

# 2022-23 Defence Strategic Review

A submission prepared for the  
**Royal United Services Institute for Defence and Security Studies – Australia**

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## Executive Summary

Australia's extant defence policy (Defence 2016, 2020a, b) follows the broad structure and uses much of the rhetoric of the seminal 1987 defence white paper, *The Defence of Australia 1987* (Defence 1987). Australia's extant defence policy departs from Defence (1987), however, in terms of force size, structure and posture, focusing more on producing a small Australian Defence Force (ADF) designed for supporting allies abroad (contributing 'capability bricks') than for the self-reliant defence of Australia – in effect, a reversion to 'forward defence' and reliance on allies for our own defence.

As the new Commonwealth Government again seeks to achieve self-reliance in the defence of Australia and its neighbourhood, it is timely to reconsider the 1987 white paper in the light of present strategic realities. This paper attempts that exercise and concludes that, to achieve self-reliance in the current geostrategic environment, a major expansion of the ADF and a mobilisation of the whole Australian community would be required. More specifically, the following would need consideration over the next decade:

- **Alliances:** Alliances remain vitally important, but for the defence of Australia and those of its interests that are uniquely Australian, Australia must be prepared to be self-reliant.
- **Strategic Strike:** Australia should acquire a stockpile of cruise and similar missiles, launchable from its existing air and naval platforms, to provide a strategic strike capability. This capability should be augmented by long-range land based missiles and a long-range strike bomber as the opportunity arises. The acquisition of a suitable strategic bomber should remain under regular active review.
- **Sea-Air Gap:** For the defence of the sea-air gap, Australia should:
  - enhance its capacity to deny the straits and passages through the Archipelago, including by surveillance, by modern sea-mines and by acquiring additional diesel-electric submarines if possible;
  - consider the establishment of forward operating bases in the Archipelago so as to extend the range of our combat aircraft further beyond the mainland; and
  - make adequate provision for a combat maritime search-and-rescue capability.
- **Mainland Defence:** For the defence of the mainland, Australia needs to identify the national vital assets that need protection. At each, 'passive' defensive measures (*e.g.* site them underground and/or give them overhead protection) should be installed, and 'active' protection against air, missile, rocket, and drone attack (including by THAAD systems where warranted) should be provided. Further, Australia needs to identify and practise land forces (probably Army Reserve brigade groups) in their defence – this will need an expansion of the Army.
- **Offshore Islands:** Defence of Australia's off-shore islands and the Archipelago requires a genuinely ADF approach, not three separate single-service approaches. This will require redesigning an ADF expeditionary force that includes a land force of brigade-group size that can be transported to an island and lodged from the sea, defended from the air and sea during transit and once ashore, and maintained logistically. This will need consideration, *inter alia*, of:
  - developing one or more amphibious/air-mobile light-infantry brigade groups, equipped with light tanks and artillery;
  - acquiring one or more amphibious assault ships able to operate fixed-wing combat aircraft such as the F-35B;

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- acquiring a squadron of F-35B (STOVL) combat aircraft;
- acquiring sufficient amphibious infantry fighting vehicles to transport an infantry battalion group from its transport ships, to and across the shore, to the beach-head and beyond; and
- acquisition of a small number of commercial trading vessels suitable for providing logistic support to a force deployed in the islands.
- **Forward Operating Bases:** Australia should consider establishing forward operating bases on the Cocos Islands, Christmas Island and Norfolk Island. It also should explore with Papua New Guinea the role that the Lombrun naval base and airfield might play in the defence of the Archipelago.
- **Sea Lines of Communication:** Australia's sea lines of communication, if threatened, may prove difficult to protect. Passive re-routing of commercial trading vessels may be one option, but convoy formation and protection beyond the range of our land-based combat aircraft, in the absence of an aircraft carrier, may prove problematic.
- **Grey-Zone Warfare:** Australia should appraise the acquisition of a flotilla of well-armed small warships (corvettes) to deter and oppose China's maritime militia in our neighbourhood, provided these ships were not to be acquired in lieu of additional air-warfare destroyers and could be crewed by naval reservists.
- **Health and Medical:** An ADF health and medical system should be designed to maintain combat personnel in the field and support morale. Medical stocks need to be held in Australia on a 'just-in-case' basis.
- **Logistics:**
  - Australia needs to develop self-sufficiency in logistics, including in the growing, manufacturing, maintenance, storage and supply of weapon systems, munitions, fuel, medicines, food, clothing and other necessities for both the defence/security forces and the civilian population.
  - It also needs to develop a logistics management system based on a combat zone and a main support area, linked by a communications zone.
- **Personnel and Mobilisation:**
  - The ADF (full-time and part-time) is far too small to defend Australia. Numerous problems restrict its ability to recruit to its current establishment, let alone the growth in full-time members set out in the *2020 Force Structure Plan*.
  - The ADF is not maximising use of its total workforce. A new ADF position should be evaluated in terms of whether it needs to be filled full-time, part-time, by a series of part-time appointees, or a combination of the above.
  - The government should provide superannuation to ADF Reservists. This also would be an incentive for former full-time members of the ADF to undertake active Reserve service.
  - A robust, high-volume training and logistics system needs to be in place, and tested well before any hostilities commence.
  - In the likelihood that the ADF cannot sort out its personnel problems, government will need to consider implementing a universal compulsory national service scheme for both males and females, both for the ADF and for the civilian emergency services.
  - The training capability, capacity and infrastructure formerly provided both centrally and regionally by the ADF needs to be re-established.
  - A national 'manpower' plan and national mobilisation plan need to be developed covering all aspects of the defence and security of the nation, especially its transition from peace to war.
  - Broader social considerations extending to the population as a whole, and the university and think-tank sector in particular, must not be overlooked.
- **Modern Weapons:** The ADF should continue to develop and bring into service long-range precision-guided missiles/munitions and unmanned platforms as opportunities arise.

- **Sea-Power**
  - Australia's Navy is neither large enough nor adequately equipped to deliver a sustained programme of persuasion of the PLA against aggression in China's proximate waters nor, should persuasion fail, to be able to respond effectively to challenges in the sea-air gap and waters proximate to Australia.
  - All of the Navy's mainland bases and logistics facilities are vulnerable to strikes from the sea and air, and it would require considerable defence resources to deter or prevent Chinese missile attacks upon them.
- **Air-Power**
  - Australia's Air Force is well-balanced and its posture provides an excellent force for the defence of Australia.
  - When placed on the order of battle, Triton unmanned aerial vehicles, Poseidon and Wedgetail aircraft, and the soon to arrive MC-55A Peregrine aircraft, supported by the Jindalee Operational Radar Network, can provide an excellent surveillance capability well into, and beyond, the northern Archipelago.
  - A medium range strike capability is available with the F/A-18F Super Hornet, the range of which can be extended with air-to-air refuelling. The F-35A Lightning, a fifth-generation stealth fighter, is proving more than equal to the task of air defence.
  - The significant deficiency in the RAAF's inventory is a strategic strike capability. Strategic strike has a significant deterrent effect and provides the ability to strike at enemy forces without the support of large formations of escort aircraft. This not only reduces the large logistic support requirements for a large strike package, it reduces the inherent risks associated with these packages. It also provides an unpredictability of where and when it would strike.

Australia's defence force, its primary and secondary industries, its population, and its governance arrangements are not designed, structured or postured for the self-reliant defence of Australia and its neighbourhood in the contemporary geostrategic circumstances. This is a whole-of-government issue and needs to involve government at federal, state and local levels led by the Commonwealth. *Inter alia*, it will require a major expansion of the ADF and probably the introduction of universal compulsory national service. The political and budgetary implications are daunting, but must be faced if Australia is to ensure its security and preserve its way of life.

## Introduction

The Commonwealth Government has appointed the Honourable Stephen Smith and Air Chief Marshal Sir Angus Houston to conduct a 'Defence Strategic Review' and submissions to it have been invited by 30 October 2022.

Australia's extant defence policy (Defence 2016, 2020a, b) follows the broad structure and uses much of the rhetoric of the seminal 1987 defence white paper, *The Defence of Australia 1987* (Defence 1987). It departs from it, however, in terms of force size, structure and posture, focusing more on producing a small Australian Defence Force (ADF) designed for supporting allies abroad (contributing 'capability bricks') rather than for the self-reliant defence of Australia – in effect, a reversion to 'forward defence' and reliance on allies for our own defence.

Further, the 1976 defence white paper (Defence 1976) called for the three single services to be unified for the first time as the Australian Defence Force (ADF). This goal, 46 years on, still has only been partially achieved, as exemplified by different single-service strategic and operational approaches to, and incompatible equipment acquisitions for, amphibious and littoral operations, operations which must be conducted jointly (*e.g.* Moyse 2022).

The focus of the Review is to be on achieving self-reliance in the defence of Australia and its neighbourhood over the next decade. Implicitly, if not explicitly, this objective invites reconsideration in the light of present strategic realities of the 1976 and 1987 defence white papers (Defence 1976, 1987)<sup>2</sup>, as they had the same objective. This paper will attempt that exercise. It does not attempt to address the terms of reference *seriatim*. Rather, it seeks to look at how the challenge of seeking to

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<sup>2</sup> See also Appendix 1 which summarises the strategic considerations that informed these white papers.

achieve self-reliance in the defence of Australia and its neighbourhood has been approached in the past and how that approach would need to be altered to achieve the same objectives in our contemporary geostrategic circumstances. We hope that the Review team will find this helpful.

