SPECIAL REPORT

An Australian maritime strategy

Resourcing the Royal Australian Navy

Jennifer Parker

October 2023

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About the author

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Cover image: Ship's company of HMAS *Darwin* aboard the ship for the last time during the decommissioning ceremony at Sydney's Garden Island, Defence image library, online.

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No mention has been made of the importance that control of the sea has had, and is having in the New Guinea campaign or in the South West Pacific Area generally, and the work of our ships and men is passing entirely unnoticed … the public mind is becoming less and less conscious of the important role of Sea Power, and is acquiring an entirely erroneous standard of values. This is to my mind harmful to the Navy at present, and fraught with danger for the future.

—Australian Chief of Naval Staff, Vice Admiral Sir Guy Royle, RN, in a personal letter to the Commander Allied Forces in the South-West Pacific Area, Vice Admiral AS Carpenter, USN, February 1943[1]

Introduction

Australia is a maritime nation. The sheer scale of our sovereign maritime territory and responsibilities, our dependence on maritime trade for our prosperity and the increasing value of activity in the maritime environment must all be recognised in our maritime strategy. In a highly interconnected world, we face fundamental vulnerabilities from the realities of our geostrategic situation. In this report, I argue that the Royal Australian Navy (RAN) lacks the resources to adequately protect Australia's vast maritime interests. This concern isn't unique to our time: maritime strategists have long lamented that, despite being uniquely an island, a continent and a nation, Australia struggles to understand the central importance of a maritime strategy to our defence and security. The underappreciation of Australia's dependence on the maritime domain and that domain's significance for the nation's prosperity and security has consistently produced a RAN that's overlooked and under-resourced.

Some argue that the AUKUS agreement shows that capability is driving strategy.[2] To develop a coherent force structure, strategy must drive capability. It's important that the structure and capabilities of the RAN are driven by a maritime strategy that's clear and responsive to the strategic circumstances outlined in the 2023 Defence Strategic Review (DSR). Many of our partners, including the US, UK and India, have recognised that and published public-facing maritime strategies, but Australia's maritime strategy is less clear, and the term itself is conspicuously absent from public-facing strategic documents. A maritime strategy isn't simply another domain strategy: Australia is a maritime nation, and the defence of our national interests is inherently maritime in nature. In this report, I consider the history of Australia's maritime strategy, arguing that now more than ever, amid great-power competition, Australia must enunciate a clear maritime strategy for the defence of our national interests.

In the 2001 official history of the RAN, naval historian Dr David Stevens stated:

> Australia's strategic policy at the beginning of the twenty-first century enunciates a maritime strategy, but with finite resources available the navy cannot allow the situation to continue where its contributions to national well-being are so widely underestimated and misunderstood.[3]

To ensure Australia's maritime security, the RAN relies on a backbone of 11–12 major surface combatants.[4] A major surface combatant is a ship constructed and armed for combat. Presently, the RAN's current major surface-combatant fleet consists of eight Anzac-class frigates and three Hobart-class destroyers, all of which have capabilities in anti-submarine warfare (ASW), anti-air warfare (AAW) and anti-surface warfare (ASuW), while the wider RAN surface fleet consists of several less well-armed ships, including auxiliary, amphibious, hydrographic, mine countermeasure and patrol craft. The RAN's present patrol boat force will be replaced by larger offshore patrol vessels (OPVs) (the Arafura class), the first of which is planned to commission in 2024. Although not major surface combatants, and noting that strategic guidance about their purpose has evolved over time, the OPVs were originally designed to supplement the surface-combatant fleet, according to the 2009 Defence White Paper (DWP).[5]

The structure of the major surface-combatant fleet has remained relatively constant for more than 50 years, despite recommendations from multiple fleet structure reviews that the fleet should be in the order of 16–20 ships. While the methodology behind previous fleet structure review recommendations for an expanded fleet isn't entirely clear, the context is relevant. Reviews in the 1970s and 1980s were conducted during the Cold War, when the possibility of a 'hot war' was real. Following the end of the Cold War, throughout the 1990s and the 2000s there was a genuine belief among policymakers that the era of state-on-state conflict was over.

However, in the past 20 years, the power balance in the Indo-Pacific region has changed dramatically, and since 2022 Europe has been confronted with the possibility of a major war.

In 2020, China's military modernisation and its coercive and aggressive behaviour in the region, along with dramatic advances in technology, prompted the Australian Government to abandon the assumption that it has 10 years of strategic warning time for changes to Australian Defence Force (ADF) structure planning.[6] However, this significant change in the ADF's strategic thinking, reinforced by the 2023 DSR, hasn't resulted in any accompanying changes to the structure of the RAN more broadly, or to the major surface combatant fleet specifically. Although a review has been undertaken, its results aren't yet known to the general public.

While the planned acquisition of eight nuclear-powered submarines to replace six conventional submarines under Pillar 1 of AUKUS is important, including because of the potential to more easily sustain submarines on station in key areas of operation, it doesn't represent a major structural change or significant expansion of the RAN. The acquisition will be a significant increase in the capabilities of the submarines that the RAN currently operates, but not in the overall capability of the RAN fleet designed over 50 years ago.

In this report, I examine whether the bipartisan thesis of a structural change in our strategic circumstances, as articulated in the DSR, also requires a structural change and an expansion of the RAN. I argue that both are needed, through both an increased surface-combatant fleet that's designed on the principle of a balanced fleet and a review of the RAN's structure. Such a structural review should include consideration of bold changes, including reconsideration of a fleet auxiliary, a coastguard or forward basing of assets to support the workforce requirements of an expanded fleet.

This report looks mainly at the structure of the surface-combatant fleet, noting the recent finalisation of the surface-combatant fleet review. In the light of the Australian Government's consideration of that review's recommendations, I make eight recommendations for government consideration.

I argue that the *status quo* of 11–12 major surface combatants is insufficient for Australia. That was the case even when the force was structured around the concept of Australia having 10 years warning time of military conflict. That problem has become more acute today, given the new era of strategic competition and the capability and size of our potential adversaries, in particular China, as recognised in the DSR. In this report, I recommend that a major surface-combatant fleet structure of 16–20 ships is needed.

Although this report advocates for a larger surface-combatant fleet than the traditional 11–12 major surface combatants that the RAN has fielded, even an increased 16–20 major surface combatants would be only a small-to-medium maritime capability. The RAN doesn't have the resources to generate bespoke platforms designed for a narrow number of tasks focused on specific functions.

While the current era of strategic competition calls for an expansion of the RAN's major surface-combatant fleet to meet the needs of an effective maritime strategy, that expanded fleet must be able to effectively provide a range of operational effects as part of a 'balanced' fleet. A balanced fleet in the current era of missile capabilities requires a reduction in the production of the intended nine ASW-oriented, multi-purpose, Hunter-class frigates. I argue that the production of nine Hunter-class frigates would result in even an expanded fleet being biased towards ASW, with limited ability to field an adequate number of missiles per tonne across the fleet, impacting their ASuW and AAW capability.

The scope and length of this report don't permit the consideration of Australia's naval shipbuilding enterprise or the industry policy of continuous naval shipbuilding, although both would need to be considered in the expansion of the RAN surface-combatant fleet. I don't make recommendations about what specific surface combatants should be acquired to support the expansion of the fleet, but it's notable that there are a number of feasible options to support that increase, including increasing the number of Hobart-class destroyers, potential modifications of the Hunter-class frigate, or alignment with the US future frigate (Constellation class) or future destroyer (DDG(X)) programs, all of which come with their own benefits and unique challenges.

The structure of the surface-combatant fleet can't be viewed in a vacuum, independently of broader maritime capabilities, including sealift, mine warfare and civil maritime trade operations, all of which will need to be enveloped under a clear and coherent maritime strategy. Although those capabilities aren't considered in this report, their interrelated nature highlights why maritime strategy should be driving maritime capability.

For the purposes of considering the surface-combatant fleet's structure, I focus mainly on the naval combat aspects of maritime strategy, but I'm not implying that those are the only relevant aspects of maritime strategy. A successful maritime campaign is unlikely to be effective without the successful execution of integrated operations in the air, land, space and cyber domains.

Recommendations

Based on my analysis of Australia's maritime strategy, and considering the requirements of the RAN's surface-combatant fleet structure, I make the following recommendations to the Australian Government. These recommendations should be considered alongside the recommendations from the recent surface-combatant fleet review (which at the time of publication had been delivered to government but not publicly released).

Recommendation 1

The Australian Government should articulate an integrated maritime strategy in the 2024 National Defence Strategy.[7] This would highlight the central importance of a solid maritime strategy to Australia's national defence and bolster Australia's deterrence narrative by demonstrating that the nation is a regional maritime power that knows what it wants to achieve, has the capabilities to do so and will deploy them in the national interest. Australia's maritime capability should be driven by a clear maritime strategy.

Recommendation 2

In 2024, the government should release a stand-alone, public-facing maritime security strategy, subordinate to the 2024 National Defence Strategy. The maritime security strategy should be consistent with the strategies of our AUKUS partners, highlighting the centrality of the maritime domain to Australia's national interests and a clear intent to protect those interests.

Recommendation 3

The RAN's major surface combatant fleet should be structured as a 'balanced naval fleet'. The 2023 DSR's articulation of the transition from a 'balanced' to a 'focused' force shouldn't be misinterpreted as providing direction away from the needs of a balanced naval fleet structured to provide effective operational options for a range of maritime combat functions.

Recommendation 4

The Australian Government should commission a 2024 review into alternative workforce structures to support the increased crew requirements of nuclear-powered submarines and the crewing of an expanded surface-combatant fleet. The review could consider the designation of a coastguard, the transition of the auxiliary and sealift components of the RAN fleet to civilian crewing or a system of readiness levels for RAN task groups, among other structural changes.

Recommendation 5

The RAN's major surface-combatant fleet should be urgently expanded beyond its core structure of 11–12 surface combatants to a fleet of 16–20 ships. The threats that Australia faces and the lack of strategic warning time make that expansion essential to deliver credible surface combat capability. The expansion would enable the conduct of concurrent task-group operations, including in cooperation with allies and partners, a necessary increase in maritime and land strike capability and a capacity to defend Australia and its national interests in the decades to come.

Recommendation 6

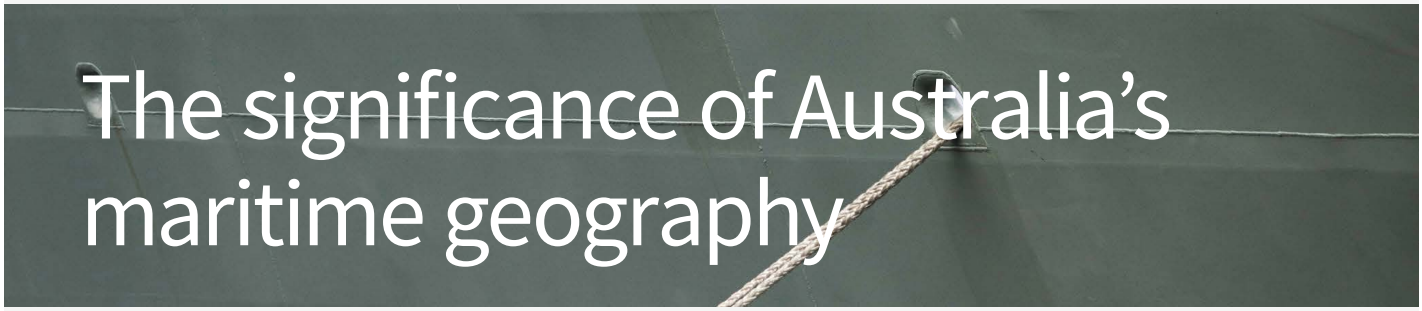
In line with recommendation 3, the planned production of nine ASW frigates should be reduced to six. Even if the RAN surface-combatant fleet is expanded, the production of nine Hunter-class frigates would result in an 'unbalanced' fleet biased towards ASW, at the expense of sea-based missile capability that would provide greater AAW and ASuW capability. A fleet of six Hunter-class frigates would allow for concurrent dedicated ASW support to two or three task groups. In addition to the Hobart class, the remaining ships should be replaced by multipurpose frigates or destroyers with greater missile capacity to support the DSR requirement of 'impactful projection'.[8]

Recommendation 7

The armament and survivability of the Arafura-class OPV should be enhanced to provide a viable capability in the event of a conflict in our region. The reduction in strategic warning time means that vessels without a minimum self-defence capability create a significant vulnerability in the RAN fleet structure.

