The ministry last year asked the parliament for 10.1 billion won (A\$11.6 million) to do preliminary work on this project in 2021; instead, it got a derisory 100 million won (A\$115,000) to pay for a feasibility study, which will be delivered in August. Since the ministry's acquisition agency will produce the report, there can be no doubt that the supposed study will declare the project justifiable, desirable and, altogether, a jolly good idea.

Acquisition would cost about 2.03 trillion won (A\$2.3 billion), the ministry says. The figure doesn't include paying for the required 20 F-35Bs, which the air force would reportedly operate at sea. The ship would need helicopters, too, so the total cost would be close to A\$6.5 billion. (In a controversy within the controversy, air force officers don't want F-35Bs. The service is already acquiring 40 F-35As, designed for concrete runways, and would prefer to buy another 20 fighters of that conventional and more capable version.) To help sell CVX to parliament, the navy describes it as a light aircraft carrier, even though it would not be at all light. At a 4 February seminar, the navy said its unladen displacement would be in the 30,000-tonne class, which can be interpreted as anything up to 39,999 tonnes. Since the length would be 265 metres and the width (apparently not beam) would be 43 metres, a full-load displacement of 50,000 tonnes looks plausible.

The air group would comprise 12 F-35Bs and eight helicopters, or 16 F-35Bs and four helicopters—not a lot for all the steel that would be carrying them around. The navy is probably leaving space for more F-35Bs that it hopes the government will buy later. The current proposal has emerged from repurposing a provisional plan for an assault ship. Renderings of successive concept designs have had an amphibious whiff about them, notably by lacking large flight-deck overhangs and a ski jump. (US assault ships have neither.) Both features should appear in time as the project looks again at how aeroplanes are best operated at sea. The capacity to store, launch and recover them rises dramatically with flight deck width. And a jet that is thrown upwards by a ski jump as it goes over the bow can carry more fuel and weapons than one that departs fully horizontally.

The latest CVX concept, prepared by Hyundai Heavy Industries, has two islands, following the configuration of the Royal Navy's two Queen Elizabeth-class carriers. Among the advantages is separation of propulsion and electrical machinery. Indeed, *Aviation Week* [reports](#) that the British consortium that built the Queen Elizabeths proposes to provide technical data on their design to the South Korean government and shipyards. The South Korean concept also includes a radar operating in the X and S bands, a 32-cell vertical launcher carrying indigenous short- and long-range air-defence missiles, and a fast-firing gatling gun for last-ditch missile defence. All of these systems would be indigenously developed and all would, to varying degrees, be reinventions of what's already available.

Nationalism helps drive South Korean technology programs. There is in fact a word for the phenomenon, 'techno-nationalism'. But, so far, the carrier proposal is pushing the limits of what techno-nationalism will support. Opposition to the proposal has appeared not just in parliament—where, for example, two politicians, retired generals of the army, said the money should instead be spent on F-35As or Aegis air-defence destroyers. Doubts were also expressed when the navy posted a [video](#) of its February seminar on YouTube. Within three hours, an avalanche of criticism had appeared in the comment section. The navy promptly deleted the video—but it's back up now, with the comment function disabled.

\***Bradley Perrett** is a defence and aerospace journalist who was based in Beijing from 2004 to 2020.

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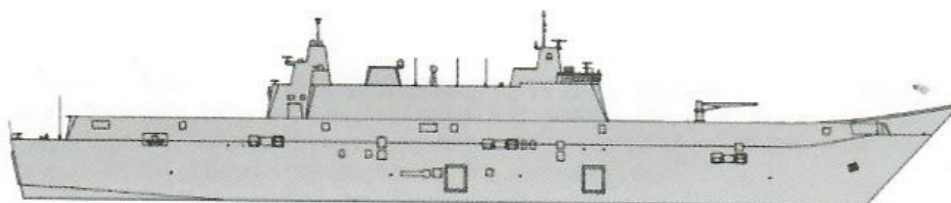


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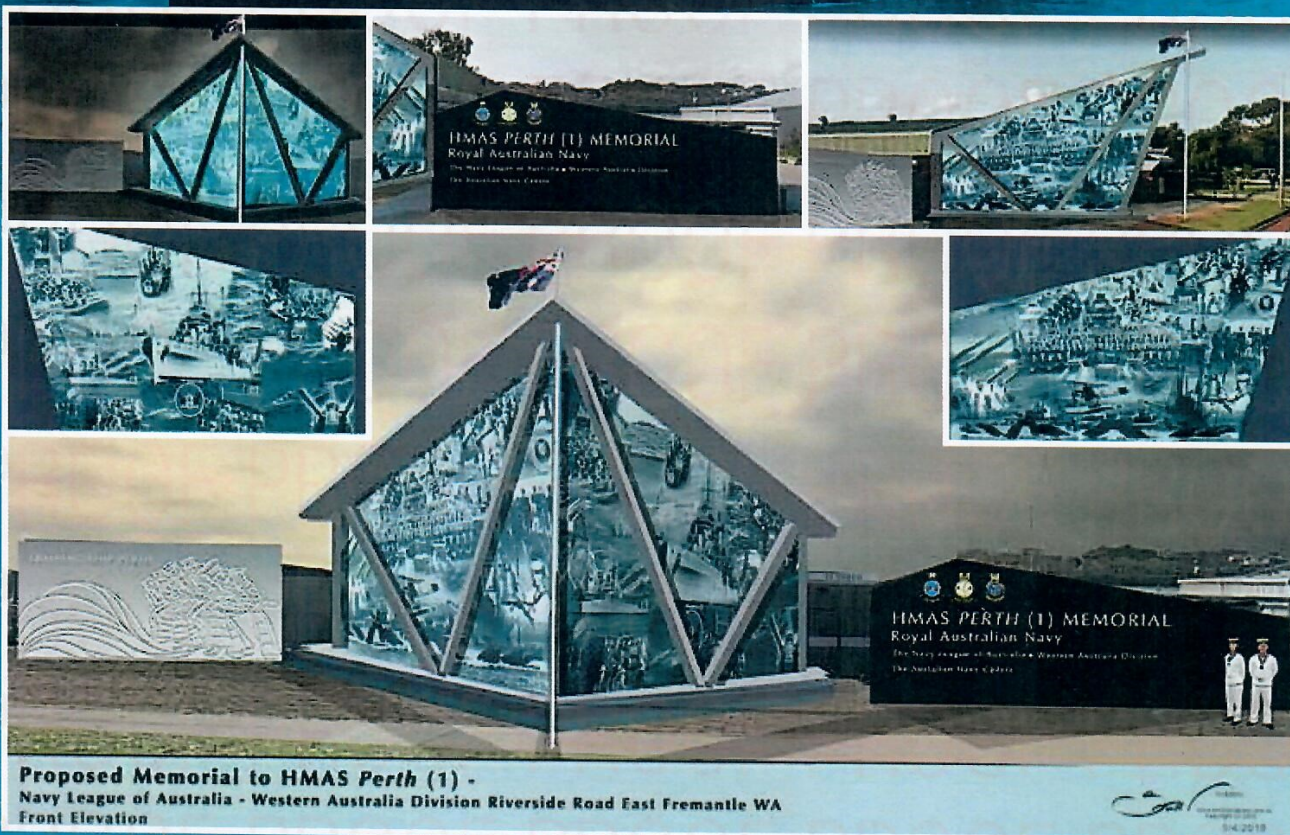
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