### **Australia's Defence Strategy**

The 1987 defence white paper, *The Defence of Australia 1987* (Defence 1987) and its underlying prescriptions remain relevant, notwithstanding significant changes in the geostrategic situation over the last 35 years. Its persistence, in large part, is a result of its overt focus on the defence of the Australian mainland, its logic and simplicity, and its ready comprehension by politicians and the general public. Its key provisions warrant recall.

Defence (1987) assumed that:

- any attack on Australia would come from or through the Indonesian-Melanesian Archipelago (the Archipelago);
- while low-level attacks, especially in northern Australia directed towards achieving political concessions, could occur at any time, there would be a lead time of at least a decade before high-level warfare against a near-peer adversary eventuated, as the capability/capacity did not exist in our region – hence, the concept of a 10-year warning time; and
- it followed that the focus should be on low-level contingencies in northern Australia – so-called ‘credible northern contingencies’, whether maritime or land-based.

To meet these challenges, the ADF was to be structured and postured so as to achieve:

- defence-in-depth forward of the mainland by strategic strike on enemy bases and denying the ‘sea-air gap’, both largely RAAF/RAN tasks – this was to have priority and would be referred to later as a ‘maritime strategy’;
- land defence of the mainland (coastal surveillance, vital asset and population protection in the north, and mobile, rapid reaction to incursions or invasion); and
- the capability and capacity to support our close neighbours in the Archipelago.

The assumptions governing Defence (1987) need examining as both the geostrategic situation has evolved and new weapons systems have been developed.

- China has developed as a superpower potentially able to challenge the United States for supremacy in the Indo-Pacific. China has the ambition to become the suzerain in Southeast Asia and the western Pacific. For specific suggestions on countering Chinese strategic pressure, see Appendix 2.
- To the three traditional domains of warfare [maritime, land and air], have been added two new ones, space and cyber, to which information operations can be added now.
- Conflict now occurs preferentially in the ‘grey zone’ between peace and overt warfare between nation-states. Such conflict can be continuous, especially in the cyber domain, whether or not as a prelude to war-fighting.
- Missile technology has advanced apace. In addition to cruise missiles that can be launched from land, sea or air platforms, there are now long-range and hypersonic missiles coming into service. China, and possibly North Korea, potentially could strike the west coast of the United States with missiles launched from their territory. Northern Australia also is potentially in range of such missiles, including Australia's bases there.
- The assumption that an attack on Australia would come from or through the Archipelago now needs modification. While it may hold largely true for attacks on northern Australia, maritime attacks on Australia also could be mounted from the Indian, Southern and/or Pacific Oceans, especially by missiles launched from submarines. Attacks also could be mounted on our maritime trade routes (sea lines of communication), without coming anywhere near Australia.
- The concept of a 10-year warning time of a major attack on Australia was dispelled by the *2020 Defence Strategic Update* (Defence 2020a) which noted the new capabilities in our region and the emergence of grey-zone warfare especially in the cyber domain. State-on-state conflict, as we are currently seeing in Ukraine, could emerge now at any time, probably linked to international ‘flash-points’. In respect of one such flash-point, a possible Chinese invasion of Taiwan though, the assessment of most informed intelligence analysts is not until the 2030s.

- In 1987, Australia was focused on low-level threats largely by sub-national actors – so-called ‘credible northern contingencies’. Today, Australia is faced with state-on-state warfare, with Australia as a medium power potentially opposed by a superpower. We may receive the support of allies, but this cannot be guaranteed as we do not know what other commitments our allies may have at the time of need, or where they will see their national interests lying in the prevailing circumstances (e.g. Britain in relation to Singapore in World War II; United States post-war during Australia’s various disputes with Indonesia).

This paper will now examine the principal components of the 1987 strategy in light of the subsequent geostrategic and technological changes identified above.

## Alliances

Superpowers such as the United States and China can afford to be isolationist. Alliances, however, are vitally important for a middle power such as Australia. Nevertheless, while alliances are potentially very helpful in a crisis, they also can be problematic. Few treaties formally bind a treaty partner to go to the aid of other treaty partners and Australia is not a party to any that do. The 1976 and 1987 white papers (Defence 1976, 1987) concluded that Australia needed to be self-reliant for its own defence.

Since World War II, Australia has maintained a vital alliance with the United States cemented by the 1951 ANZUS Treaty and has gone to war at America’s request several times to support its ally. What is not widely appreciated, though, is that neither party is obliged to come to the other’s aid should the other party request it. It only does so *vide* its own democratic processes. In practice, this means that it will come to the other party’s aid only if it deems that to do so is in its national interests.

As an example, Australia and Indonesia have had major security disagreements on at least three occasions since Indonesia achieved independence post World War II (West New Guinea independence 1962/1969, Konfrontasi 1962-66, Timor Leste independence 1999). On each occasion, Australia has sought American assistance (without formally invoking the ANZUS Treaty), but it was declined each time on national interest grounds because America wished to remain on good terms with both Australia and Indonesia.

Further, President Nixon’s 1969 Guam Doctrine enunciated during the Vietnam War provided that, in future, each ally nation of the United States was to be responsible for its own security, but that the United States would act as a nuclear umbrella when requested. This remains American policy. In addition, the United States expects Australia to take the lead for security in Australia’s neighbourhood, especially in the south-west Pacific.

While the United States under the current Biden administration is favourably disposed to alliances, the previous Trump administration was not, reverting to a more traditional American isolationist stance on foreign policy. Australia cannot guarantee that future American administrations will not pursue a more isolationist foreign policy.

As Ukraine has found in its current conflict with Russia, it has been able to obtain diplomatic, economic and logistic support from its Western allies, but has had to provide all the personnel (‘manpower’) itself to fight the Russians. In an analogous situation, Australia might find itself in a similar position.

Australia should continue to pursue the development of strong alliances with potential allies, especially in our region. In addition to the United States, our alliances with India, Japan, South Korea, Indonesia and New Zealand are all very important, but our partnerships with the other members of the Pacific Islands Forum warrant special attention.

In this regard, military diplomacy can play an important role in generating mutual confidence and understanding between and among allies. Continuation of the series of joint exercises, longer-term exchanges of military personnel between strategic partners, and attendance at each other’s military training colleges and the like is strongly supported.

The AUKUS defence research and development agreement between Australia, Britain and the United States is another example of an alliance that should forge stronger ties between the three allies, their defence forces and their defence industries. Hopefully, the research also will produce advanced weapons systems for the mid-21<sup>st</sup> century.

The bottom line, however, is that for the defence of Australia and those of its interests that are uniquely Australian, Australia must be prepared to be self-reliant.

## **Summary**

Alliances remain vitally important, but for the defence of Australia and those of its interests that are uniquely Australian, Australia must be prepared to be self-reliant.

## **Strategic Strike**

Strategic strike is the ability to inflict damage on the enemy's bases and war-fighting infrastructure from which attacks can be mounted on Australia and its interests. When the enemy knows that you have this capability and are willing to use it, then it can be a significant deterrent.

Traditionally, this capability has been maintained in the ADF by strategic bombers (*e.g.* the former F-111C strategic bomber, in both its bombing and reconnaissance roles) and by Special Forces (for reconnaissance and raiding). It also can be provided by appropriately-armed naval surface platforms and submarines.

Should Australia acquire eight nuclear-powered submarines armed with conventional missiles in two to three decades, it will then have a strategic strike capability of global reach. Potential adversaries, such as China, however, already have that capability and potentially could strike any target on the Australian mainland at will. The issue for Australia now is how to achieve a credible strategic strike capability over the next one to two decades.

Australia's Special Air Service Regiment is able to conduct reconnaissance behind enemy lines. Australia's two commando regiments can conduct raids on enemy vital assets and bases, especially coastal ones. Lodgement of such forces, though, can be problematic. It is usually by submarine. Modern amphibious forces also can mount raids by undertaking over-the-horizon ship-to-objective manoeuvre from amphibious assault ships, but the ADF is not equipped with the necessary amphibious infantry combat vehicles to enable such manoeuvre (Collins 2014; Leece 2014a, b).

Australia has not had a strategic bomber since the retirement of the F-111C in 2010. A replacement strategic bomber is needed as soon as possible. An option that may arise towards the end of this decade would be to acquire the United States Northrop-Grumman B-21 long-range strike bomber which is still under development, but, even if available at an acceptable fully-absorbed through-life cost, it would be unlikely to enter into ADF service within the first-decade time-frame of this Review. As it is very important that Australia acquires a suitable strategic bomber as soon as possible, the matter should remain under regular active review.

In the absence of a strategic bomber, air and naval platforms can be equipped with cruise missiles for undertaking strategic strike. It is recommended that the ADF immediately build up a stockpile of cruise missiles to provide a capacity for strategic strike in the short term and that suitable platforms regularly and overtly practise the role, so that there is no doubt in the minds of potential adversaries as to Australia's capability, capacity and intent.

Long-range missile technology also is being explored by the ADF. This needs to be expedited and the capability brought into service at scale as soon as possible. Such long-range missiles not only can be launched from suitable air and sea platforms, they also can be launched from the land, thereby enhancing the offensive capability of forward operating bases – of which, more below.

## **Summary**

Over the next decade, Australia should acquire a stockpile of cruise and similar missiles, launchable from our existing air and naval platforms, to provide a strategic strike capability. This capability should be enhanced by long-range land based missiles and a long-range strike bomber as the opportunity arises. The acquisition of a suitable strategic bomber should remain under regular active review.

## **Defence of the Sea-Air Gap (Maritime Strategy)**

While some strategic analysts like to view the sea-air gap between mainland Australia and the Archipelago as a 'bridge', for anyone wishing to lodge a hostile force of whatever size on the Australian mainland, it would be a major obstacle to be overcome. As with any obstacle incorporated into a defensive plan, if it is to be effective, it needs to be both kept under surveillance and covered by fire. Further, this surveillance and fire coverage of the obstacle should commence as far forward of the 'vital ground' as is practicable – hence, the concept of 'defence in depth'.