Recommendation 8

In line with recommendation 7, if the armament and survivability of the Arafura-class OPV can't be enhanced, then the government should consider a replacement that's designed specifically for constabulary operations. That will provide savings in cost, displacement and crew (akin to a patrol boat), accepting the limited employability of that capability in crisis or conflict.



The significance of Australia's maritime geography

> 'Wars are won by the economic strangulation of the enemy from the sea.'[9]

Australia is both an island nation and the only nation that occupies an entire continent. In that simple reality lies the question of how to best approach Australia's defence: from a continental or a maritime perspective? Military historian Professor Michael Evans tells the story of that tension, describing how a continentalist view of defence, both within Australia's declared strategies and in our cultural perceptions, has resulted in an under-resourced RAN and an ill-considered maritime strategy.[10] Australian naval historian Dr David Stevens, in his 2001 *The Royal Australian Navy: a history*, also laments this evolution:

> Australia is without doubt a maritime nation, and its history cannot be understood without constant reference to the sea, but there is little to suggest that the nation has yet developed a national consciousness of sea power in its inclusive sense.[11]

Australia is a maritime nation

- Australia's total coastline is just under 60,000 kilometres.[12]
- Australia is the only nation that solely occupies an entire continent.
- 98% of Australia's merchandise trade passes through Australian ports.[13]
- 91% of all fuel consumed in Australia is imported.[14]
- According to the International Energy Agency, Australia held only 51 days of fuel reserves in May 2023.[15]
- Australia's exclusive economic zone (EEZ) is larger than its mainland, accounting for approximately 10 million square kilometres of water.[16]
- Australia's international search and rescue region is nearly 53 million square kilometres (1/10th of the Earth's surface), and most of the region is sea.[17]

Australia is reliant on seaborne supply routes

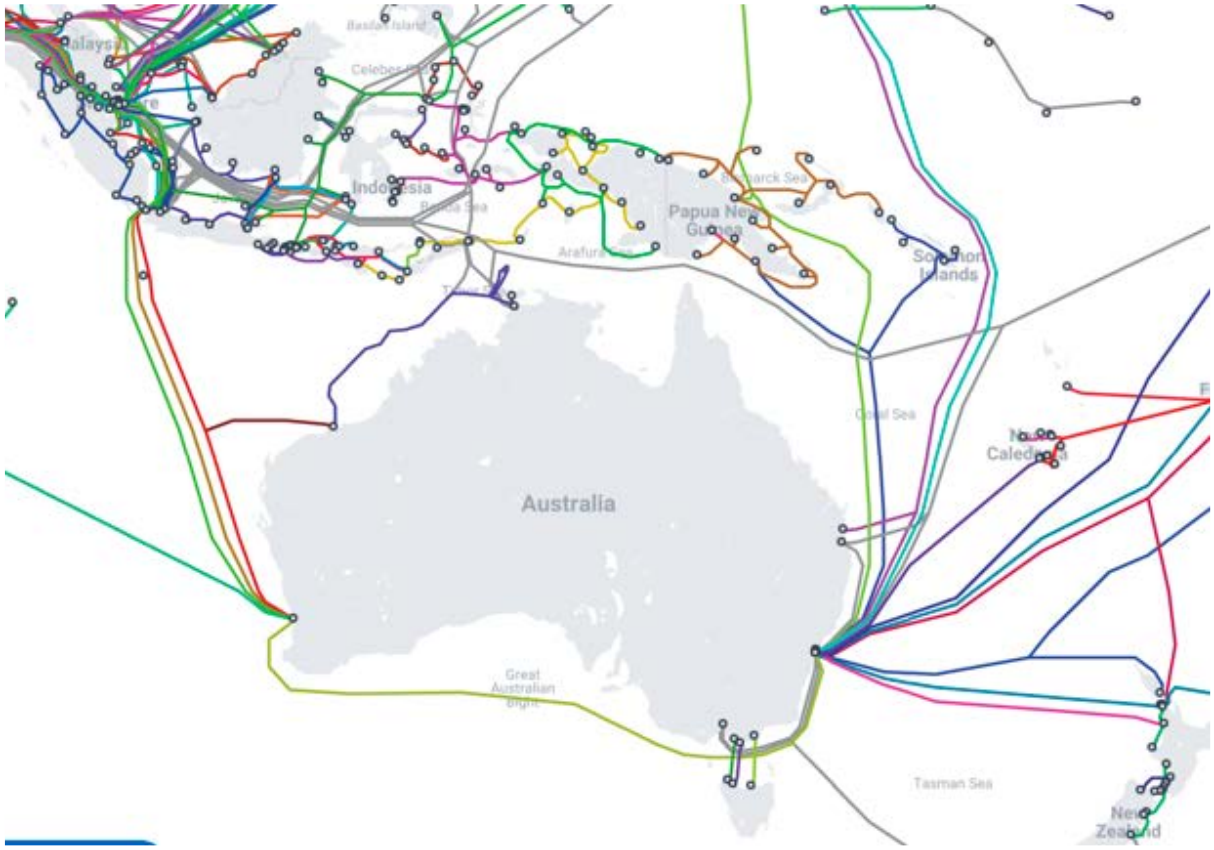
From an economic perspective, Australia is reliant on its sea lines of communication (SLOCs) for maritime trade and the EEZ afforded to it under the UN Convention on the Law of the Sea (UNCLOS). Some 98% of Australia's trade passes through Australian ports.[18] The importance of the maritime domain is underscored by the fact that Australia is the world's largest commodities exporter, and virtually all of those commodities are moved by sea.[19] However, the figures don't fully capture the importance of maritime trade to Australia's economy because many imports that come by sea have a greater influence on the Australian economy than their value in dollars alone. Goods such as fuel and fertiliser are useful examples as essential inputs to the economy. Crucial sectors are heavily reliant on sea supply chains and a safe, secure and predictable maritime environment.

Australia's heavy reliance—strategically and economically—on fuel imports is the best known example. In FY 2020–21, 91% of fuel consumed in Australia was imported.[20] Most of it came from Malaysia, Singapore and South Korea, although most of those countries serve as refining locations; the crude oil originates from the Middle East or Africa.[21] Lengthy seaborne supply routes stretch across the Indian Ocean and pass through the South China Sea (SCS). Not only is the Australian economy heavily dependent on seaborne supply, but so too is the ADF. The late Rear Admiral (Retd) James Goldrick gave the example of aviation fuel, which can't be refined in Australia:

> If each F-35 strike fighter with its long-range precision weapons cannot be filled with the several tons of aviation fuel it needs for a single sortie, there will be no defence from its northern air bases against an advancing enemy in Australia's so-called 'sea air gap'.[22]

A second prominent example is Australia's reliance on underwater data cables or submarine communication cables for its internet-dependent economy (Figure 1). Some 99% of Australia's internet traffic travels through those cables.[23] In FY 2020–21, the internet directly contributed $118 billion to the Australian economy.[24]

Figure 1: Australian submarine cables



Source: submarinecablemap.com.

In short, Australia's security and prosperity depend on a large maritime domain that requires adequate protection. That protection is needed for civil and military tasks ranging from regulation and governance through to presence, interdiction and escort operations.

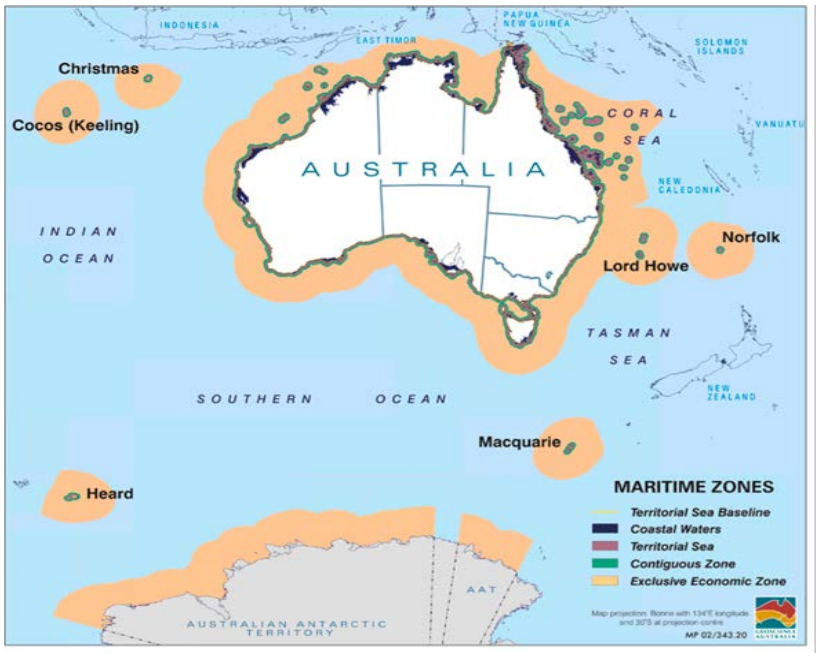
The ability to protect Australia's lengthy SLOCs requires a flexible, responsive and integrated maritime capability, providing a credible underpinning of Australia's deterrence strategy.

The scale of and challenges posed by our maritime geography

Australia is the sixth largest country by landmass and the only one of that top six to be completely surrounded by water. Our coastline is the sixth longest in the world at just under 60,000 kilometres— a formidable one to monitor by any standard.[25] Australia's EEZ accounts for around 10 million square kilometres of water—a space larger than Australia's landmass (Figure 2).[26]

The scale of the challenge is further compounded by the size of Australia's internationally agreed search and rescue region, which covers the Australian continent and large areas of the Indian, Pacific and Southern oceans as well the Australian Antarctic Territory.[27] That region is nearly 53 million square kilometres (one tenth of the Earth's surface), and most of it is sea.[28]

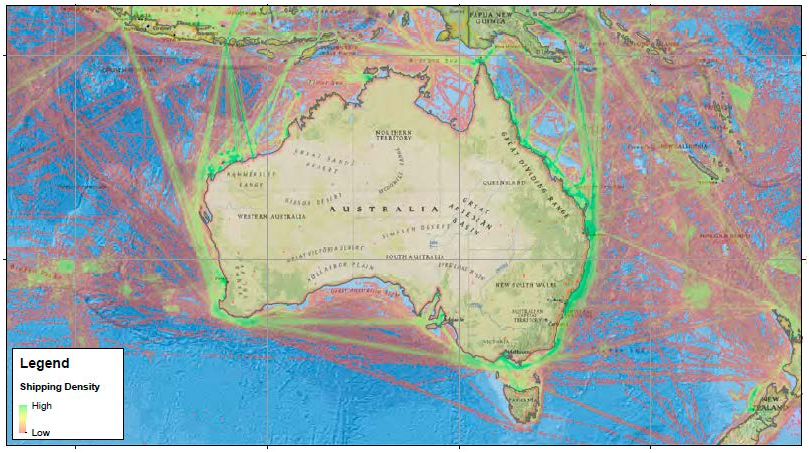
Figure 2: Australia's EEZ



Source: International Institute for Law of the Sea Studies.

Australia sits at the intersection of three oceans—the Indian, the Pacific and the Southern (Figure 3).

Figure 3: Shipping routes



Source: Australian Maritime Safety Authority.

Choke-points and the interruption of seaborne trade

Most of Australia's seaborne trade travels through the SCS. The transit to Australia passes through a number of choke-points, notably the Lombok Strait, the Sunda Strait and the Bismarck Sea between mainland Papua New Guinea and New Britain. Shipping companies will always take the most financially expedient route to their destination, so, while those choke-points are on the main paths of seaborne trade to Australia, there are alternative routes should they be blocked.

From a global maritime trade perspective, there are 14 major choke-points, of which the Strait of Malacca, between Indonesia, Malaysia and Singapore, is one of the most significant (Figure 4). Its importance lies in the fact that it connects the Indian Ocean to the SCS. Although not directly adjacent to Australia, the strait is significant to Australia for a number of reasons. About 20% of global trade, and 60% of China's trade, flows through it.[29] While most of Australia's fuel comes from Singapore, South Korea and Malaysia,[30] a large volume of unrefined oil transits through the Malacca Strait from the Middle East or the coast of Africa to Southeast and Northeast Asia for refining. From an Australian economic standpoint, free access to shipping through the strait is important.

Figure 4: Southeast Asian choke-points

Source: ASPI.