In practice, this has meant developing the capability to conduct maritime surveillance and maritime patrols in maritime areas as far north as the East China Sea, thence southwards through the

Archipelago's straits and passages to the northern coast of Australia. The ADF has extended this concept also to embrace Australia's sea lines of communication to the northern Indian Ocean. This ocean, as well as the South and East China Seas, is vital to our maritime trade and our economy, given Australia's critical dependence on imported petroleum products.

In defending the sea-air gap, a distinction needs to be made between 'sea control' and 'sea denial'. Sea control, in essence, is your ability to use the sea in reasonable safety. Its achievement over a limited area of sea for a limited time can be a realistic aspiration. Indeed, it is essential for ship convoys and usually requires air cover and the protection of the convoy by surface warships and submarines. In the case of an amphibious flotilla, sea control needs to be maintained during transit to the landing beaches, during the landing and the during the establishment of the amphibious force safely ashore.

Sea denial is more readily achieved. It involves denying the enemy his use of the sea at a particular place and time. It can be applied in the Archipelago by denying enemy ships passage through the choke points, such as the Makassar, Lifamatola, Sunda, Lombok, Ombai and Timor Straits/Passages. It also may be achieved by blockading enemy ships in home ports, including through mine warfare.

Surveillance of key (focal) choke points is necessary. To this end, a modern version of a sound-surveillance passive sonar system should be installed at either end of the Timor Trench, as this is the only strait through the Indonesian Archipelago to the Indian Ocean that a submarine can use to safely conduct a submerged transit under operational conditions. A family of modern deployable, semi-permanent, tethered surveillance buoys also should be acquired for focal choke points.

Sea-mines are likely to be the basic tool used by Australia for the denial of the Archipelago's focal choke points, not least because an enemy would seek to avoid any choke point that he suspected was mined. Australia already manufactures its own modern sea-mines but there may be value also in considering other deployable smart mines, including the Captor 2 or Hammerhead. Such mines can be deployed in advance of a conflict and then be activated when needed. They can be programmed to target all ships or an individual ship and they can be laid from naval and commercial surface ships, submarines, aircraft and drones.

In addition to sea-mines, both surface ships and submarines may be used for blockading ports and/or denying passage through choke points. Diesel-electric powered submarines, such as Australia's Collins-class, are quite suitable for sea denial of the Archipelago's choke points. The problem is, Australia does not have enough of them (six, of which no more than four are likely to be available at any one time) to sustain coverage of all the choke points that need to be denied concurrently. Further, a conventionally-powered submarine is restricted in its time on task by the distances it has to travel from its home port to its patrol zone and back again, which exacerbates the numbers issue. An option here is to increase the number of diesel-electric powered attack submarines, particularly if some can be obtained quickly, say up to six Independence-class boats from Germany or Taigei-class boats from Japan.

Australia's combat aircraft also have an important role in defence of the sea-air gap particularly north from their mainland bases, but they are limited by their combat radius of 1000km. Hence, Australia also should consider the establishment of forward operating bases in the Archipelago so as to extend the range of our combat aircraft further beyond the mainland. This is discussed in more detail at pp. 12-13.

Once ships pass the choke points in the Archipelago, however, defensive sea denial of the open ocean to the south (Indian Ocean, Timor Sea, Arafura Sea) in effect requires total sea control or command of the sea, or at least that part of it being used by the enemy force for the duration of its operations. Indeed, as Dunley (2019) concludes: "If ... sea denial is the primary line of the state's defence, then the strategy needs to be successful, and to work fast, to prevent enemy forces from landing in any serious number." Unless this can be effected by our maritime forces, then defence of the mainland becomes a consideration.

Finally, a consideration often overlooked in maritime warfare is the need for a combat search-and-rescue capability for downed aircrew, sailors adrift and stranded soldiers. This needs to become an important component of maritime operational planning and is vital for the morale of aircrew and other service personnel.

### **Summary**

For the defence of the sea-air gap over the next decade, Australia should:

- enhance its capacity to deny the straits and passages through the Archipelago, including by surveillance, by modern sea-mines and by acquiring additional diesel-electric submarines if possible;
- consider the establishment of forward operating bases in the Archipelago so as to extend the range of Australia's combat aircraft further beyond the mainland; and
- make adequate provision for a combat maritime search-and-rescue capability.

## **Defence of the Mainland**

### ***Coastal defence strategies***

There are two strategic options when it comes to the coastal defence of an island or continent: to defend the beaches; or to allow a landing and then contain and destroy it. Defending the beaches is preferred as an enemy is most vulnerable when conducting an amphibious landing. To defend the beaches, though, you need a short coastline, or few beaches, or enough troops to defend all possible landing places. The alternative is to keep all possible landing sites under surveillance; retain one or more highly mobile strike forces centrally; and, when the enemy commits to one or more landing sites, use the strike forces to contain the incursions and then destroy them.

Germany used Option 1 on the Atlantic coast in World War II – the so-called 'Atlantic Wall' which extended from Norway to Spain from 1942-44. The Ottomans used Option 2 at Gallipoli in 1915. Australia's 2<sup>nd</sup> Division used Option 1 when defending Sydney's northern beaches in 1941-42; and Option 2 when defending the West Australian coast north of Perth in 1942-43. Option 2 is the only realistic option for defending the extensive coastline of northern Australia, although Option 1 may be feasible for defending a city such as Darwin.

### ***Divisional deployment modes***

A higher formation, particularly a division, is best deployed in what is known as the 'concentrated mode'. In this mode, all combat and service support is centralised under direct command of the divisional headquarters and can be concentrated in support of any one of the division's brigades or units at any time. This mode exemplifies the principle of war 'concentration of force'. Divisions and corps were invariably deployed in the concentrated mode on the Western Front in the Great War.

In some circumstances, however, formations are forced to deploy over wide frontages or geographic areas. When this occurs, for example, each unit cannot be within range of all the corps or divisional artillery all the time. Hence, instead of retaining all supporting arms and services under the direct command of the divisional headquarters, a brigade share, a so-called 'slice', is placed under command of each brigade headquarters. The division, then, is said to be deployed in the 'dispersed mode'. An example is the deployment of the 8<sup>th</sup> Brigade as a semi-independent brigade group on the northeast coast of New Guinea in 1944-45, while its parent formation, 5<sup>th</sup> Division, was deployed in New Britain. When planning the defence of northern Australia in 1987-88, Land Headquarters considered that the dispersed mode needed to be used in most circumstances.

### ***Land forces structure and posture in 1987-88***

Given the foregoing, Defence (1987) provided for the continental land forces to be structured and postured to provide regional surveillance; defence of vital assets; containment and counter-offensive by strike and follow-up forces; logistic support; and an expansion base (to generate reinforcements).

For continental defence, given the small size of the Australian Army and the geographic extent of northern Australia, it was decided that the extant three infantry divisions would have to function in the dispersed mode. Brigades would need to be constituted as brigade groups each with a full slice of supporting arms and services under command. A joint force headquarters would be raised to command land operations and to exercise command and control of the brigade groups directly. Divisional headquarters would be retained for raise, train and despatch functions and for base area administrative roles. They would not have an operational command role.

The initial plan to be trialled for the ground defence of northern Australia involved a series of independent brigade groups, each operating in its own area of operations (AO). The independent brigade groups would be commanded directly by the joint land force headquarters. Within each AO, priorities included:

- liaison with civil authorities;

- defence of vital assets (e.g. ports, airfields);
- protection of military and civilian infrastructure and population centres;
- coastal and hinterland surveillance; and
- identification of any hostile incursions, followed by their containment and then destruction.

### ***Proposed land forces structure and posture, 2023 – 2033***

Australia is faced with a similar challenge today, given that it is still quite unlikely that the mainland will be invaded by a force of several divisions over the next decade. We are more likely to experience harassment of population centres and vital assets throughout the mainland by long-range fires, especially from submarines. Commando raids on some vital assets, though less-likely, are feasible, especially in the north. Such attacks are likely to be preceded or accompanied by a potentially significant homeland security threat and associated grey-zone activities, especially in the cyber domain. So, Australia will need to deploy land forces principally to conduct surveillance, operate the anti-missile defences and defend the vital assets against raids. More specific proposals follow.

***Coastal surveillance:*** The current model for coastal surveillance, based on three Army Reserve regional force surveillance units covering the coastline from Cape York to the Pilbara, and backed up by the civilian population of those areas, seems appropriate qualitatively. It, however, seems quite inadequate quantitatively, there being large gaps in coverage of the coast for much of the time. A risk-based assessment is needed here. As the risk increases, an ability will be needed to intensify the surveillance using trained personnel and enhancing their utility by equipping them with unmanned aerial vehicles (drones).

***Vital Assets:*** Vital assets identified in 1987 included RAAF Bases Learmonth (North West Cape), Curtin (near Derby), Tindal (near Katherine) and Scherger (Cape York); and the ports and adjacent airfields at Broome, Darwin, Cairns and Townsville. An Army Reserve infantry brigade group was allocated to the defence of each vital asset. Today, this list should be expanded to include other similar assets on the west and east coasts of southern Australia, plus the over-the-horizon radar sites. The role probably needs to be given to Army Reserve brigades. If so, they will need to be re-raised as combat brigades (currently they primarily have a regional administrative or training role) and their number will need to be increased as presently there are only four (4<sup>th</sup>, 5<sup>th</sup>, 11<sup>th</sup>, and 13<sup>th</sup> Brigades) with two other brigade headquarters (8<sup>th</sup> and 9<sup>th</sup>) which possibly also may be utilised .

Further, given the ability of potential adversaries to attack vital assets and population centres with cruise missiles and other long-range fires, it is important that key facilities, such as command and communication centres, aircraft holding bays, logistics storages (especially for ammunition and fuel), at all vital assets be sited underground or be given strong overhead protection. Further, ground-based air-defence missile systems will need to be sited for their defence. These may need to include terminal high-altitude area defence (THAAD) systems where the value of the vital asset so warrants.

***Countering hostile incursions:*** The Army's implementation of the Defence (1987) strategy envisaged that, when hostile incursions were identified, where possible they were to be contained and destroyed by the Army Reserve brigade group responsible for vital asset defence within the relevant AO. Where it was beyond the capacity of that brigade group, then a Regular Army rapid response force would intervene consisting of 3<sup>rd</sup> Brigade Group, an air-portable light-infantry brigade group based in Townsville, and 2<sup>nd</sup> Cavalry Regiment (an armoured reconnaissance regiment) based in Darwin. Additional support would be drawn from the Regular Army's 1<sup>st</sup> (Mechanised) Brigade Group in Darwin and 6<sup>th</sup> (Motorised) Brigade Group in Brisbane.

Australia would need similar arrangements today. A confounding factor, though, is that every soldier on the 21<sup>st</sup> century battlefield has come to expect armoured protection in order to minimise casualties. The soldiers' relatives also expect that the soldiers will have protection by armoured personnel carriers, infantry fighting vehicles, protected mobility vehicles and the like. If provided, however, such protection may not be compatible with rapid deployment strategically and tactically by air.

It should be noted that the Australian Military Forces of 1941-42, when our population was only some 7 million (3.6 million men), deterred the Imperial Japanese Army from invading Australia, despite having its four Australian Imperial Force (AIF) infantry divisions deployed abroad (one of them in Japanese captivity). By 1942, it was able to muster ten infantry divisions and three armoured divisions, one of which was an AIF division (1<sup>st</sup> Armoured Division), for the defence of the mainland.

Today's Australian Army, when the population is 25.9 million, is able at best to muster two combat brigades plus a number of 'capability bricks' of up to sub-unit strength with some at unit strength, suitable for plugging into *ad hoc* task forces, mainly intended during high-intensity warfare for deployment abroad under allied command. The Australian Army, while highly professional, is not structured, equipped, or postured for the defence of the mainland and is far too small for the task. It is not designed for self-reliance, and has little capacity to sustain a force once committed to operations. It is unlikely that a nation-state which had well-trained and well-equipped armed forces and which had territorial designs on Australia would be deterred by it.

### **Summary**

For the defence of the mainland, over the next decade, Australia needs to identify the national vital assets that need protection. At each, Australia needs to install 'passive' defensive measures (*e.g.* site them underground and/or give them overhead protection), and provide them with 'active' protection against air, missile, rocket, and drone attack (including by THAAD systems where warranted). Further, Australia needs to identify and practise land forces (probably Army Reserve brigade groups) in their defence – this will need an expansion of the Army.

### **Defence of Offshore Islands and the Archipelago**

Australia's offshore islands are more problematic. Seizing them could be a relatively cheap option for an enemy, but the enemy would find defending and sustaining them logistically quite difficult. For Australia, similar defence and sustainment issues would arise. Indeed, except for Norfolk Island, Australia failed in this task in World War II. The military (as opposed to sovereign) value of those islands to Australia and to an enemy lies in their potential as forward operating bases (FOBs) principally for combat aircraft – extend their combat radius (a function of both fuel usage and ammunition usage). It would be a whole-of-ADF job to establish and maintain FOBs on our offshore islands.

Hence, Australia needs an expeditionary force to both defend its island possessions [Cocos (Keeling) Islands, Christmas Island, Norfolk Island, Lord Howe Island, Macquarie Island, Heard Island, and the Australian Antarctic Territory] and to provide military assistance on request to its neighbours in the Archipelago, such as Timor Leste, Papua New Guinea and the island-states of the south-west Pacific.

Australia's territories in the Southern Ocean – Heard Island and Macquarie Island (both sub-Antarctic islands) and the Australian Antarctic Territory – pose a particular challenge. The Southern Ocean is an extreme environment. Currently, the Australian Navy has few vessels that can operate in a sustained way or respond to developing threats in the Southern Ocean. This is a weakness that needs to be addressed.

### **Expeditionary Force – Land component**

The land component of the ADF expeditionary force may need to be configured differently to the land force designed for defence of the mainland. The expeditionary land force will need to be deployable amphibiously and by air, so will need to consist of amphibious/air-mobile light-infantry brigade groups, each including a parachute battalion group designed to secure a point-of-entry<sup>3</sup>.

The armoured support in each light-infantry brigade group will need to include:

- light tanks, such as the new United States Army light tank to be built by General Dynamics Land Systems to improve mobility, protection and direct-fire capabilities of the American infantry brigade combat teams, and/or main battle tanks deployed amphibiously (less flexible option); and

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<sup>3</sup> At times, for a range of reasons, not least being the unavailability of suitable beaches, it may not be possible to gain a point of entry to an island by an amphibious landing across a beach. A point of entry, be it an airfield or a port, may need to be seized by an airborne force, led by a parachute battalion (to secure the landing ground). By whatever means the force is inserted, the force must seize and hold ground until relieved. This is a task for an infantry battalion, not special forces.

- amphibious infantry fighting vehicles able to transport an amphibious assault force from ship to shore, across the beach to the beach-head, and subsequently serve as armoured personnel carriers during operations inland, such as the United States Marine Corps assault amphibious vehicle (AAV-P7/1A “amtrac”) or its replacement Amphibious Combat Vehicle – a minimum of a battalion-lift of such vehicles is needed this decade.

The artillery support in each light-infantry brigade group in the short-term will need to include:

- Army’s current M777 155mm light-weight towed howitzer or a truck-mounted alternative such as the French CAESAR 155mm self-propelled howitzer;
- Army’s (currently moth-balled) L119 105mm light gun (‘Hamel’ gun) upgraded to the latest United States digital version for use as an airmobile or mountain gun; and
- the planned replacement for Army’s current RBS-70 surface-to-air missile air-defence system, the National Advanced Surface-to-Air Missile System.

Consideration also should be given to equipping the force with long-range artillery systems such as HIMARS – M142 High-Mobility Artillery Rocket System and other precision-guided missiles.

### ***Expeditionary Force – Sea component***

The naval support force for lodging and then maintaining an amphibious force on an off-shore island will need to be built around the two existing Canberra-class amphibious assault ships (LHDs), HMA Ships *Canberra* and *Adelaide*. These ships, however, are not true amphibious assault ships. Although based on a Navantia LHD design, the design was modified for the Australian vessels to increase their utility for humanitarian assistance and disaster relief (HADR) operations, especially increasing their hospital facilities below deck. This led to the weakening of the deck, which can no longer support sustained take-offs and landings by fixed-wing fighter aircraft such as the F-35B (USMC short take-off/vertical landing (STOVL) version). As a consequence, our two LHDs are more logistics support ships than amphibious assault ships (Campbell 2014; Leece 2014a, b). At their upcoming mid-life refit, however, reconfiguration back to true multi-role ships needs to be closely examined (as the Japanese navy is currently doing to its helicopter carriers, JS *Izumo* and JS *Kaga*).

HMAS *Choules*, an amphibious landing ship dock, and HMAS *Supply*, an auxiliary oiler replenishment ship, also can provide logistic support to the amphibious force.

The acquisition of a third LHD, this time constructed to the enhanced Navantia design (such as the Turkish Navy’s TCG *Anadolu*) so it can serve as a true amphibious assault ship, would be highly desirable (crewing it may be difficult over the next decade).

Another option would be to acquire a commercial container ship and refit it with a flat deck and ski-jump such that it could serve as an aircraft carrier and be equipped with the F-35B short take-off/rolling landing (STORL) version as this allows a more stable and fuel-efficient launch and sloping approach, a rolling landing, and improved safety with unexpended munitions. When tried previously, however, some merchant ship conversions to aircraft carriers have been abandoned as a proper deck and all the associated facilities are required to make a platform for launching and recovering aircraft.

A final option is to acquire one or more purpose-built aircraft carriers, but this option can have very high dollar and manpower costs.

Before choosing an option, the ADF would need to thoroughly analyse each available option. Such an analysis may well show that the most cost-effective option is to multi-role its amphibious assault ships.

### ***Commercial Vessels***

One lesson to emerge from both the Falkland Islands War (1982) and the East Timor Crisis (1999) is the importance of being able to take up ships from trade in a defence emergency. International law, however, allows only a nation’s own-flagged ships to be taken up from trade. There are only some 13 Australian-flagged merchant ships now (Barrett 2021) most of which are not suitable for providing logistic support to an expeditionary force in the Archipelago, in part because they need the capacity for self-loading and unloading.

Lacking suitable Australian-flagged merchant ships that under international law may be taken up from trade, in a defence emergency Australia would have to attempt to hire the ships we required from foreigners (probably at huge expense – war risk insurance can be very expensive), assuming that suitable foreign ships were available for hire when Australia needed them.

The Royal United Services Institute has studied this need in detail and put forward proposals to resolve this issue to previous governments. Ideally, Australia would operate its own equivalent of the British Royal Fleet Auxiliary or the American Military Sealift Command. Both these powers, however, also have the legislated authority to take up ships from trade in an emergency and have the capacity in their nationally-flagged merchant fleets to augment their maritime logistic support forces in this way (Leach *et al.* 2004; Leece 2014a; Barrett 2021).