The Malacca Strait is strategically important, as it's the most expeditious route between the Western Pacific, the northern Indian Ocean and the Arabian Gulf. For example, China's People's Liberation Army Navy (PLAN) routinely uses the strait for its deployments to the Gulf of Aden.[31] The Malacca Strait has more than 70,000 ship transits each year.[32] Should there be any interruption to the flow of maritime traffic through the strait, maritime trade and military maritime transits would be likely to divert through the Sunda Strait, taking maritime traffic even closer to Australia. If the Malacca and Sunda straits were to be closed, the Lombok Strait would be the preferred option, pushing civilian and military maritime traffic even closer again to Australia.

It's therefore clear that any interruption of seaborne trade in the SCS due to a crisis or conflict would not only have an economic impact on Australia but would also increase the amount of traffic close to Australia. That would happen even if Australia weren't directly involved in the conflict. Depending on the scale of the crisis, the increased traffic flow might even extend to the Southern Ocean, as crews seek safer transit routes.

In a period of tension with Beijing, should a PLA-N task group seek to enter the Australian EEZ and pose a risk to shipping, it would need to transit through the Indonesian archipelago using the Lombok Strait or the Sunda Strait. Of course, access is also available through the Philippine Sea, the Bismarck Sea and to the west of Papua New Guinea, but that would involve a significantly longer transit time. It would be feasible to interfere with Australian seaborne supply as it transits through the SCS, but that's unlikely, including because the international nature of cargo and liquid transport vessels means that it would be difficult to discriminate between goods intended for Australia and elsewhere to the north of the Lombok and Sunda straits. Any attempt to do so would probably warrant recourse from a third or fourth party with ownership or registration stakes in the vessels; one of the modest benefits of Australia having only a small number of ships registered under its flag is that interference with Australia's seaborne supply immediately becomes a multinational issue. Equally, there are a number of drawbacks to the lack of Australian-flagged merchant shipping, including the likelihood that sustained harassment would result in shipowners refusing to sail to Australia. Because Australia lacks a strategic merchant shipping fleet flagged to Australia, it wouldn't be able to compel vessels to sail.

Australian defence strategy has long recognised that adversaries' ships looking to threaten Australia's EEZ, offshore territories and maritime trade would need to transit through the Indonesian archipelago, making those straits key geographical and strategic features.

Maritime strategy: the basics

With Australia almost entirely dependent on the maritime domain for our security and prosperity, understanding the sheer magnitude of that challenge raises the question: what is maritime strategy?

Central to a maritime strategy is understanding that it's more than a naval strategy. The two are interrelated but not the same. The maritime domain is increasingly influenced by other war-fighting domains. Furthermore, an effective maritime strategy needs to account for elements of diplomacy and economic, civil and military implications of the use of the maritime domain.

Maritime strategies are contextual. They must be responsive to changes in threats, technologies, capabilities, fiscal constraints and national objectives,[33] although they're also tied to the constraints of geography. Professor John Hattendorf, a leading American naval historian, referred to maritime strategy as the 'direction of all aspects of national power that relate to a nation's interests at sea'.[34]

Maritime strategies are contextual. They must be responsive to changes in threat, technologies, capabilities, fiscal constraints and national objectives,[35] although they're also tied to the constraints of geography.

Hattendorf's reference to all elements of national power is an important one, as a national maritime strategy should span the full spectrum of maritime operations from peace, through competition and crisis, to conflict. A national maritime strategy has broad relevance and reach. It's just as relevant to monitoring illegal, unreported and unregulated fishing within Australia's EEZ, enforcing Australia's maritime claims under UNCLOS or responding to increased requirements for humanitarian assistance and disaster relief as a result of climate change as it is to concepts of power projection into the SCS or blockades of key straits. All of those are important in their contexts, but it's the tasks that flow from the military elements of a maritime strategy that should be key determinants of the RAN's force structure.

A helpful approach to the concept of maritime strategy is to distinguish between the concepts of *national* maritime strategy and *military* maritime strategy.[36] Although this isn't an easy distinction, given the interconnectedness of the topic, it's an important one when looking at RAN fleet-structure determinants. Australia does have a number of documents that articulate elements of the nation's maritime strategy, including the *Australian Government Civil Maritime Security Strategy* released in April 2022,[37] which details the civilian aspects of maritime security. The RAN's *Plan Mercator: Maritime Domain Strategy 2040*, released in 2021,[38] attempts to grapple with the naval aspects of maritime strategy, but it tends to focus on the current and planned force structure, rather than a naval strategy *per se*.

Historically, military maritime strategy has dealt with concepts such as sea control, sea denial and power projection. The RAN's *Australian maritime doctrine* defines those terms as follows:[39]

- *Sea control:* 'That condition which exists when one has freedom of action to use an area of sea for one's own purposes for a period of time and, if required, deny its use to an adversary. The state includes the air space above, the water mass and seabed below as well as the electro-magnetic spectrum. To an increasing degree, it also includes consideration of space based assets.'
- *Sea denial:* 'That condition which exists when an adversary is denied the ability to use an area of the sea for their own purposes for a period of time.'

- *Maritime Power projection:* 'Power projection in and from the maritime environment, including a broad spectrum of offensive military operations to destroy enemy forces or logistic support or to prevent enemy forces from approaching within enemy weapons' range of friendly forces. Maritime power projection may be accomplished by amphibious assault operations, attack of targets ashore, or support of sea control operations.'

Concepts of sea denial, sea control shouldn't be viewed as discrete from each other, but rather on a spectrum of degrees of control. Those concepts aren't objectives of military maritime strategy in themselves;[40] they're effects that need to be achieved in order to secure Australia's national objectives that are relevant to, or may be influenced by, the maritime domain.

Australia's maritime strategy

If maritime strategy is how a nation exercises elements of national power across the maritime domain, that raises the question: Does Australia have a maritime strategy? The answer to that question isn't entirely clear; nor has it been for much of Australia's history. It's notable that, in the history of modern Australian defence planning, the 2000 DWP was the first to explicitly reference a maritime strategy within the context of defence, although it lacked detail on what Australia's maritime strategy entailed. While the 1987 DWP didn't mention the term 'maritime strategy', its articulation of a strategy of 'defence in depth' was predominantly maritime in nature;[41] however, the strategy was never adequately resourced from a maritime perspective (as discussed below under 'How did Australia get here?').

Consequently, in 2004, the Joint Standing Committee on Foreign Affairs, Defence and Trade established an inquiry into Australia's maritime strategy.[42]

While Australia's geography and economic dependence on the maritime domain highlight the centrality of a coherent maritime strategy to Australia's prosperity, they also demonstrate the challenges to creating one. The 1972 Australian Defence Review (ADR) acknowledged this in highlighting that Australia couldn't control the 'vast areas of ocean which gives access to the coast of our continent and dependencies' and would be better served by denying others the control they need to threaten our interests.[43] Although it wasn't explicitly established as a maritime strategy for Australia, the 1972 ADR implied that the vastness of Australia lent itself to a defence strategy of the concept of sea denial as the only feasible option.[44]

Thirty-five years later, *Australia's national security: a defence update 2007* stated that Australia 'must be able to establish sea control and operate freely within our region, while denying such freedoms to an opponent'.[45] The contrast between the maritime strategies partially articulated in the 1972 ADR and the 2007 defence update is stark.

Following the 2007 defence update, the 2009 DWP (much praised for its strategic heft, including a commitment to expand the submarine force to 12, but criticised for lack of implementation) stated that the Australian approach required 'principally a maritime strategy'.[46] The 2009 DWP said:

> Major surface combatants (destroyers and frigates), submarines and other naval capabilities, supported by air combat (for air superiority and maritime strike) and maritime surveillance and response assets, are necessary to establish sea control, and to project force in our maritime environment (including for the purposes of maintaining freedom of navigation, protecting our shipping, and lifting and supporting land forces).[47]

The 2013 DWP stated that 'Australia's geography requires a maritime strategy for deterring and defeating attacks against Australia and contributing to the security of our immediate neighbourhood and the wider region.'[48] It said that the aims of such a strategy were to:

- deter adversaries from conducting attacks against Australia or attempting coercion
- achieve and maintain air and sea control in places and at times of our choosing in our approaches
- deny or defeat adversary attacks and protect key sea lines of communication
- deny adversary forces access to forward operating bases or the freedom to conduct strikes against Australia from beyond our maritime approaches
- project power by deploying joint task forces in the Indo-Pacific region and support the operations of regional partners when required.

While the 2009 and 2013 DWPs were welcome advances in the articulation of Australia's maritime strategy, again they didn't quite grapple with what that means for the comprehensive use of sea power.[49] That said, the aims articulated in the 2013 DWP remain relevant today and are insightful when considering the tasks that the RAN may need to undertake (discussed in detail under 'Maritime tasks' in this report).

The 2016 DWP announced what the then government referred to as the largest recapitalisation of the RAN since World War II.[50] After close to a decade of no new surface combatants vessels being commissioned in Australia, the 2016 DWP represented a return to the 2009 DWP with a recommitment to what had been promised but not implemented, such as the acquisition of 12 conventional submarines and a like-for-like replacement of the surface-combatant fleet.[51]

However, in the 2016 DWP, the term 'maritime strategy' was again starkly absent from the articulation of Australia's defence strategy, as it was in the 2020 Defence Strategic Update (DSU). The conspicuous absence of the term, or any implied maritime strategy, stands in stark contrast to the positions of our ally the US,[52] our AUKUS partner the UK[53] and even our Quad partner India.[54]

All of which brings us to the 2023 DSR.

2023 DSR: implicit maritime strategy

The term 'maritime strategy', whether in reference to a wider strategy or to a specific naval strategy, isn't mentioned in the 2023 DSR. In terms of an overall defence strategy, the DSR states that 'based on the review's assessment of our current strategic environment, we recommend the Government directs Defence to adopt a strategy of denial':

> A strategy of denial is a defensive approach designed to stop an adversary from succeeding in its goal to coerce states through force, or the threatened use of force, to achieve dominance. Denial is associated with the ability and intent to defend against, and defeat, an act of aggression.[55]

There's an easy temptation to conflate the DSR's 'strategy of denial' with a strategy of 'sea denial'. That would be a mistake; in an Australian context, a strategy of 'sea denial' wouldn't afford protection to our lengthy SLOCs.

Importantly, the DSR's 'strategy of denial' refers to denying an adversary's ability to 'coerce states through force, or the threatened use of force'. This is a strategy aimed at denying the actions of a potential adversary that aren't geographically bound, and subsequently doesn't correlate to the traditional geographical maritime strategy of 'sea denial'. Released prior to the DSR, Rear Admiral (Retd) James Goldrick and Rear Admiral (Retd) Sudarshan Shrikhande's article titled 'Sea denial is not enough: an Australian and Indian perspective' was instructive on this point, stating that it's:

> … right to suggest that national force structures should be capable of denying China the use of the sea in either of our countries' maritime approaches. However, the ability to achieve such a condition, while it may be necessary, will never be sufficient for either India or Australia. Both are maritime-dependent countries which cannot cleave purely to a sea denial strategy.[56]

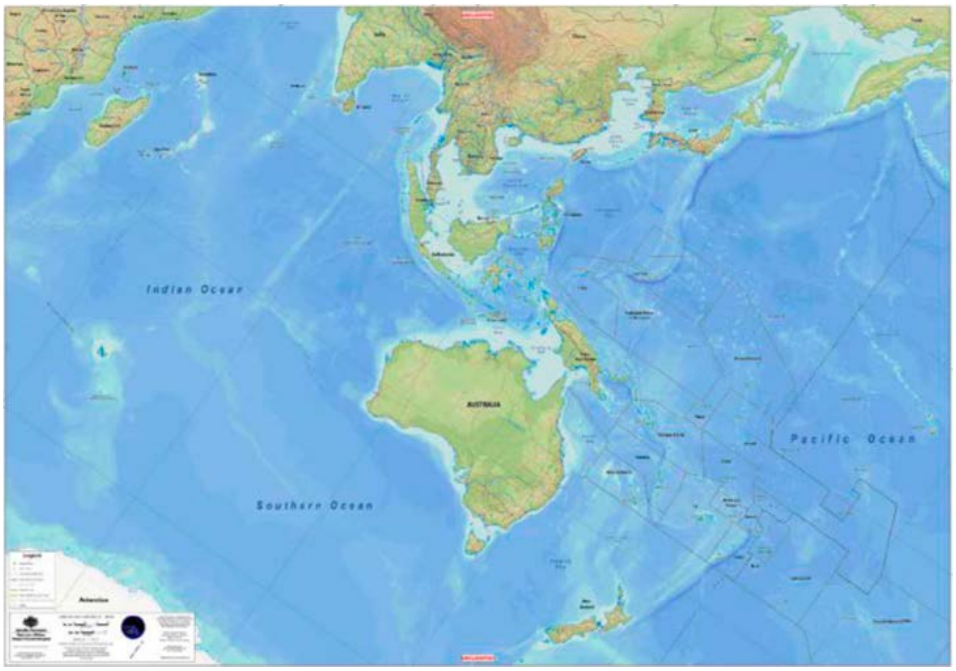
Implicitly, the DSR's 'strategy of denial' against coercive force within an Australian context implies a maritime strategy that relies on elements of sea denial, sea control and power projection. The DSR includes in its critical capabilities both the ability to achieve sea denial and localised sea control,[57] but it isn't clear where, for how long and in aid of what objectives either is aimed at achieving.