As a first step towards re-building the Australian merchant navy, the Commonwealth Government should build, own and operate a few multi-purpose merchant trading vessels (coastal and inter-island traders), all of which are suitable for providing Defence logistics support, and to crew them with Royal Australian Naval Reserve personnel (Leach *et al.* 2004).

### ***Expeditionary Force – Air component***

Amphibious operations are critically dependent on achieving and maintaining air superiority over the convoy from point of departure to the amphibious landing site and then over the beach-head during the landing until the land force is secure ashore. This requires air-superiority fighter aircraft to provide continuous combat air patrols over the convoy and the invasion beaches. This, in turn, requires the fighter aircraft be able to reach the beach-head, conduct their operations there and return to their bases to be refuelled and re-armed. Given the limited combat radius of the F-35A fighter aircraft (1000km) and the distance from the nearest mainland bases to the Archipelago (generally 2000+km), our fighter aircraft need to operate either from aircraft carriers or forward operating bases in the islands (see below). While air-to-air refuelling can assist here, it cannot re-arm the aircraft.

Further, fighter aircraft also are needed to provide close air support to the landing force, both during the landing and once ashore (Leece 2014b). This can only be achieved if there is an aircraft carrier or forward operating base on land available from which the fighters can operate.

There is the potential for competition for resources here as fighter aircraft also would be needed for protection of sea lines of communication (SLOC). Normally, SLOC protection would take precedence over other tasks, but an amphibious operation could not be launched unless it had priority for resources. This raises the issue of the adequacy of our current fighter resources (<100 F-35A and F/A-18F)).

### ***Summary***

Defence of Australia's off-shore islands and the Archipelago requires a genuinely ADF approach, not three separate single-service approaches. Over the next decade, this will require redesigning an ADF expeditionary force that includes a land force of brigade-group size that can be transported to an island and lodged from the sea, defended from the air and sea during transit and once ashore, and maintained logistically once in place. This will require consideration, *inter alia*, of:

- developing one or more amphibious/air-mobile light-infantry brigade groups, equipped with light tanks and artillery;
- acquiring one or more amphibious assault ships able to operate fixed-wing combat aircraft such as the F-35B;
- acquiring a squadron of F-35B (STOVL) combat aircraft;
- acquiring sufficient amphibious infantry fighting vehicles to transport an infantry battalion group from its transport ship, to and across the shore, to the beach-head and beyond; and
- acquisition of a small number of commercial trading vessels suitable for providing logistic support to a force deployed in the islands.

### **Forward Operating Bases**

A vexed issue is that of forward operating bases (FOBs). In accordance with international law, FOBs in the Archipelago normally would be available to Australia only by invitation of the relevant sovereign power. That said, with an ADF structured as outlined above for the defence of Australia and its immediate neighbourhood, we should have land forces able to mount an expeditionary operation ('lean forward') into the Archipelago and beyond (*i.e.* suitable for manning FOBs in the Archipelago or Malaysia, Singapore or the Philippines) if invited to do so by the relevant sovereign power, provided these forces were not required at the relevant time for higher priority tasks closer to home.

Such FOBs could serve as 'stationary aircraft carriers' enabling the projection of power further to Australia's north, by extending the range of aircraft, ships and long-range land-based missile systems.

Such bases, though, require protection and must be capable of logistic resupply – challenging requirements (Leece and Wolfe 2021).

Norfolk Island, Australian territory in the South Pacific 1500km east of Brisbane, served as a FOB in World War II when it was defended by New Zealand. From it, American air power was projected northwards to New Caledonia and the Solomon Islands and beyond. It also served as a logistics base, but its logistics utility was, and still is, hampered by lack of a harbour (Leece and Wolfe 2021).

Other Australian offshore territories suitable as FOBs include the Cocos (Keeling) Islands and Christmas Island both in the eastern Indian Ocean, the latter only 500km south of Jakarta which may consider its development as a FOB threatening.

The development of the Cocos Islands, Christmas Island and Norfolk Island as FOBs would enable the projection of power further forward into the Indian Ocean, the Archipelago and the South Pacific than is possible from the Australian mainland. Such bases, however, would need to be defended by up to an infantry brigade group, and the key facilities would need to be dug in or have overhead protection capable of sustaining prolonged attack by missiles, aircraft and naval gunfire. These FOBs also would be subject either to defeat in detail by a determined enemy at a time of the enemy's choosing, or to isolation and then being bypassed as occurred with the impregnable Japanese fortress at Rabaul in 1943-44. Maintenance of the lines of communication, both sea and air, to the bases and plans for their evacuation would be essential.

Another FOB warranting consideration is the Papua New Guinea naval base and the adjacent airfield at Lombrun on Manus Island. If the Papua New Guinea government were willing for Australia to use it for that purpose, it would enable projection of naval and air power and long-range land-based missile fires well into the South China Sea, Philippines Sea and western Pacific Ocean. It was used successfully for these purposes, and also for the isolation and bypassing of Rabaul, by the United States in World War II.

### ***Summary***

Over the next decade, Australia should consider establishing forward operating bases on the Cocos Islands, Christmas Island and Norfolk Island. It also should explore with Papua New Guinea the role that the Lombrun naval base and airfield might play in the defence of the Archipelago.

### **Protecting Maritime (sea/air) Lines of Communication**

Australia's sea lines of communication are vital, especially to Singapore, due to the need to import 90 per cent of our petroleum by sea. Without a tanker convoy docking every fortnight, our economy would grind to a halt within three months. More broadly, our heavy dependence on exports to northeast Asia by sea through the South and East China Seas, including the Taiwan Strait, also need protection.

In the event of Chinese active harassment or invasion of Taiwan, our vulnerable sea lines of communication probably would be targeted. An option would be to consider re-routing tankers from the Middle East or Indian refineries through the India Ocean rather than taking a short-cut through the Indonesian-Melanesian Archipelago. The Archipelago, though, could be used as a barrier to the People's Liberation Army's Navy and Air Force by using a combination of sensors, mines, submarines and surface combatants, including amphibious assault ships, with air support provided from forward operating bases on Cocos and Christmas Islands and from the Australian mainland.

The more difficult task of forming convoys and protecting them beyond the Archipelago, however, is likely to exceed our capability over the next decade. Such convoys need to be protected not only by surface combatants and submarines but also by air-superiority fighter aircraft – air-warfare destroyers, at best, are only a partial replacement for the latter. In the absence of an aircraft carrier, it is difficult to see how our combat aircraft, even with air-to-air refuelling, could operate so far from their land bases, noting that they cannot be re-armed in flight.

### ***Summary***

Over the next decade, our sea lines of communication, if threatened, may prove difficult to protect. Passive re-routing of commercial trading vessels may be one option, but convoy formation and protection beyond the range of our land-based combat aircraft, in the absence of an aircraft carrier, may prove problematic.

## Grey-Zone Warfare

Conflict between nation-states now occurs preferentially in the ‘grey zone’ between peace and overt warfare. Such conflict can be continuous, especially in the cyber domain, whether or not as a prelude to war-fighting. Among the state actors, China is the most prominent practitioner of grey-zone warfare in both cyber space and the maritime domain.

In the maritime domain, China’s very large, increasingly ubiquitous, ‘fishing fleet’ (in effect, maritime militia) is making inroads across the Indo-Pacific. China’s maritime militia is very assertive, physically forcing the fishing fleets of other nations out of maritime areas that China either claims or the resources of which it wishes to exploit, regardless of the competing claims of other nations or the existence of internationally-recognised exclusive economic zones. In doing so, however, the maritime militia stops short of creating a hot conflict situation of sufficient magnitude to justify drawing in the armed forces of China and the harassed nation. Nevertheless, it is often able to establish a new reality (‘possession is nine-tenths of the law’) in the area – a new *status quo*.

Australia’s current ADF and Border Force offshore patrol boats have neither the capability (insufficient firepower) nor capacity (far too few of them) to generate the necessary combat power to either deter or oppose China’s maritime militia successfully. If Australia or our Pacific neighbours were so challenged, the ADF would need to utilise its frigates and destroyers to meet the challenge, but it does not have enough of them either to do that job.

One option would be to build more destroyers and frigates. While Australia certainly should do this, it would not be of much help between 2023 – 2033.

Another option is to acquire some small warships (‘corvettes’) that have the necessary combat superiority over the maritime militia and can be produced at scale very quickly, not as replacements for the additional destroyers and frigates that are needed, but as superior offshore patrol boats for maritime constabulary duties, especially fisheries protection in our neighbourhood.

Historically, corvettes have not enjoyed a good reputation in naval circles as they were considered to have inferior sea-keeping qualities and insufficient sensors and armaments to undertake allotted tasks, frigates and destroyers being preferred. Indeed, the conventional corvette does not have the power generation, sensors, weapons or magazines to survive in a Tier 1 conflict and cannot be seen as a replacement for air-warfare destroyers.

Given Australia’s current circumstances, though, a small warship (corvette), well-armed with canons, missiles, and anti-submarine torpedoes, and with good sea-keeping qualities, if it could be produced in quantity and maintained in Australia, and if it could be manned by Naval Reservists (to avoid becoming a drain on permanent Navy personnel), would be worth appraising. To have the capacity to successfully oppose China’s maritime militia in our neighbourhood, Australia would need to acquire a flotilla of corvettes.

## Summary

Over the next decade, Australia should appraise the acquisition of a flotilla of well-armed small warships (corvettes) to deter and oppose China’s maritime militia in our neighbourhood, provided these ships were not to be acquired in lieu of additional air-warfare destroyers.

## Health and Medical Considerations

In any defence review, health in its broadest sense should have an important place. The medical aspects of high-end warfare, of course, are vital to its success.

The primary aim should be to maintain combat personnel in the field. More personnel usually die from disease than combat, so it is vital to be in the forefront of disease prevention (pandemics *etc.*).

Combat casualty care needs to be at the highest level (transport and treatment) to maintain the most effective force and is a huge morale booster. It is important to have a civilian, as well as a military, commitment in these areas. In modern warfare with troops wearing body armour, 70 – 80 per cent of injuries are peripheral, so orthopaedic trauma surgeons are the key medical professionals and recruiting other medical specialities can follow.

Air, sea, land, and cyber warfare impacts need to be considered. In the air, provision is needed for aero-medical evacuation, both local and strategic; surgery; intensive care; and hospitals. At sea, the choices can be between a platform that is an integral part of the force (*e.g.* HMA Ships *Canberra* and *Adelaide*) or a dedicated hospital ship (*e.g.* a suitable ship or ships taken up from trade and remodelled)

sailing under International Conventions. Soft power and medical diplomacy have a place here. On land, field hospitals proportionate to the force size may need to integrate with the civilian health services. Military medical assets, such as an underground hospital (*e.g.* at Coober Pedy which is central in the continent and has access to road, rail, and air), may be needed. Hospital trains can move a large amount of assets in days as the national standard gauge rail system covers most of the country. Cyber interference can be a major threat to medical services, disrupting patient care, transport, and the supply chain and provision is needed to counter it.

Most commercial stocks today are supplied 'just-in-time' to avoid warehouse costs *etc.* Stocks of medical supplies, however, need to be held 'just-in-case' and allowance is needed for the inevitable wastage.

### **Summary**

An ADF health and medical system should be designed this decade to maintain combat personnel in the field and support morale. Medical stocks need to be held in Australia on a 'just-in-case' basis.

### **Logistics, Main Support Area and Communications Zone**

**The need for logistics self-sufficiency:** Logistics would be a major problem in the defence of Australia. An isolated island-continent remote from allies must be self-supporting logistically – not reliant on external supply chains. Logistic considerations were not major strategic issues in 1987 when the likely threat involved only low-level attacks in northern Australia designed to extract political concessions from us.

Australia's geographic isolation from potential major allies coupled with the vulnerability to interdiction of its maritime (sea and air) lines of communication to the rest of the world necessitate that the main logistics support area for operations conducted in defence of Australia be in Australia itself. That is, Australia must be self-sufficient in the growing/manufacturing, maintenance, storage and supply of weapon systems, munitions, fuel, medicines, food, clothing and other necessities for both the armed forces and the civilian population. These logistic requirements would need to be sustainable indefinitely. So, plans and investment are needed to ensure food, vital minerals, secondary manufactures and the like can be produced in Australia in the quantities and time-frames required on an ongoing basis.

**Attrition and redundancies:** The long lead-times involved in building modern aircraft and ships, in particular, tend to mean that Australia would fight any high-end war with the platforms that it had at the start of the war. As is currently being seen in the war in the Ukraine, the rates of attrition can be high, so provision for redundancies to enable replacement of combat losses should be a key element of logistic planning for an isolated island continent seeking self-reliance.

**Strategic holdings of critical stocks:** In this context, an especial challenge would be fuel reserves of all natures (petrol, diesel, oil, lubricants, aviation fuel and special purpose fuels). About 98 per cent of Australia's fuel is imported, 90 per cent of it from Singapore (Barrett 2021). The International Energy Agency agreement demands that developed nations hold about 90 days' capacity in their fuel stocks (IEA 2018). In 2015, it was alleged in open reporting that Australia only had 12 days' supply of diesel. The government's response, under a fuel security programme, was to consider strategic holdings in the United States and using ships at sea to carry it (Barrett 2021). Given that most of the oil tankers that service Australia are foreign-flagged, adopting this course would involve strategic risks. Similar issues arise with our strategic holdings of pharmaceuticals, agricultural products, computer chips, and aircraft and ship components that cannot be manufactured in Australia.

**Main support area:** Assuming that the principal 'combat zone' would be in northern Australia, the so-called 'main support area' would need to be in the south, with production, manufacturing and storage facilities dispersed across the southern mainland. These facilities would need to be hardened (passive defence) and actively defended against missile and air attack. They also would need to be protected against ground threats posed by enemy special forces, surrogates and issue-motivated groups.

**Communications zone:** In a continent the size of Australia, there likely would need to be a defined 'communications zone' linking the main supply area to the combat zone. The internal land and air lines of communication and associated facilities (roads, railways, airfields and the like) would traverse this zone which would require its own command structure and troops to operate, maintain, repair and defend

it. These requirements would be engineering-heavy for horizontal and vertical construction and repair. The facilities within the zone would need both passive and active defence, especially air defence.

### **Summary**

- Australia needs to develop self-sufficiency in logistics, including in the growing, manufacturing, maintenance, storage and supply of weapon systems, munitions, fuel, medicines, food, clothing and other necessities for both the defence/security forces and the civilian population.
- It also needs to develop a logistics management system based on a combat zone and a main support area, linked by a communications zone.

### **Personnel and Mobilisation**

There are significant personnel issues with the ability of the ADF to defend Australia, let alone its near neighbours. First, the ADF is far too small and currently ***cannot be maintained at full strength with voluntary recruiting***, let alone cater for the planned growth in the ADF as proposed in the *2020 Force Structure Plan* (Defence 2020b). Separation of full-time members from the ADF is very high, probably due to workload issues, and the number of applicants seeking to join the ADF has fallen significantly. The ADF recruiting process is essentially broken, with it taking many months from date of application to date of enlistment, whereas industry can complete a recruitment process in weeks. The ADF has closed depots, particularly Reserve depots, with a view to rationalising the Defence estate, which means the ADF has lost visibility in significant parts of Australia. Further, the ADF has little to no presence on many university campuses where the young bright people who the ADF should be seeking to recruit into both the full-time and part-time components of the ADF are obtaining their tertiary qualifications.

Second, the ADF does not seek to maximise its total workforce in examining the capability options for staffing new or additional platforms. The ADF mostly only views the staffing of capability through the full-time prism which is the most expensive option and Government simply accepts this situation. The ADF does not utilise the Total Workforce Management System as it was intended as *Plan Suakin*. When a new ADF position is proposed to be created, it should be evaluated in terms of whether it needs to be filled full-time (most expensive option), part-time (cheapest option), or by a series of part-time appointees, or some combination of the foregoing. This is not happening and potential recruits, particularly those with specialist skills, (e.g., cyber, medical) are not being attracted to join the ADF. Indeed, recruiting of cyber specialists is a particular concern.

Third, the ADF and government do not seek to enhance the capability that can be provided by ADF Reservists who make up a third of the ADF. The ADF Reserves is probably the only group of employees in Australia who are denied superannuation. In 2003, Defence directed that any person who joined the Permanent ADF on or after 1 July 2003 and who transitions from the permanent force is required to transfer to the Reserves, except for members who: have not completed initial recruit, officer or employment training; are subject to disciplinary action; are leaving for medical reasons; or who reach compulsory retirement age. Most members leaving the permanent force transfer to Service Category 2, known as the Inactive Reserves. If they do not undertake any service in the Reserves for a period of five years, they are separated from the ADF. At any point of time, there are thousands of well-trained and experienced former full-time members of the ADF who could provide military service but are given little incentive to provide active service in the Reserves. If these former full-time members of the ADF could top-up their Defence superannuation scheme for each day of Reserve service, this would prove a real incentive to transfer to Services Categories 3 to 5 to undertake active Reserve service, which in turn would alleviate some of the workload issues affecting the full-time force.

Fourth, these personnel issues are further exacerbated by demands placed on the ADF to provide humanitarian assistance and disaster relief (HADR) both in Australia and its neighbourhood. As climate change has increased the frequency and severity of natural disasters – droughts, bushfires, floods, and storms – the pressure on emergency service organisations, most of which also are dependent on volunteers, has become overwhelming at times which has necessitated ADF assistance. This has disrupted ADF training and preparation for its war-fighting mission, and led to significant workload issues which in turn are impacting adversely on separation rates. HADR demands on the ADF are likely to increase over coming decades.

Fifth, the Australian population is ageing, natural increase being unable to slow this trend unaided by immigration, and, in a period of historic low unemployment, the ADF is simply not competitive. The ADF's solution in the past to recruitment problems has been to 'throw money at the problem', but for the factors outlined above, this is unlikely to work. Further, it can create as many problems as it solves, not least equity issues between full-time and part-time forces and between the ADF and emergency services.

As currently being seen in Ukraine, 20<sup>th</sup> century style industrial-scale warfare is not obsolete. High-intensity campaigns against state actors can involve heavy military and civilian casualties, and tremendous expenditure of munitions, weapons systems and platforms. Sustaining such a campaign requires a robust, high-volume training and logistics system in place, and tested well before hostilities commence. Australia had such a system in the 1940s and 1950s, partly extending into the Vietnam period, before it was dismantled during the decades of 'high peace'. In this context, Russia, having sustained some 80,000 casualties in the first six months of fighting in Ukraine, announced the expansion of its forces, by recruiting 137,000 additional volunteers and calling out 300,000 reservists.

**National service:** Given that the ADF personnel problem is likely to become more severe over the next decade, there may be a requirement to introduce universal compulsory national service for both males and females. The performance of national service should not be confined to the ADF but should be extended to meet the personnel needs of the security services (e.g., police forces, Australian Border Force) and the emergency services (fire, flood, medical and other like community services, which in the event of war should include a civil defence organisation as in Australia in World War II). There may be a need also to extend service opportunities to primary and secondary industries essential for the conduct and sustainment of the war effort.