The DSR articulates Australia's primary area of military interest as follows:

> Australia's immediate region encompassing the north-eastern Indian Ocean through maritime Southeast Asia into the Pacific, including our northern approaches, should be the primary area of military interest for Australia's National Defence.[58]

From a maritime perspective, deterring coercion (as required in the DSR's broader 'strategy of denial') will require operations beyond the primary area of military operations outlined in the DSR—on occasion, stretching out into the eastern Indian Ocean to secure seaborne supply. Australia's primary area of military interest from a maritime strategy perspective should also consider inclusion of the Southern Ocean (Figure 5). That area's relevance is likely to grow both because of the increasing number of operations in the Antarctic and because it could be an alternative trade route should the SCS become contested, although that wouldn't come without significant challenges, including weather and lack of infrastructure.

Figure 5: The Indo-Pacific



Source: 2023 DSR.

While the DSR outlines a primary area of military interest and discusses extensively the need to protect Australia's interests, it doesn't clearly articulate what those strategic interests are. The DSR outlines that 'our focus needs to be on: how we ensure our fate is not determined by others; how we ensure our decisions are our own; and how we protect our way of life, our prosperity, our institutions and our democracy.'[59] Those don't provide clear strategic defence interests around which to wrap a clear defence or maritime strategy.

By contrast, the 2016 DWP stated that Australia's strategic defence interests were:

- a secure, resilient Australia, with secure *northern* [emphasis added] approaches and proximate sea lines of communication
- a secure nearer region, encompassing maritime Southeast Asia and the South Pacific
- a stable Indo-Pacific region and a rules-based global order.[60]

The 2016 DWP's strategic defence interests are referenced in the 2020 DSU.[61] It's important to note that the first two strategic defence interests are predominantly maritime in nature, while the third is also heavily maritime relevant, including through the importance of the international law (and rules) of the sea. The 2016 DWP's defence strategic interests are consistent with the DSR statement that the ADF must have the capacity to:

- defend Australia and our immediate region
- deter through denial any adversary's attempt to project power against Australia through our northern approaches
- protect Australia's economic connection to our region and the world
- contribute with our partners to the collective security of the Indo-Pacific
- contribute with our partners to the maintenance of the global rules-based order.

Those tasks laid out for the ADF are again in many ways maritime in nature, owing to the predominance of the maritime domain in the Indo-Pacific region. Yet, despite that, in both its investment priorities and its articulation of its recommended strategy of 'deterrence by denial', the DSR undersells just how crucial both the maritime domain and the RAN are to Australia's defence. In doing so, the DSR underplays exactly how ill-equipped both the present and planned RAN structure are to address Australia's strategic defence interests. No doubt the classified version is more up front about the threat from China's PLA-N and overall rapid expansion of both its defence force and technologies, but effective deterrence of aggressive rivals and convincing a cynical Australian public require strategies to be transparently communicated.

The DSR outlined the force structure design and immediate investment priorities required to achieve a 'strategy of denial'. The key priorities with direct implications for the articulation and execution of a maritime strategy are outlined in the Appendix to this report.

It's challenging to see how those DSR elements (including those outlined in the Appendix) thread to provide a coherent maritime strategy.[62] But it's evident from Australia's stated defence strategic interests (DWP 2016), the DSR's ADF capacity requirements, supply-chain vulnerabilities, geography and increased threat level in the region that a focus should be on the maritime domain and the execution of an effective maritime strategy in support of multidomain and integrated (including with partners) operations.

Maritime resilience: Australia's defence-in-depth maritime strategy

The vastness of Australia's maritime domain, coupled with our dependence on seaborne supply, data transferred through undersea cables, regional stability, maintenance of the maritime rules-based order through UNCLOS and our alliance and partnership frameworks, requires a maritime strategy of defence in depth: a defence-in-depth maritime strategy that in the traditional sense is based on geographical and time-based tenets of sea denial, sea control and power projection. I propose that such a maritime strategy could be developed based on the following requirements:

- *Littoral sea denial:* the achievement of sea denial of potential adversary actions in the vicinity of the Australian mainland, including the denial of interference with key undersea data cables.
- *Flexible and responsive localised sea control in key strategic areas:* the ability to achieve localised sea control for a defined period of time as required in the vicinity of at least three of the following five strategic locations:
  - Australia's remote offshore territories in the eastern Indian Ocean
  - Australia's northern approaches
  - the Western Pacific in the vicinity of the Coral Sea
  - the Southern Ocean (note that this is an emerging area of concern, but not a current focus)
  - key trade routes across the Indian Ocean.
- *Power projection into the region:* power projection into maritime Southeast Asia and the Pacific islands as far as Fiji, including routine presence operations; consideration of permanent forward basing of RAN assets in the SCS could be considered as part of this.
- *Support to allied maritime strategy:* support to allied power-projection and sea-control operations in maritime South Asia, Southeast Asia and the Western Pacific.

The ability to achieve Australia's defence-in-depth maritime strategy would provide the requirements of shaping, deterrence, protection of trade and projection of amphibious capabilities called for in the DSR, if underpinned by the appropriate capabilities. There are many limitations in the ADF's ability to execute such a maritime strategy, but the discussion should start with the required strategy, not the required capabilities. There may, for example, be challenges to Australia's ability to achieve the elements of sea control, which may require deeper understanding of the strategies of our allies and partners, and our expected role within those strategies.

The defence-in-depth maritime strategy would require key enablers such as sealift and maritime sustainment, underpinned by a strategic fleet of merchant shipping (discussed further under 'Maritime tasks'). An integrated ADF is clearly required to support this strategy (as recommended by the DSR), including persistent all-weather intelligence, surveillance and reconnaissance (ISR) and targeting elements and a coherent theatre ASW approach, all of which are essential to the support of naval operations in crisis or conflict.

A key recommendation of this report (see recommendations 1 and 2) is that, in shaping the 2024 National Defence Strategy, as announced by the 2023 DSR, the Defence Department and other relevant Australian Government departments should seek to develop for government consideration a national maritime strategy that coheres with a strategy of deterrence. The Defence Department's contribution should explain the ADF's role within a national maritime strategy.

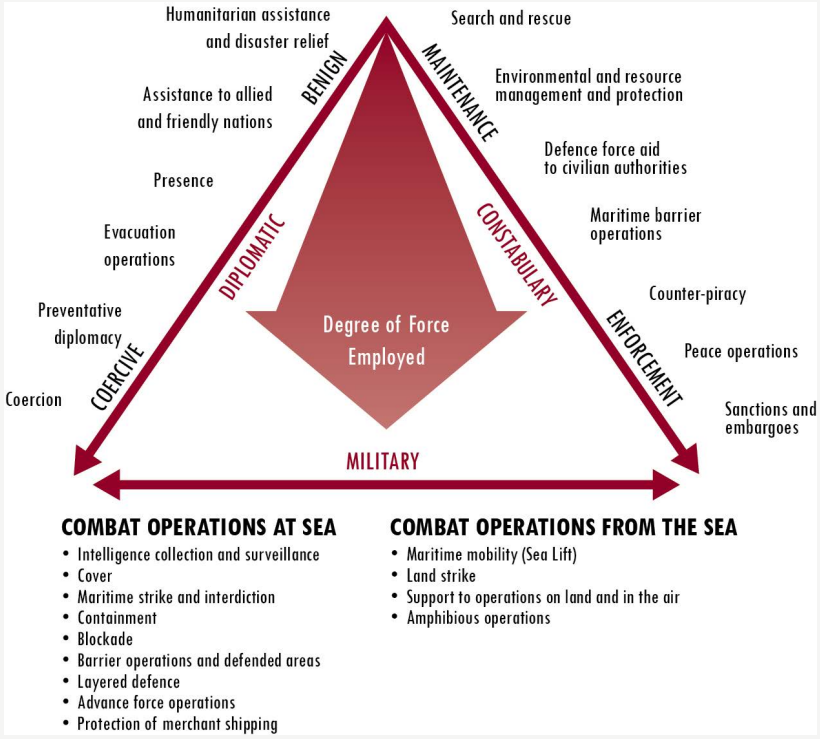
The national maritime strategy should be articulated in greater detail and with greater context in a stand-alone document, akin to that issued by some of our partners and allies, to message Australia's approach as a regional maritime power.

Maritime tasks

A layered maritime strategy with aspects of sea denial, localised sea control and defined objectives for power projection would rely on a force capable of undertaking the full spectrum of naval tasks. While I've already acknowledged that a maritime strategy relies on more than a naval contribution, this section focuses mainly on the naval aspects of the required maritime tasks and illustrates the central role of the RAN's surface-combatant fleet within an Australian maritime strategy.

Australian maritime doctrine outlines the span of tasks detailed in Figure 6.[63] Those tasks span the spectrum of naval strategy requirements from both a national and a military perspective and the spectrum of activities from peace, competition and crisis to conflict.

Figure 6: The span of maritime tasks



Source: Sea Power Centre, *Australian maritime doctrine*, 2nd edition, RAN, 2010 online. (Re-drawn by ASPI).

Most of the identified tasks require the support of major surface combatants. The benefit of a surface combatant is that it normally performs multiple roles. For example, naval diplomacy (a task that will be essential to an effective maritime strategy) can be performed by a surface asset designed primarily for roles such as maritime strike and interdiction.

Constabulary operations can be performed by most surface assets. The size of Australia's EEZ and the increasing prevalence of illegal, unreported and unregulated fishing within the region require a smaller naval asset designed primarily for those functions, which are predominantly undertaken by the RAN's Armidale-class and Cape-class patrol boats, supported by further vessels belonging to the Australian Border Force.

The structural element here is that the Australian fleet requires a vessel primarily assigned to constabulary operations. There's a question as to whether that function could be undertaken primarily by a coastguard-like organisation, which may free up further capacity within the RAN. The prospect of an Australian coastguard is a discussion beyond the scope of this report, but one that probably needs to be revisited for the RAN to meet the personnel demands of the planned nuclear-powered submarine force and significant growth to the major surface-combatant fleet[64] (as noted in recommendation 4 of this report).

Amphibious operations are also important to the power-projection requirements of a layered maritime strategy and were clearly front of mind in the drafting of the DSR. This capability also provides key humanitarian assistance and disaster relief support, as has been shown on many occasions, including most recently in support to Tonga following the 2022 tsunami. Australia's capability consists of two landing helicopter docks (LHDs) and a landing ship dock (LSD), soon to be enhanced by the Army's increased littoral capability.

In the event of an outbreak of armed conflict or major instability in our region, these capabilities may be called upon for amphibious operations in a contested environment. To undertake contested amphibious operations, localised sea and air control will be required with surface combatants essential to their achievement.

Power projection also requires a degree of maritime mobility, or sealift. This is an area where Australia and the RAN have limited capability. Although sealift can be performed by the LHDs, the RAN's single LSD, HMAS *Choules*, has proven quite capable in this task. This lack of ADF sealift is further complicated by an almost non-existent Australian-flagged merchant fleet to assist. Although the outcomes of the Maritime Strategic Fleet Taskforce aren't yet clear, it's hoped that it may address this to some degree. The taskforce was established by the Australian Government in late 2022 to investigate how Australia might quickly establish a fleet of Australian-flagged and -crewed merchant vessels.[65] Again, though, along the scale from crisis to conflict, any sealift capability—whether it be RAN, civilian or allied—will require protection from interference, harassment or, at the extreme end, attack. That task will require surface combatants for protection in the event of crisis or conflict.

Presence operations are also a crucial naval task. Those operations are vital and are symbiotic with tasks such as naval diplomacy on the peace spectrum, upholding international laws and norms through exercising specific rights under international law, and SLOC protection at the crisis end of the spectrum. Without considering a specific threat, it's difficult to put a number on how many major surface combatants would be required to execute this task, but it's realistic to expect that concurrent presence in the eastern Indian Ocean, Coral Sea and SCS, with an option to be able to respond to operations in the Southern Ocean, may be required through the spectrum of operations from competition to crisis. Given that modern maritime operations require task-group operations, that's a minimum of two major surface combatants. The potential for concurrent requirements of operating in at least three dispersed geographical areas would therefore require a minimum of six surface combatants available, with an additional ability to surge into the Southern Ocean, that would need to be achieved through amended maintenance or force-generation cycles.