A national service scheme along the lines proposed above would bring with it social benefits for a multicultural society such as Australia's; helping to bring together and unify citizens from diverse backgrounds (cultural, social, educational) in a common cause – the security of the nation.

Should compulsory national service not be politically palatable, options to significantly expand the ADF Reserves and/or to develop a regional force in conjunction with our south-west Pacific neighbours (Leece 2013) would need to be examined<sup>4</sup>. It is unlikely, though, that these options would meet the ADF's personnel needs.

**National 'manpower' plan:** While opportunity should be provided for national service-people to indicate with which service they would like to serve, a national personnel ('manpower') plan would be required to inform and guide the allocation of national service-people to services based on national need.

**Training personnel and infrastructure:** Whether national service is re-introduced or expansion of the ADF is to be achieved solely through voluntary enlistment, there will be a need to re-establish the training capability, capacity and infrastructure formerly provided both centrally and regionally by the ADF, and especially by the Army which is likely to bear the 'lion's share' of the training burden. This will necessitate re-establishing Army's Training Command with its central specialist schools and its regional (state-based) training groups, as well as its training centres, camps, ranges and training areas<sup>5</sup>. It also will require the retention of experienced senior soldiers to train the recruits and to 'train the trainers'. This will be a major undertaking and should commence immediately as it is essential to both the expansion of the force and its sustainment indefinitely during high-end warfare.

**Deterrence:** If such military and civilian trained defence, security and emergency response forces were in place in Australia, not only would Australia have the trained personnel available to defend the nation and to maintain essential community services during war, security emergencies and natural

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<sup>4</sup> In 2013, an international conference on defence and security in Australia's immediate neighbourhood concluded that, while the Australian Army was too small for the defence of the neighbourhood, the neighbourhood could develop a credible military force based on six infantry brigade groups trained, structured and equipped for fighting in the islands (Leece 2013). It would be a strong deterrent to any incursion and potentially able to defeat one should it occur. Australia's share of this force would be three brigade groups, New Zealand and Fiji should provide one each, and Australia, Papua New Guinea and Tonga should provide a battalion each to the sixth brigade. This was not achievable in 2013 for any nation and is still not, but if the Defence Review were to set this as a medium-term goal, then planning, training, exercising and equipment purchases could be directed to this outcome.

<sup>5</sup> More detailed advice on training and mobilisation is at Appendix 3.

disasters, it would also act as a major deterrent to potential adversaries. They would think twice before attacking Australia as Japan did early in World War II when it chose not to invade Australia.

**Mobilisation:** As in the 1930s (the *Commonwealth War Book* developed under the oversight of Sir Frederick Shedden, Secretary of Defence), Australia needs national mobilisation plans developed covering all aspects of the defence and security of the nation, especially its transition from peace to war (Defence 1956). Such plans should include the call-out of the ADF and emergency services, and mobilisation of defence industry, food production and essential community services. A personnel ('manpower') allocation plan should be a vital component.

**Additional social considerations:** Australia must ensure that its ethnic communities are part of the whole-of-nation effort and not agents for others. This is a delicate balance. A widely representative ethnicity is needed in the ADF, not just of First Nations peoples but also a broad representation of our multi-cultural society. Language training needs to be an important component of our national defence effort, not just through the ADF Languages School, but also at universities. Universities also need to be encouraged to treat defence and foreign relations studies as important. Organisations like the Australian Strategic Policy Institute, the Lowy Institute and the Royal United Services Institute need to be encouraged as they are important to ensure that the Australian population is aware of and informed on defence and security issues.

### **Summary**

- The ADF (full-time and part-time) is far too small to defend Australia. Numerous problems restrict its ability to recruit to its current establishment, let alone the growth in full-time members set out in the *2020 Force Structure Plan*.
- The ADF is not maximising use of its total workforce. A new ADF position should be evaluated in terms of whether it needs to be filled full-time, part-time, by a series of part-time appointees, or a combination of the above.
- The government should provide superannuation to ADF Reservists. This also would be an incentive for former full-time members of the ADF to undertake active Reserve service.
- A robust, high-volume training and logistics system needs to be in place, and tested well before any hostilities commence.
- In the likelihood that the ADF cannot sort out its personnel problems, government will need to consider implementing a universal compulsory national service scheme for both males and females, both for the ADF and the civilian emergency services.
- The training capability, capacity and infrastructure formerly provided both centrally and regionally by the ADF needs to be re-established.
- A national 'manpower' plan and national mobilisation plan need to be developed covering all aspects of the defence and security of the nation, especially its transition from peace to war.
- Broader social considerations extending to the population as a whole, and the university and think-tank sector in particular, must not be overlooked.

### **Other Modern Weapons Systems**

The ADF should be equipped with long-range precision-guided missiles/munitions and unmanned platforms (sea, land, air) wherever possible.

**Hypersonic missiles:** Hypersonic missiles fly at more than five times the speed of sound and are more difficult to detect than other missiles. Russia and China have been showcasing their hypersonic missile technology recently while the United States has suffered testing setbacks. Some experts claim that the current generation of hypersonic missiles are over-hyped, but they could provide China with an advantage in any conflict over Taiwan. Hypersonic missiles may be developed under the AUKUS agreement, an initiative Australia should encourage.

**Remotely-piloted unmanned vehicles:** Remotely-piloted unmanned vehicles for use in the air, on land, at sea and under the sea have entered service in armed forces globally this century. They can compensate partly for personnel shortages and may reduce personnel casualties. They can be piloted remotely for reconnaissance, surveillance, combat and logistics purposes and the ADF should continue to exploit the technology as opportunities arise.

**Autonomous unmanned vehicles:** Autonomous combat vehicles that are not remotely piloted also are becoming available as artificial intelligence capabilities evolve and they have advantages over

remotely-piloted vehicles in some combat circumstances. Their utility, however, is constrained by ethical considerations and the programming of the artificial intelligence to avoid such legitimate concerns is a difficult challenge to resolve. The ADF should continue to investigate the possibilities, but the future adoption of such technology would be dependent on resolving the ethical dilemmas.

### **Summary**

Over the next decade, the ADF should continue to develop and bring into service long-range precision-guided missiles/munitions and unmanned platforms as opportunities arise.

### **Further Maritime Considerations**

This paper has shown how the 1987 Defence of Australia strategy (Defence 1987) would need to be updated to achieve self-reliance in the defence of Australia and its neighbourhood over the next decade. Given the centrality of defending the sea-air gap in that strategy, the additional need to protect maritime (sea and air) lines of communication between Australia and its major trading partners and logistics suppliers (including to and through the South and East China Seas), and the importance now of the Indian, Southern and Pacific Oceans to the defence of the mainland, Australia's off-shore island territories, and our near neighbourhood, additional commentary on sea-power and air-power considerations is warranted. This commentary will reinforce and expand on points already made, providing additional detail in a single-service context.

#### ***Additional Sea-Power Considerations***

From a sea-power perspective, there are two parts to the maritime aspects of this strategy. The first is concerned with attempting to persuade the Chinese that aggressive action, including attacks on Taiwan, is not in its best interests because of the collateral damage that would be visited upon their country and its economy. The second part concerns the actions Australia might take if it were to be the subject of aggression by China, persuasion having failed. The principal assumption in each case is that Australia and the ADF will be acting in concert with the United States and, possibly, with other coalition partners.

There are a series of actions and activities, divided into three 'fronts', which Australia might take to strengthen its strategic position and to improve its bargaining and persuasive power prior to any hostilities.

***Maritime demonstrations.*** Australia should take the initiative in demonstrating military capability and resolve by exercising naval and air forces in international waters proximate to the Chinese coastline, as we currently do. These activities would not only show our rejection of China's illegal claims over the South China Sea, but would indicate our ability to oppose, in a graduated form, aggressive actions by China. Naval task force deployments are the recommended methods, their programmes including exercising with regional countries and partners, including Japan and the United States, with Royal Australian Air Force (RAAF) support.

The drawback to this proposal is that the Royal Australian Navy (RAN) lacks sufficient ships, submarines and logistic support arrangements to conduct these deployments at the frequency and with the strength that would be optimal. To keep a substantive naval task force in East Asian waters for perhaps three weeks every six months would test the RAN, but the exercises would highlight deficiencies which need to be rectified ahead of any more warlike demands on our forces.

***War-fighting.*** Should deterrence fail, then we could expect China to step up its harassment of Taiwan or even to invade the island and its offshore territories. In either event, the United States would take the lead in opposing Chinese actions, and Australian maritime forces would be expected to join United States forces and be integrated within the command structure. This might obviate some of the logistics shortfalls the RAN currently faces, but not the shortage of ships.

***Shortage of Australian ships.*** Current naval shipbuilding programmes will not deliver any substantial vessels to augment Australia's persuasive or wartime maritime capabilities in a short timeframe. Nor is there a pool of merchant vessels which might be taken up from trade to augment naval resupply operations. Action to address both issues should be initiated over the next decade.

***Countering the People's Liberation Army capabilities and strategies.*** The People's Liberation Army (PLA), and particularly its navy (PLA-N), has almost no experience in long-duration out-of-area operations of any size. With fighting imminent or underway in the Taiwan Strait areas, it is most

probable that the PLA would be strongly minded to keep its available forces close to home to maximise its opposition to United States-led involvement in hostilities in support of Taiwan.