While minor naval vessels such as patrol boats or Australian Border Force vessels can be used for these tasks, particularly under the 'shape' objective, their survivability and armament constraints would make them inadequate for this tasking in more contested environments.

It's realistic to expect that concurrent presence in the eastern Indian Ocean, the Coral Sea and SCS, with an option to be able to respond to operations in the Southern Ocean, may be required.

In considering the protection of Australia's SLOCs in the event of harassment, interdiction or attack from adversary forces, it's important to acknowledge two primary factors. First, as the 1972 defence review stated, there's the vastness of Australia's maritime approaches and the length of its SLOCs. The second is that traditional notions of protection of SLOCs, including convoy escorts, may no longer be a relevant

approach due to advances in technology, most significantly the range of missiles that could target shipping. These two points are highly relevant, but they don't change the fact that Australia would need to develop a way to protect seaborne supply. The protection of Australia's SLOCs, or seaborne supply, first involves understanding:

- which commodities and goods (including materiel) are critical to seaborne supply
- where those commodities originate from and go to
- what vessels they're carried upon and who the beneficial owners are.

However, it will also take a flexible surface-combatant fleet with reach and endurance, designed to respond to a multitude of threats.

The above discussion provides only a sample of the naval tasks needed to support an effective Australian maritime strategy. It doesn't detail the requirement for maritime strike, ballistic-missile defence and other tasks that will be essential to the defence of Australia's national interests. However, even from this sample, some themes are obvious. Many of the key elements of an effective Australian maritime strategy rely on major surface combatants to support most of those tasks. The present (11) and planned (12) number of Australia's major surface combatants is clearly a major limitation in the execution of such tasks.

Australia needs a ‘balanced’ fleet

Australia requires a balanced fleet. The current surface-combatant fleet structure, while notionally balanced (the Anzac class is arguably outdated and has limited ability to put missiles to sea), will soon be dominated by ASW (on a per tonnage comparison) once the eight Anzac-class frigates are replaced by nine Hunter-class frigates.

Discussion on the benefits of a ‘balanced naval fleet’ isn’t new and shouldn’t be confused with the direction of the DSR to transition the ADF from a balanced to a focused force. Those are two different considerations, and to treat them as the same would be to mistake how navies function.

The DSR stated that the ADF’s force structure should deliver a focused force, defining a focused force as follows:

> This conceptual approach to force structure planning will lead to a force designed to address the nation’s most significant military risks. The capabilities required to address identified threats will also provide latent capability to deal with lower-level contingencies and crises.[66]

This doesn’t and shouldn’t directly translate into a move away from a balanced fleet structure for the RAN. As the late Rear Admiral (Retd) James Goldrick highlighted:

> The term is much abused by both its proponents and its critics. But ‘balanced’ does not describe a navy, or a whole defence force, which has ‘something of everything’. Rather, it means a force which not only provides the most possible options to government from the resources it makes available, but also effectively spans the full range of tasks on which first national survival and then key national interests depend.[67]

The essence of the balanced fleet construct is that a smaller sized naval fleet will be required to operate across the spectrum of maritime tasks or ‘trinity of functions, of the military role, the diplomatic role and the constabulary role’.

Australian maritime strategists have long advocated for the need for the RAN to be based on a balanced fleet construct. The essence of the balanced fleet construct is that a smaller sized naval fleet will be required to operate across the spectrum of maritime tasks as outlined in Figure 6, and therefore requires flexibility and versatility in its design to undertake those tasks.

Although this report advocates for a larger surface-combatant fleet than the traditional 11–12 major surface combatants that the RAN has fielded, it needs to be noted that even an increase to 16–20 major surface combatants would result in Australia having a small-to-medium maritime capability.[68] The RAN doesn’t have the size to generate bespoke platforms designed for a narrow number of tasks or focused on a specific sphere of warfare. The RAN’s major surface combatants must be able to effectively operate in all spheres of warfare (ASW, AAW, ASuW) spanning the range of tasks.

The issue isn’t that the RAN doesn’t require the ASW capability provided by the Hunter class; it does. The issue is that, if the Hunter is to provide the majority of hulls in the RAN’s surface-combatant fleet (nine), then the fire–power ratio of the Hunter not only provides for an unbalanced fleet, but is also inconsistent with the DSR’s commentary that the Navy requires enhanced lethality in its surface fleet.

This is why the RAN decision to 'optimise' its future frigate (now known as the Hunter class) 'for ASW' at the expense of a greater number of vertical launching system (VLS) cells poses a challenge to the balanced construct of the RAN's surface-combatant fleet.[69] The translation of 'optimised for ASW' has resulted in a ship designed from the hull up to reduce its acoustic signature and the inclusion of a low-frequency active, variable-depth combined active–passive towed-array sonar (CAPTAS) designed by Thales, referred to as Type 2087. The reduction in acoustic signature reduces the range at which a ship can be detected by a submarine—an important attribute when employed at range ahead of a task group to screen for submarines. The Type 2087 towed-array sonar is arguably the best low-frequency active system in the world and dramatically increases the range at which the frigate can detect a submarine; in the right conditions, that's likely to be well beyond the engagement range of a submarine. This is an important capability for the RAN to acquire, and one that's been a substantial capability gap for the RAN. The ASW capabilities of the Hunter class are complemented by its AAW capability through the expected incorporation of the CEA phased-array radar and the Evolved Sea Sparrow Missile (ESSM) and Standard Missile (SM-2) into its 32 VLS cells, and ASuW capability through the inclusion of a 5-inch gun and the Naval Strike Missile (NSM).

Whilst admittedly a multi-purpose frigate, the challenge with the Hunter class is that its 10,000-tonne displacement is much larger than that of most general-purpose frigates. For example, the future US Constellation-class frigate, which will also include an ASW towed-array system and 32 VLS cells, akin to the Hunter, has a reported displacement of 7,300 tonnes,[70] while an Arleigh Burke destroyer with 96 VLS cells displaces approximately 9,700 tonnes, still smaller than the Hunter-class frigate.[71] The point is that, for a 10,000-tonne ship in a constrained fleet size such as the RAN's, you would expect a greater ratio of missiles per tonne. Given the Hunter's displacement and cost, it has limited AAW and ASuW capability to vessels of a comparable size, and is subsequently biased towards ASW.

In principle, a fleet with limited ability to operate assets in multiple combat roles requires more assets to perform the same set of overall tasks. Even if the size of the RAN's surface-combatant fleet is increased, it won't be feasible to generate a large enough force to support major surface combatants designed specifically for bespoke roles.

For a Navy that's historically been structured by the requirement to balance workforce and fiscal constraints against the vast reaches of Australia's maritime areas of responsibility, any move away from a 'balanced fleet structure' would inhibit the ability to deliver the maritime and naval tasks that underpin any relevant maritime strategy for the defence of Australia's interests.

This doesn't mean that the wider ADF shouldn't be 'focused' on certain missions, but it does mean that the RAN requires a 'balanced' fleet structure. The backbone of this should be a credible surface-combatant fleet comprising a suitable number of ships designed and configured to deliver the maximum possible range of combat-related effects. Any move away from a 'balanced' fleet structure would inhibit the ability to deliver the maritime and naval tasks that underpin any relevant maritime strategy for the defence of Australia's interests.

A balanced fleet is essential because of both the RAN's size and its multifunctional nature (spanning military tasks, diplomacy and, at times, constabulary). Beyond the specific issue of the RAN's size and technological complexity, there are also wider challenges associated with the ADF in moving towards a 'focused' force that need to be acknowledged. While the DSR is clear on its intent for the ADF to transition to being a focused force to address the 'nation's most significant military risks',[72] that makes a clear assumption that those risks are known and understood. The noted military historian and World War II veteran Sir Michael Howard once aptly remarked that he was:

> … tempted to declare that whatever doctrine the Armed Forces are working on now, they have got it wrong … it does not matter that they have got it wrong. What matters is their capacity to get it right quickly when the moment arrives.[73]

The DSR states that, with respect to a 'focused' force, 'the capabilities required to address identified threats will also provide latent capability to deal with lower-level contingencies and crises'.[74] This is often not the case for naval or air forces where an unbalanced force/fleet creates gaps that an adversary can exploit.

How did Australia get here?

While the magnitude of the tasks required under an Australian maritime strategy aren't new, the lack of strategic warning time to develop a force adequate to undertake them is. For much of its history, the ADF has operated on the concept of strategic warning time.

The concept was based on the assumption that Australia would have '10 years or more' notice of a possible 'major attack on our territory'.[75] The assessment of 10 years or more was derived from the *Strategic basis* documents of the 1970s, which assessed that a regional actor would need that amount of time to develop a force capable of launching an effective attack on Australia.[76] Hence, ADF force design has been structured on the assumption that the ADF had time to expand to effectively deal with a high-end threat. Even before rising militarisation in the region, the assumption was becoming outdated as military technology evolved to become more complex, and the level of technological competence of the crews—and the time needed to train them—has significantly increased.[77]

The skills needed of the officers and sailors to crew and support those capabilities are increasingly difficult to mobilise from an unskilled base.

A similar challenge exists with the platforms themselves. While the RAN fleet structure has always been constrained by finances and workforce, the Navy has been able to expand successfully in the past to carry out the roles needed of it when conflict has arisen. A primary example of this was Australia's rapid development and production of 60 Bathurst-class corvettes during World War II. What's different about the 21st century is that the technological capability—and hence complexity— that ships need to be operationally and tactically relevant means that they're harder, and take longer, to build. A rapid expansion is more difficult and less likely to be successful. This means that changes to the structure of the ADF workforce and surface-combatant fleet can't wait for a crisis to start. This remains the case despite the hype around the future utility of uncrewed surface vessels (USVs). USVs will have a key role in modern naval operations, particularly in ISR and logistics, but they're unlikely to be capable of spanning the spectrum of tasks required of modern surface combatants.[78]

The challenge presented in the 21st century is that the technological capability required of ships to be operationally and tactically relevant makes them more complex and challenging to build, making a rapid expansion more challenging and unlikely.

Fleet structure reviews

The current fleet structure dates to the 1970s and, although the methodology behind previous fleet structure reviews is not—at least in the unclassified realm—entirely clear, the structure has remained relatively consistent since that time, with two exceptions. The first was the decommissioning of Australia's last aircraft carrier, HMAS *Melbourne* (II), in 1982—a decision that's resulted in the permanent loss of long-range Australian combat air support to the RAN.

The second was the expansion of the RAN's amphibious capability in 1994 with the acquisition of HMAS *Manoora* and HMAS *Kanimbla*. That expansion provided an enhanced power-projection capability for the RAN but wasn't coupled with an increased number of surface combatants to provide protection to the amphibious force. The size of the major surface-combatant fleet has remained largely unchanged at 11 or 12 surface combatants.

All DWPs since the first in 1976 have recommended 11–12 surface combatants, with the notable exception of the 1987 paper, which stated:

> The present surface combatant force consists of 12 destroyers (three DDGs [destroyer, guided missile], four FFGs [guided missile frigate], five DEs [destroyer escorts]) and 20 patrol boats (15 Fremantle class and five Attack class). Two further FFGs are being built at Williamstown Naval Dockyard, and will enter service in the early 1990s, when two of the older DEs pay off. The Government will expand the Navy to a force operating 16 to 17 major surface combatants.[79]

As in the other DWPs, the naval strategy or methodology used to support that number isn't entirely clear. However, the comments of former senior Defence Department official Paul Dibb in his 1986 review are instructive:

> The Review could obtain no material centrally endorsed by the higher Defence structure which explained, for example, the strategic rationale for a 12-destroyer Navy, three fighter squadrons, six Regular Army battalions and an Army Reserve target of 30,000.[80]

John Mortimer has written that Dibb's calculation of 16–17 major surface combatants was based on an 'assessment of concurrently providing ships to five broad geographic areas across Australia's north'.[81] It's clear from Australia's geography that a fleet of only 12 major surface combatants would generate concurrency challenges (as shown in the example in the 'Australia's maritime strategy' section of this report).

The expanded fleet never materialised, and the custom of having 11–12 surface combatants remained, despite the recommendations of the 1987 DWP and despite what Dibb referred to as a lack of 'strategic rationale' for keeping the smaller fleet.

Nor was Dibb the only reviewer to recommend an expansion.

In the 1970s, the RAN research laboratory undertook a study of the Navy's future destroyer strength and concluded that up to 17 destroyers of differing capabilities were required to meet the operational needs of the 1980s.[82]

The 1991 Force Structure Review assessed that Australia would need 16 major surface combatants in order to support 10 operating on station. Although that seems an optimistic ratio—and the methodology of the review isn't entirely clear—it adds to the sense from reviews throughout the 1970s, 1980s and 1990s that the 'core' structure of 12 major surface combatants isn't adequate, as it can't support the number of concurrent operations that may be required, given Australia's expansive maritime zones. This was the case even when the force was built around the concept of at least 10 years of strategic warning time.

The 1991 Force Structure Review assessed that Australia would require 16 major surface combatants in order to support 10 operating on station.

The surface combatant

When the surface-combatant fleet review's recommendations are made public in 2024, the question will no doubt be asked once again: Why do we still need surface combatants? This issue is gaining sharper focus following the September 2021 announcement that Australia will acquire nuclear-powered submarines[83] and the subsequent release of the nuclear-powered submarine pathway at a reported cost of up to $368 billion.[84]

Nuclear-powered submarines bring many benefits; their stealth, speed and endurance give a maritime power such as Australia an asymmetric capability. That's to say that submarines have been historically able to achieve a large amount of destruction relative to their size and risk exposure. Submarines can have a disproportionate impact on an adversary's attempts to achieve sea control. However, there are limitations. They can't perform many important naval tasks and hence can't replace an adequately sized fleet of major surface combatants. Analysis of the growth and modernisation of navies in our region—including among our partners and allies—makes this abundantly clear.

Figure 7: Warships from the Chinese and Russian navies after the Joint Sea 2022 exercise in the East China Sea on 27 December 2022

Source: *USNI News*.

Surface combatants remain tactically, operationally and strategically relevant. Countries that operate nuclear-powered submarines still see a need for those capabilities. For example, the US predicts that China's fleet of 137 surface combatants[85] will continue to grow at a steep rate: 77 ships are set to be added between 2020 and 2040.[86] The US is also growing and enhancing its surface-combatant fleet as programs such as DDG(X) and the Constellation-class frigate take shape. It's estimated that by 2045 the US Navy will operate 152 major surface combatants made up of destroyer and frigate capabilities.[87] Not only are surface combatants growing in number, but they're also growing in size. Countries such as the US and UK that had initially subscribed to the view that smaller, lightly armed vessels were the future are now realising the limited roles that those capabilities can play.[88]

> Nuclear-powered submarines … don't replace the need for an adequately sized fleet of surface combatants.

Surface combatants

A surface combatant is a ship constructed for combat use with the capability to conduct operations in multiple maritime roles against air, surface and subsurface threats and land targets. Within the current RAN structure, the Hobart-class destroyers and Anzac-class frigates constitute the surface-combatant element in the Navy's fleet.

Surface combatants form the backbone of most modern navies. That's no different for the RAN, and if anything, they play an even greater role for the RAN, given Australia's extreme range requirements. Able to operate across the spectrum of maritime warfare, surface combatants provide navies with endurance, flexibility and versatility. Australia's geographical realities, notably the sheer distances that ships need to travel, make surface combatants essential to the RAN. Because of the relatively small size of its destroyer and frigate forces, the RAN has historically favoured general-purpose designs that are effective in AAW, ASW and ASuW—sometimes compelling modifications to meet those goals. An example was fitting Ikara missiles to the Charles F Adams-class destroyers (in the 1960s) and even contemplating the inclusion of a helicopter and hangar to address deficiencies in ASW.[89] The Type 12 River-class frigate (1960s–1990s) were modified to have a long-range air radar and were slated to receive the Australian Womba anti-ship missile.[90] The ASW-oriented Hunter-class frigate is therefore something of an aberration, as its design prioritises ASW capabilities at the expense of AAW and ASuW through its limited VLS capability when assessed on tonnage against comparable maritime capabilities.

The current RAN surface-combatant fleet consists of eight Anzac-class frigates, the first of which was commissioned in 1996. The Anzacs were originally due to be decommissioned in the mid-2020s but will now have an average life extension of nine years.[91] Designed as a compromise in a more benign strategic era, the 3,600-tonne frigate with a crew size of about 180 has limited firepower with a five-inch gun that has a range of around 13 nautical miles, and eight VLS cells that carry the ESSM, which is a surface-to-air missile with a maximum range of about 27 nautical miles. It also carries eight Harpoon anti-ship missiles in separate missile tubes on its deck. They were products of the 'fitted for but not with' concept, under which weapons and sensors could be strengthened as the strategic situation dictated and funds allowed.

In addition to the Anzac-class frigate, the RAN has three 7,000-tonne Hobart-class destroyers, the first of which was commissioned in 2017. Armed with the same five-inch gun as the Anzacs, the Hobart class has 48 VLS cells and carries the SM-2, which is a surface-to-air missile with a range of about 90 nautical miles. Like the Anzacs, it carries eight Harpoon anti-ship missiles and the ESSM. Australia has announced that it will eventually carry in its VLS cells the Tomahawk land-attack missile with a range of 1,500 kilometres, but exactly when that will occur isn't clear. Not only is the Anzac-class frigate suffering from its age and sustainment challenges,[92] but its capabilities are no longer adequate for an era in which great-power conflict in the Indo-Pacific region is a possibility.

The 2009 DWP announced that the ageing Anzac-class frigate would be replaced by a future frigate 'optimised for anti-submarine warfare'[93] in a project that eventually became known as the Hunter class following the selection of BAE's Type 26 Global Combat Ship. The future frigate specifications outlined by the RAN had the inevitable trade-offs that need to be made when a capability is optimised for a specific type of warfare. Despite now being around 10,000 tonnes (almost three times the size of an Anzac and larger than the 7,000-tonne Hobart-class destroyer), the Hunter class has only 32 VLS cells, which limits its missile capability (when assessed on a tonnage comparison). Like an Anzac, the Hunter class would be forced to make stark decisions between using the missiles for self-defence or force defence. There's also doubt as to whether the design of the Hunter class can be modified through life to include technological upgrades due to its weight—a major risk to the platform highlighted in the 2021–22 *Defence major projects* report by the Australian National Audit Office (ANAO).[94] Some might point to the Hobart-class air warfare destroyer (AWD) as an instance in which the RAN has undertaken a similar optimisation focus (on air defence), but an analysis of the capabilities of the Hobart shows that it is, in many respects, a multipurpose frigate rather than an AWD.[95]

Delays in the Hunter program have meant that the first of the class is likely to enter service in 2032 if the project isn't further changed. Already, the project has been criticised for delays and cost overruns, but those concerns aren't in themselves sufficient justifications for reducing the number of the Hunter class. The RAN's future frigate program (SEA 5000) was a bold undertaking that not only sought to replace the ageing Anzac class frigates but also sought to establish a naval shipbuilding enterprise in support of the Australian industry policy of continuous naval shipbuilding. Furthermore, the future frigate program sought to integrate the US Aegis combat management system with an Australian SAAB interface and Australian phased-array radar (decisions important for the integration of the Hunter into US task groups and for commonality of systems with the Hobart class).

Cost and delivery delays aren't the only issues with the Hunter class, as there are legitimate concerns about weight margins and the lack of VLS cells due to the prioritising of ASW (as mentioned in the 'Australia needs a "balanced" fleet' section of this report).[96] The fire–power ratio (missiles to tonnage) of the Hunter not only provides for an unbalanced fleet if nine are acquired, but is also inconsistent with the DSR's commentary that the Navy requires enhanced lethality in its surface fleet.

A complete cancellation of the Hunter-class program could result in the need to extend the Anzac class beyond the already forecast nine-year extension per hull,[97] which would be likely to result in a capability gap. It's already debatable whether all eight of the Anzac-class frigates can be sustained for an additional nine-year life extension, noting the findings of the 2019 ANAO audit into their sustainment, which indicated that the vessels weren't in a good material state.[98] The RAN fleet still needs the ASW function, and any savings resulting from a reduction in number won't be realised for years.

On the issue of the RAN's VLS capability, former Chief of Navy, Vice Admiral (Retd) David Shackleton, has written that:

> In 1995, the Royal Australian Navy possessed 368 missile cells on its major surface combatants. By 2020, that had reduced to 208, a 43 per cent reduction in firepower. It will take until 2045 for the Navy to get back up to its 1995 capacity. From 2050, it will plateau at 432, a net increase of 64 cells.[99]

Debate about the appropriateness of nine ASW frigates underscores questions about whether Australia's maritime strategy really needs a 'balanced' or a 'focused' fleet. The acquisition of nine Hunter-class frigates, constituting the majority of the RAN's surface-combatant fleet, would result in an 'unbalanced' major surface-combatant fleet and a lack of air warfare capability due to the Hunter's limited VLS cells. This has significant implications for the RAN's ability to achieve power projection and localised sea control.

Noting that the current order of nine Hunter-class ships would result in an unbalanced fleet optimised for ASW, it's recommended that the government reduce the number of the Hunter class to six. A reduction from nine Hunter-class frigates to six would still allow for concurrent dedicated ASW frigate support for two or three task groups and support to the broader theatre ASW concept. The remaining hulls would be replaced by a multipurpose frigate or destroyer capability with increased missile capability per tonne and weight margins for capability growth to support technological advances during the life of the vessel—not as a savings measure but to enable more ships to be commissioned and built to address other defence and maritime needs.

Which specific capability should be selected to replace the three hulls or support the expansion of the surface-combatant fleet is beyond the scope and capacity of this report, but, as noted in the introduction, there are a number of feasible options that could be built either in Australia or overseas and should be considered as part of the wider consideration of Australia's maritime strategy, the accelerated timing in which this capability needs to be delivered and the capacity of Australia's naval shipbuilding enterprise, including its current two-year drumbeat for the planned production of Hunter-class frigates from 2032.

Table 1 summarises current and planned RAN capabilities by class.

Table 1: RAN units metrics comparison

Platform	Number in service with the RAN / first commissioned	Size (tonnes) / crew size	Armament	Maximum range (nautical miles)	Maximum speed (knots)
Anzac-class frigate[100]	8 / 1996	3,600 / 177	8 MK 41 VLS ESSM missiles 8 Harpoon missiles 5-inch gun 4 x 12.7-mm machine guns MU90 torpedos	6,000	27
Hobart-class destroyer[101]	3 / 2017	7,000 / 180	48 MK 41 VLS SM-2 missiles ESSM missiles 8 Harpoon 2 x 25-mm Bushmaster gun 1 x close-in weapons system MU90 torpedos	4,500	28+
Hunter-class frigate[102]	9 / commencing 2032[103]	10,000[104] / 183	Mk45 Mod 4.5" gun SM2 ESSM missiles 32 Mk41 VLS 2 x 30-mm short-range gun 2 x 20-mm close-in weapons system MU90 torpedos	7,000	27+
Patrol boat[105]	4 Armidale class / 2005	300 / 21	1 x 25-mm Rafael M242 Bushmaster 2 x 12.7-mm machine guns	3,000	21
	7 Cape class / 2022	400 / 25	2 x 12.7-mm machine guns	4,000	26
Arafura-class OPV[106]	12 planned / first hull planned to commission 2024	1,640 / 40	25-mm gun 2 x 50-calibre machine guns	4,000	20

Sources: Data compiled by the author from the endnoted sources.

For Australia to acquire a balanced fleet structure, it needs an expanded surface-combatant fleet. As described in 'The significance of Australia's maritime geography', the RAN needs to operate across vast maritime areas and is protecting seaborne trade and supply that's vital to the nation. Critics of the proposal for an expanded fleet will argue that the RAN can't find the workforce and the Defence organisation can't secure the funds to support an expansion.

But one question is very rarely asked: What's the cost of *not* supporting it?

In his 2003 thesis titled 'Sea control and maritime power projection for Australia: maritime air power and air warfare' Commodore (Retd) Richard Menhinick remarked:

> Perhaps, realistically, given the current and planned force structure Australia has a capability to conduct maritime tasks such as sea denial close to the Australian mainland and not the sea control function that underpins a truly maritime strategic posture. This is a vital issue.[107]

Since the introduction of the DWP concept in 1976, the RAN's structure has appeared to be based on a like-for-like approach (with the two notable exceptions flagged in 'Maritime tasks'). As Paul Dibb highlighted in his review in 1986, it wasn't possible to find an endorsed document that articulated the strategic rationale for the 12-destroyer Navy. Notably, that was during a period when the force structure was governed by the expectation of 10 years of strategic warning time. The force structure on which Menhinick was commenting in 2003 remains, in terms of numbers, almost the same today.

With 12 surface combatants, the 'rule of three' would dictate that you have four available for operational tasking at any time. The rule states that, for every three ships, one will be in maintenance, one will be in force generation and one will be operationally employable. Operating in task groups, this would allow two concurrent operations across the vast range of Australia's maritime interests. The rule of three isn't a perfect metric to assess maintenance and sustainment demands on a fleet but is a handy reference to understand availability in the broad. A realistic maintenance schedule would be likely to provide less availability than the rule of three. Of course, if the RAN needed to surge assets in a crisis, it could accept maintenance and force-generation risks, but that couldn't be done for a prolonged period and would be likely to come at the cost of operational capacity and the life of the vessel.

Having 12 surface combatants provides the ability to deploy a task group of three to four surface combatants continuously, with a replenishment ship and possibly amphibious ships. Arguably, the 'unit of force' in the Navy is the task group and not a single ship. That was the case with the Australian Squadron in the Pacific campaign of World War II, the Gulf War and the Iraq War, in which task groups were deployed in allied formations.

The bottom line is that 12 surface combatants with four generally available isn't enough to service an effective Australian maritime strategy. It might mean two surface combatants in the Coral Sea and forward-deployed units in the SCS, but no ability to respond to urgent tasking in the north-eastern Indian Ocean or the Southern Ocean. Even if a fleet of 12 surface combatants was adequate when Australia had 10 years of strategic warning time—and many reviews argued convincingly that it wasn't—it surely can't remain the case when that warning time is dramatically shortened. Such a risk equation doesn't make sense. That is, the changed assessment of the strategic environment and threats to our national security can't result in the *status quo*—it demands an uplift to our defence capabilities, both through international partnerships such as AUKUS and to the size of our maritime forces.

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Recommended expansion of the major surface-combatant fleet

So, how many surface combatants does the RAN need and what type should they be? An accurate assessment of the number needed is difficult to produce in an unclassified environment. Key determinants, such as maintenance schedules, survivability and agreed delineation between allies for maritime tasks in the event of a crisis or conflict, are unknown.

As detailed in the 'Australia's maritime strategy' section, despite the tendency to rely on 11–12 surface combatants, several reviews over the years have recommended that the number should be closer to 16–20.

The 16–20 major surface combatants recommended in past reviews is reasonable (even allowing for the fact that those recommendations were made when 10 years of strategic warning time were expected). In order to support the proposed maritime strategy outlined in this report, 16–20 major surface combatants would allow for three or four concurrent task-group operations—an increase from the one or two achievable under the current force structure. Such operations are not only essential to the requirements of sea denial, sea control and power projection under a maritime resilience and defence-in-depth strategy, in an era of

potential conflict in the region, but also allow for support to allies and underpin elements of Australia's conventional deterrence.

It should be remembered that an increase of the surface-combatant fleet of this scale would require increases to enabling capabilities, including aviation and replenishment vessels.

A significant expansion of the RAN's major surface-combatant fleet structure wouldn't occur in a fiscal or workforce vacuum. In 2020, the US Congressional Budget Office estimated that the cost of the US Navy's new FFG(X), based on the Fincantieri design, will be US$1.2 billion (A$1.9 billion),[108] and its new DDG(X) may cost as much as US$3.4 billion (A$5.3 billion).[109] While such estimates can't be directly transposed, those figures indicate that an expansion of Australia's major surface-combatant fleet from 12 to 20 could cost A$15–25 billion.[110] That cost would come on top of the planned spending on the current Anzac-class replacement. An expansion would therefore cost A$1.3–2.1 billion a year over 12 years, assuming that one additional ship could be built every 18 months (which may or may not be feasible). True, it's expensive; but it's feasible. It would mean an annual increase to the defence budget of less than 1% per year. And, as we've seen throughout history and as recently as Russia's war in Europe, attempting to save money in the short term by underinvesting in defence generally leads to medium–long-term insecurity, ineffective deterrence and crisis, which result in far greater costs to the budget, lives and livelihoods.

Workforce: structural change

Workforce is a significant challenge. A further eight surface combatants would require roughly an additional 1,600 personnel, not counting shore support and not taking account of replacement frequency. This is, of course, in addition to the crew expansion needed for the AUKUS optimal submarine pathway. Undoubtedly, this would be challenging for an RAN already struggling with workforce pressures, but it isn't insurmountable. To support the workforce required for an expanded submarine capability and surface-combatant fleet, significant structural changes to the RAN should be considered.

A review into the benefits of civilian crewing of naval auxiliary capabilities such as HMAS *Supply*, *Stalwart* and *Choules* should be considered (as I've argued in a previous article).[111] This is the approach taken by both the UK and the US, and is in some ways similar to the current crewing of Australian Defence Vessels (ADVs), including ADV *Reliant*, Australia's Pacific support vessel. Other structural options could include the transfer of constabulary roles and capabilities to a coastguard construct or permanently forward-basing surface combatants in places such as Singapore and rotating crews through, which is an option employed by the UK in crewing its surface combatants in the Middle East. Those options wouldn't be easy, and come with significant pros and cons, but should at least be considered alongside other options to achieve the workforce required. On its own, an RAN recruitment and retention drive is unlikely to solve the problem, which will require significant structural changes to the ADF, the RAN and the way the RAN operates.

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Smaller versus larger surface combatants

On the type of capabilities required, the 2023 DSR states the following:

> Enhancing Navy's capability in long-range strike (maritime and land), air defence and anti-submarine warfare requires the acquisition of a contemporary optimal mix of Tier 1 and Tier 2 surface combatants, consistent with a strategy of a larger number of smaller surface vessels. This would significantly increase Navy's capability through a greater number of lethal vessels with enhanced long-range strike (maritime and land) and air defence capabilities, together with the ability to provide presence in our northern maritime approaches.[112]

The DSR doesn't define the delineation between 'Tier 1' and 'Tier 2' capabilities. This has been interpreted in many ways. The tiering classification of warships is neither well defined nor formal naval terminology, but it has gained prominence at times throughout Australia's strategic planning history. That has led to a debate on whether corvettes, frigates or destroyers are the right ships for Australia, given the workforce, financial and scale challenges. In many ways, this is an unhelpful argument, given that there's no strict definition of these types of vessels, and the RAN has a history of not sticking to strict definitions of ship types anyway—as I've pointed out previously, stating that 'The RAN's fleet structure demonstrates that this hierarchy isn't strict.'[113]

The 10,000-tonne Hunter-class frigate is to be almost three times the displacement of the Anzac-class frigate. At the other extreme, the RAN's Hobart-class destroyers are based on the design of the Spanish F-100 frigate and have a displacement of about 7,000 tonnes, which makes them more like a modern frigate. A modern corvette can range anywhere between 500 tonnes and 3,000 tonnes, almost the size of an Anzac-class frigate. Therefore, some confusion is understandable. Picking the term 'corvette' or 'destroyer' and attaching it to a particular naval task doesn't contribute much to a sound maritime strategy.

> The lack of strategic warning time should be taken to mean that such lightly armed vessels operate at an increased risk.

Arafura OPV

What's clear is that the RAN's Arafura-class OPV, while optimised for constabulary operations, which will always remain a maritime task required by Australia, is vulnerable in the event of crisis or conflict due to its limited armament and low survivability. The Arafura OPV is substantially larger (1,640 tonnes) than the Armidale-class patrol boats (300 tonnes) and Cape-class patrol boats (400 tonnes) and requires almost twice the crew size of the patrol boats (see Table 1). Although the Arafura OPV is predominantly designed for constabulary operations, the original intention, as outlined in the 2009 DWP was:[114]

> … The future Offshore Combatant Vessel will be able to undertake offshore and littoral warfighting roles, border protection tasks, long-range counter-terrorism and counter-piracy operations, support to special forces, and missions in support of security and stability in the immediate neighbourhood. *This increased capability will also ensure that major surface combatants are free for more demanding operations*.[115] [emphasis added]

The Arafura OPV also has a number of challenges with its design, separate to the challenges which caused the Australian Government to list the Arafura OPV program as a 'Defence project of concern' on 20 October 2023.[116] The issue with the design of the Arafura OPV is that its weight, crew size and cost are substantially larger than those of a patrol boat and, according to the 2009 DWP, this is to enable it to undertake 'littoral warfighting roles' and free up 'major surface combatants'. However, in the current geostrategic circumstances some 14 years after the 2009 DWP, it lacks the armament and survivability to undertake those roles and would require enhancements in those two areas to be readily employable in crisis or conflict scenarios. Despite the 2016 DWP subsequently modifying the intended role of the OPV, it remains an awkward addition to the surface fleet structure, too large to be efficiently used for purely constabulary operations, and ill-equipped for littoral warfare.

If the Arafura OPV were to be enhanced, such enhancements could include the addition of NSM anti-surface missiles to provide a more potent ASuW capability, and the inclusion of a modular C-dome, which consists of 'container-mounted radar and Combat Management System… paired with modular packs that contain ten C-Dome interceptors' for unit and force anti-missile defence.[117]

However, the addition of offensive capabilities to vessels predominantly designed for constabulary operations would potentially come with the requirement to further expand the crew size of those vessels. This is a trade-off that would need to be considered.

Corvettes

There are three challenges in having most of the surface-combatant fleet made up of smaller vessels (that is, light frigates or corvettes). First, the vessel needs to be adequately sized with spare weight margins to accommodate both current and future capabilities needed for self- and force defence. Second, the scale of Australia's maritime interests, the locations of major naval bases and the open-water nature of much of Australia's operating area require a vessel to have good sea-keeping ability. Third, for the same reason, it needs lengthy endurance. These are challenges for smaller, lightweight ships.

In avoiding a platform-specific discussion, irrespective of the debate about specific platforms, Australia's maritime geography requires the RAN to have presence and situational awareness in order to deliver deterrence. Australia needs a balanced force of major surface combatants that can operate across the spectrum of tasks, but with a particular focus on military tasks to support combat operations both at sea and from the sea. That requires reliability, endurance, reach, flexibility, versatility, strike capability at scale and commonality of systems with allies.

While the DSR advocates for a larger fleet of smaller vessels, it isn't clear what those smaller or 'Tier 2' vessels are. There's a danger that an easy option would be to acquire smaller vessels with smaller crews that can't provide a balanced war-fighting capability—including the need for significant numbers of missiles to enhance the RAN's lethality—and don't have the range, endurance, sea-keeping ability or survivability to meet Australia's requirements. While a smaller vessel such as a stereotypical corvette may be an adequate replacement for the OPV or Armidale-class patrol boat (with more crew), it's unlikely to meet the need for a larger number of major surface combatants.

Concluding observations

Australia's security and prosperity are intimately linked to the maritime domain, and yet our defence strategy—current or past—doesn't clearly articulate a maritime strategy. The lack of strategic awareness, understanding and acknowledgement of Australia's dependence on the maritime domain has resulted in an under-resourced RAN, with a consistent core structure of 11–12 major surface combatants.

Numerous reviews have found that a core structure of 11–12 major surface combatants didn't support the concurrency requirements to protect Australia's maritime interests. Past governments might have been prepared to accept that risk, but the calculus has changed with the acknowledgement that Australia can no longer rely on 10 years of strategic warning time of a conflict in our region to structure its force. The removal of warning time should serve as a clear indicator that Australia must be prepared for a potential conflict in our region—a conflict that will be mainly maritime in nature.

The consistent recommendations of the need for Australia to maintain 16–20 major surface combatants must now be heeded. By preparing for potential conflict, Australia will demonstrate that it has a credible and capable naval force, which is vital to any deterrence strategy.

The articulation, production and understanding of Australia's maritime strategy are essential to deter conflict in the region and the expansion of the RAN's fleet is required in order to be prepared should deterrence fail.

There's bipartisan understanding and acceptance that our strategic circumstances have changed and will continue to change. That, in turn, requires structural change of the RAN, not only in the bespoke acquisition of a small number of nuclear-powered submarines (a project with opportunity and substantial risk) but in bolstering the surface-combatant fleet, which is the backbone of any force for achieving sea control and power projection. This will be challenging and will require sweeping reviews of the wider RAN structure to crew and support that capability, including considerations of transitioning to a coastguard, a naval auxiliary or task groups at different readiness levels. This can't be delayed. Tinkering around the edges of the ADF's and RAN's structures will provide neither the necessary deterrent effect nor the capability needed to defend Australia's interests should deterrence fail. The dramatically reduced strategic warning time is itself a warning that we must act.

Appendix: 2023 DSR: implicit maritime strategy

(Continued from page 19)

The DSR outlined the force structure design and immediate investment priorities required to achieve a 'strategy of denial'. The key priorities with direct implications for the articulation and execution of a maritime strategy are outlined here:

- 'Nuclear-powered submarines are key assets both in effecting a strategy of denial and in the provision of anti-submarine warfare and long-range strike options.'[118]
- 'Australia's Navy must be optimised for operating in Australia's immediate region and for the security of our sea lines of communication and maritime trade.'[119]
- 'An enhanced lethality surface combatant fleet.'[120]
- 'Enhancing Navy's capability in long-range strike (maritime and land), air defence and anti-submarine warfare requires the acquisition of a contemporary optimal mix of Tier 1 and Tier 2 surface combatants, consistent with a strategy of a larger number of smaller surface vessels.'[121]
- 'Defence must rapidly accelerate and expand Army's littoral manoeuvre vessels (medium and heavy landing craft) and long-range fires (land-based maritime strike) programs.'[122]
- 'Australia's Air Force must be optimised for all aspects of air warfare. The support of maritime, littoral and sustainment operations from Australia's northern base network will be a high priority.'[123]
- 'Contrary to some public analysis, our Alliance with the United States is becoming even more important to Australia. This will increasingly include working more closely with the United States and other partners.'[124]

The key takeaways for the maritime domain from the above insights are as follows:

1. The Army's focus on littoral manoeuvre implies a strategy of power projection into Australia's immediate region, including the Pacific and maritime Southeast Asia. This is supported by the acquisition of the High Mobility Artillery Rocket System (HIMARs) for the Army. HIMARs will provide a much-needed land-based maritime strike capability for the Army to assist in localised sea-denial taskings in Australia's northern approaches. To safely project those capabilities into the Pacific or maritime Southeast Asia in a contested environment will require elements of localised sea and air control, provided by either the RAN or allies' navies or air forces.
2. The focus on the acquisition of nuclear-powered submarines implies that they have roles in both sea denial and power projection into the SCS. However, in the author's view, the power-projection capabilities of a small number of submarines are limited, which is why a submarine force must be part of a comprehensive fleet underpinned by a comprehensive maritime strategy.
3. Australia's SLOCs are long, and protecting Australia's seaborne trade, or at minimum its seaborne supply, requires the ability to rapidly achieve localised sea control at range from Australia to ensure that maritime trade to Australia can be protected from interference and harassment. That requires the deployment of major surface combatants.
4. An enhanced-lethality surface fleet and enhanced capability in long-range strike requires the Navy to be able to field more missiles at sea than are presently supported by its current or planned capability.
5. Australia's strategy requires a larger number of smaller vessels. On one level, this reflects our broad maritime need for increased numbers of vessels, but its basis in maritime strategy is unclear. While it has been argued that some of the corvette options put forward by industry could meet the 'Tier 2' requirements of the DSR based on availability and armament,[125] it would be concerning if it were offset by a move away from major surface combatants, which also need to be increased. Smaller vessels are unlikely to have the survivability, sea-keeping capability and endurance required to secure Australia's SLOCs.

6. Integration with the US and the sharing of maritime responsibilities within the region will be required not only between Australia and the US but potentially with other partners. The delineation of those responsibilities will be important to understand in developing an Australian maritime strategy.
7. The role of the Air Force in the maritime domain is vital, specifically to support the domain from the northern base network. However, the Air Force's role in a maritime strategy isn't clearly articulated. The P8 maritime patrol aircraft's ISR and ASW capabilities are central to addressing the ASW challenges in the region. The limited range of the F-35, which has a combat radius of 1,093 kilometres (590 nautical miles), makes air control to support maritime taskings beyond Australia's immediate shores unlikely without allied support. Although there's an argument that those capabilities could be based further north than the Australian mainland, it's difficult to view that as a feasible option, given the clear hedging strategy of many Southeast Asian nations.[126]

Notes

1 Letter Royle to Carpenter 18 Feb 43, cited in R Menhinick, 'Sea control & maritime power projection for Australia: maritime air power and air warfare', University of Wollongong, 2003, 76.

2 R Dunley, *AUKUS Submarines: A Capability in Search of a Strategy?*, Australian Institute of International Affairs, Sydney, 2022, online.

3 D Stevens (ed.), *The Royal Australian Navy: a history*, Oxford University Press, South Melbourne, 2001, 296.

4 The RAN currently has 11 major surface combatants, eight Anzac-class frigates and three Hobart class-destroyers. The Anzac-class frigates were an outcome of the 1987 DWP, which recommended a light frigate. They were commissioned over a 10-year period from 1996 to 2006. The 2016 DWP originally planned to replace them with the future frigate (now known as the Hunter-class frigate) in the mid-2020s. The Hunter-class frigate is now planned to be delivered from the early 2030s, providing a total of nine hulls, which will bring the RAN's major surface-combatant fleet numbers to 12 ships if the Hunter project is not amended.

5 Defence Department, *Defending Australia in the Asia Pacific century: Force 2030*, Australian Government, 2009, online, 73.

6 The concept of 10 years strategic warning time was based on the assumption that Australia would have '10 years or more' notice of a possible 'major attack on our territory'. The assessment of 10 years or more was derived from the Strategic basis documents of the 1970s, which assessed that a regional actor would need that amount of time to develop a force capable of launching an effective attack on Australia. Hence, ADF force design has been structured on the assumption that the ADF had time to expand to effectively deal with a high-end threat. Even before rising militarisation in the region, the assumption was becoming outdated as military technology evolved to become more complex, and the level of technological competence of the crews—and the time needed to train them—has significantly increased.

7 Defence Department, *National Defence: Defence Strategic Review 2023*, Australian Government, 2023, online, 99.

8 Defence Department, *National Defence: Defence Strategic Review 2023*, 6.

9 P Crowl, 'Alfred Thayer Mahan: the naval historian' in P Paret (ed.), *Makers of modern strategy*, Princeton University Press, 1986, 455.

10 M Evans, *The third way: towards an Australian maritime strategy for the twenty-first century*, Directorate of Future Land Warfare, Canberra, 2014.

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13 Ports Australia, 'Australia is an island nation relying on ports to connect us with the world', no date, online.

14 Department of Industry, Science, Energy and Resources (DISER), *Australian petroleum statistics*, Australian Government, June 2021, online. See also L Carter, A Quicke, A Armistead, *Over a barrel: addressing Australia's liquid fuel security*, Australia Institute, April 2022, online.

15 International Energy Agency, 'Oil stocks of IEA countries—data tools', 13 September 2023, online.

16 Geoscience Australia, 'Oceans and seas', 2023, online; Geoscience Australia, 'Border lengths—states and territories'.

17 Geoscience Australia, 'Oceans and seas'; Geoscience Australia, 'Border lengths—states and territories'.

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19 'Australia's top commodities', *AusIMM*, 2023, online.

20 DISER, *Australian petroleum statistics*. See also Carter et al., *Over a barrel: addressing Australia's liquid fuel security.*

21 Carter et al., *Over a barrel: addressing Australia's liquid fuel security*, 9.

22 J Goldrick, *Australia's essential need: not seaborne trade but seaborne supply*, Lowy Institute, Sydney, 2021, online.

23 'Subsea cables: keeping Australia connected to the world', *Telstra Exchange*, online.

24 Australian Bureau of Statistics, 'Digital activity in the Australian economy, 2020–21', Australian Government, online.

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Acronyms and abbreviations

AAW	anti-air warfare
ADF	Australian Defence Force
ADR	Australian Defence Review
ANAO	Australian National Audit Office
ASuW	antisurface warfare
ASW	antisubmarine warfare
AWD	air warfare destroyer
DDG	destroyer, guided missile
DSR	Defence Strategic Review
DSU	Defence Strategic Update
DWP	Defence White Paper
EEZ	exclusive economic zone
ESSM	Evolved Sea Sparrow Missile
FFG	guided missile frigate
FY	financial year
GDP	gross domestic product
HIMARS	High Mobility Artillery Rocket System
ISR	intelligence, surveillance and reconnaissance
LHD	landing helicopter dock
LSD	landing ship dock
NSM	Naval Strike Missile
OPV	offshore patrol vessel
PLAN	People's Liberation Army Navy
Quad	Quadrilateral Security Dialogue
RAN	Royal Australian Navy
SCS	South China Sea
SLOCs	sea lines of communication
SM-2	Standard Missile
UNCLOS	United Nations Convention on the Law of the Sea
USV	uncrewed surface vessel
VLS	vertical launching system

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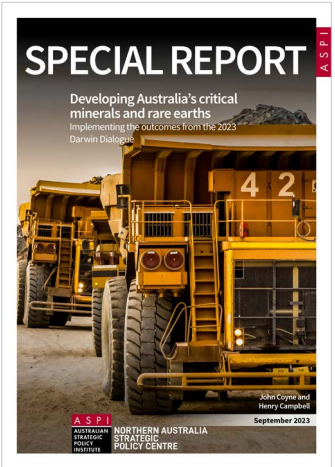

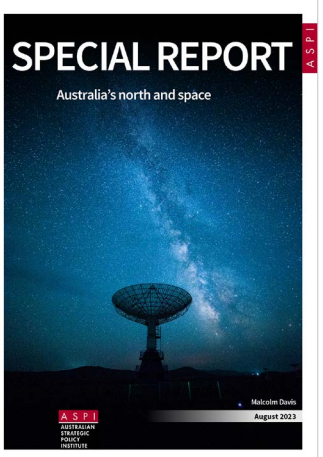

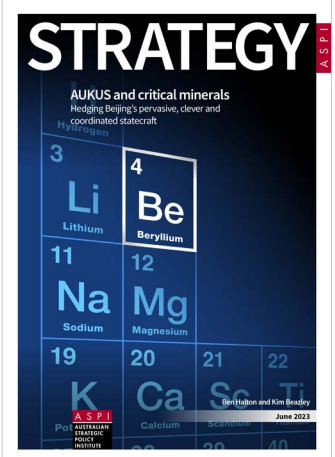

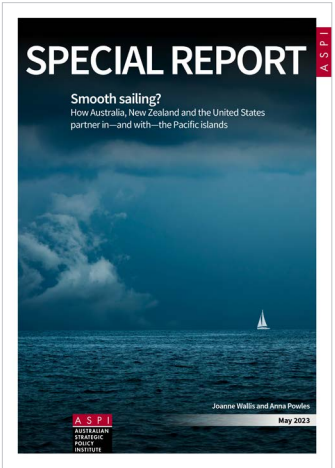

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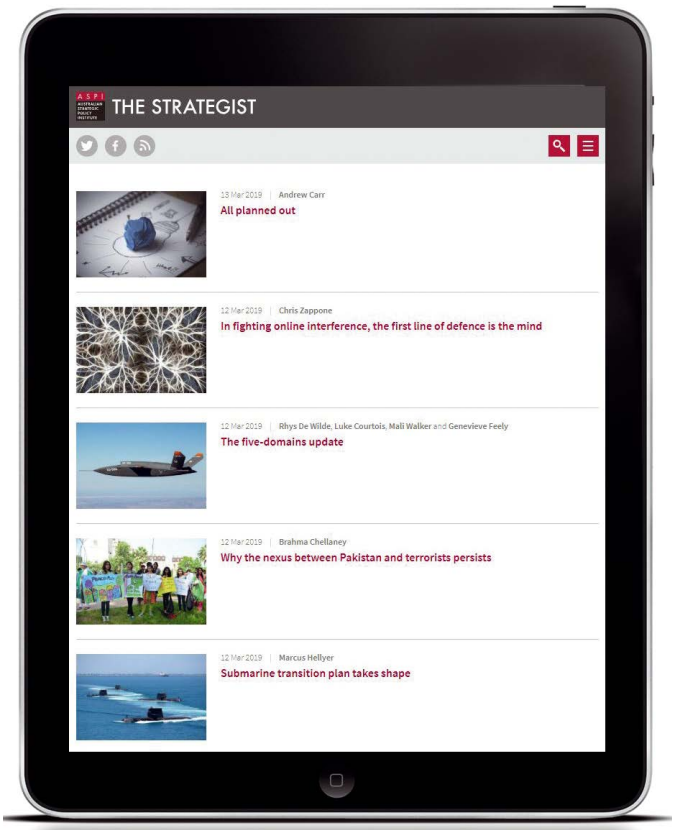

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