It is possible, however, that China, the owners of the largest naval force in the world, might decide that it could lessen the impact of the United States-led coalition off Taiwan by striking elsewhere simultaneously to draw off some of its attackers. The choke points for maritime traffic around Malaysia, Singapore and Indonesia are potential centres for this diversion, which would require naval and air forces to oppose the Chinese and to protect commercial shipping operations. Were this to occur, it would create a dilemma for Australia's decision makers, as we have defence commitments of varying seriousness to our Archipelagic neighbours to protect these straits.

In view of the many years the ADF has spent in exercising and developing relationships with regional defence forces, it is likely that Australia would be expected to be closely involved in any action against Chinese coercion or aggression taken south of the South China Sea and into the Archipelago to our north. This may require the ADF to deploy a capable mix of ADF strength to Singapore or to other neighbouring countries, with the necessary personnel and logistics elements. Supplying and supporting this force would impose a considerable burden on Australia's already-stretched forces in sea and air transportation alone, together with the need to escort high-value cargoes. In a persuasion phase of the ADF's programme which could result from the Review, securing guarantees of Australian access to and support from the region's defence forces in opposing Chinese disruptive activities will need to be gained – and exercised – as a matter of priority.

**To summarise**, the RAN is neither currently large enough nor adequately equipped to deliver a sustained programme of persuasion of the PLA against aggression in China's proximate waters nor, should persuasion fail, to be able to respond effectively to the eventualities sketched here. If Chinese harassment in or from the waters proximate to Australia is added to the mix, the task becomes even more challenging, and it would severely limit this nation's ability to meet the expectations of our alliance partners. All of the RAN's bases and logistics facilities – as well as Army and RAAF facilities – are vulnerable to strikes from the sea and air, and it would require considerable defence resources to deter or prevent Chinese missile attacks upon them.

#### ***Additional Air-Power Considerations***

When considering the employment of air power, the first question to be answered is: where would the ADF be required to operate in the event of a conflict?

**Threat scenarios.** Possible scenarios are provided below to place into context considerations and recommendations concerning capabilities required by the Royal Australian Air Force (RAAF) to generate air power to deter aggression and confront threats to Australia, its national interests and to its allies and neighbours. These objectives reflect the agreement signed by Chief of Air Force and Chief of Staff of the United States Air Force in September 2022.

**Supporting our allies – Taiwan.** The most serious situation that would result in open conflict would be action by the PLA to either invade or blockade Taiwan – either would provide a flashpoint resulting in a state of war. The flashpoint would be the consequence of actions initiated by the Chinese Communist Party leadership.

Action in the Taiwan Strait could be the catalyst for supporting operations conducted by the PLA with the expedition of a PLA-N task force through the South China Sea towards the Australian region to create a climate of fear to intimidate the Australian public and deter Australian support of United States military action. This could occur before either imposing a blockade, or after launching a direct attack on Taiwan. In either case, Australia must be able to deter, or failing to do so, counter the Chinese actions.

In the event of conflict in the Taiwan Straits, the United States Navy would be the prime offensive force, supported by United States Air Force strategic strike aircraft and it is likely that naval and air forces of United States allies would support the action. If requested, RAAF aircraft could operate from either Okinawa or Clark Air Base in The Philippines to support operations in the Taiwanese region. However, the distance for either of these locations is a round trip of 1000nm (1852km) and strike packages comprising F/A-18 Super Hornets and F-35A Lightnings supported by KC-30 AAR (air-to-air refuelling), E-7 surveillance and EA-18G (electronic attack) aircraft would be heavily dependent on air-to-air refuelling support.

***Defending the sea-air gap.*** Action to counter any PLA-N task force movement south to towards Australia would likely require all the RAAF and RAN offensive forces. It is doubtful whether the ADF would be able to support both activities.

While the PLA has developed a defensive capability around the South China Sea on its chain of island fortresses, a task force deployed beyond the South China Sea would be a significant event and would take a joint effort by the ADF to deter it. Whether such a task force would include an aircraft carrier is moot. PLA-N aircraft carrier operations are still developing and the PLA may restrict their employment to within the South China Sea. However, the deployment of a task force without organic air support is a considerable risk, although the PLA belief in the superiority of its missile defence systems may see such a force venturing further abroad without organic air cover. Either way, it would be a formidable force.

Of course, the enduring requirement of the air defence of the Australian mainland and its territories remains of prime importance and is discussed later.

The size of the strike packages needed to provide a resistance to any Chinese forces venturing south of the South China Sea would be significant. A combination of F/A-18 Super Hornet and F-35 Lightning aircraft would conduct strikes, while being provided with Lightning aircraft on escort duties. Provision of jamming and electronic warfare support, along with air-to-air refuelling support, would test the RAAF's capabilities.

Strike aircraft would need to be equipped with long range "fire and forget" anti-shiping missiles, such as the AGM-158B Joint Air-to-Surface Standoff Missiles-Extended Range (JASSM-ER), and preferably the AGM-158B-2 JASSM 'extreme range' variant (Hughes 2022) or AGM-184C Long Range Anti-Ship Missile<sup>6</sup>. These weapons would reduce the risk levels for attacking aircraft and have an improved prospect of a successful target interception.

Scenarios such as this would require joint naval and air action. Whether the naval force would be a mix of surface and sub-surface combatants would depend on several variables; however, whatever the composition of the force, it would require positive real-time information on an aggressive naval opponent. Satellite information, supported by surveillance reporting, would be essential. While this could be delivered by a mix of P-8A Poseidon maritime patrol and reconnaissance aircraft and MQ-4C Triton unmanned aerial vehicles, it is more likely that the P-8A force would be committed to anti-submarine operations. Of note, Australia has only three Tritons on order, with only the potential to order a further four aircraft. Consequently, confirmation of the fleet size and the delivery programme for Triton aircraft needs to be accelerated to meet the time lines contained in the Review's terms of reference in order to provide a sustainable surveillance force. Similarly, the employment of an allied submarine blocking force would be a significant force multiplier and deterrent for Australia. Within the timelines contained in the terms of reference, this responsibility will fall to the current fleet of Collins-class submarines. This may have some limitations when compared to the nuclear-powered submarines under consideration within the AUKUS agreement.

Employment of the MQ-28A Ghost Bat (a stealth, multi-role, unmanned aerial vehicle), scheduled to enter service with the RAAF in 2024-25, would provide an additional element of flexibility to a strike package, as well as increasing aircraft numbers. This would provide a greater level of complexity for a defending force to deal with, particularly if the Ghost Bat had an anti-shiping as well as an air-to-air capability. Again, the completion of the introduction of the Ghost Bat fleet into service needs to be carefully considered to meet the timelines within the terms of reference.

Regarding missile weapons, the RAAF may be required to conduct sustained operations in either scenario and a sufficient war stock is essential for both air-to-surface and air-to-air missiles. The recent purchase of 15 AGM-88E2 Advanced Anti-Radiation Guided Missiles is a welcome addition to the inventory. Whether this is a suitable stock holding in time of conflict is debateable. Australia cannot rely on a 'just-in-time' logistics system.

***Forward operating bases.*** It could be reasonably expected that Australia would take the lead in any action taken south of the South China Sea and into the Archipelago to our north. This may necessitate deployment of forces to Singapore or to other neighbouring countries, but that would be reliant on an invitation to lodge there. If a deployment occurred, then supply of weapons, fuel, aircraft support equipment, personnel support and airfield defence forces would be required – very significant logistics

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<sup>6</sup> *Naval News* 4 October 2022.

tasks requiring air and sea transport. Escort of sea transport would require anti-submarine operations conducted by surface combatants and maritime patrol aircraft.

An extremely formidable task, the ADF must be able to detect, engage and defeat an opposing force whose mission it is to interdict Australian sea routes and intimidate the Australian public in order to deter support for our alliance partners.

**Strategic strike.** The suggested actions require significant military support and diverts force capability from homeland defence. They highlight a significant deficiency in the Air Force order of battle – strategic strike aircraft. Strategic strike aircraft not only provide a deterrent effect, they can accomplish effective strike activity against naval and land targets without the employment of large strike packages. Stealth aircraft have the advantage of penetration of enemy airspace without large force elements to provide escort or air-to-air refuelling support. While early in the production programme, the B-21 Raider provides this capability, although it will probably fall outside the time frame required in the terms of reference. Notwithstanding, it is a capability that has not existed within the Air Force since the demise of the F-111, and urgent action is required to rectify this deficiency.

**Homeland defence.** As stated earlier, homeland defence should continue to be a most important role for the Air Force. The force is well postured to operate from northern bases across Australia. However, these bases are becoming increasingly vulnerable to attack from the sea, as postulated above, or from intercontinental strategic missiles.

*“In May, the editor-in-chief of Beijing’s Global Times newspaper, which generally reflects the views of the Chinese Communist Party, threatened Australia with ‘retaliatory punishment’ with missile strikes ‘on the military facilities and relevant key facilities on Australian soil’ if we were to send Australian troops to co-ordinate with the US and wage war with China over Taiwan.” (Dibb 2021)*

The threat requires serious consideration by Australia. The provision of a defensive anti-missile system to defeat such an attack should it eventuate and the construction of hardened shelters for prime targets is essential. The seriousness of the threat is demonstrated with the withdrawal of the permanent presence of the United States Air Force B-52 strategic bomber fleet from Guam in 2020.<sup>7</sup>

The northern bases of Learmonth, Curtin, Darwin, Tindal and Scherger provide a sound defensive posture for Australia for the conduct of air operations. However, they have limits on the supply of fuel and ordnance they hold. These resources need to be resupplied from the major infrastructure centres to the south and will require a significant logistics task.

Aircraft operations consume large quantities of jet fuel and off-shore supply may not be available. Australia’s holding of aviation fuel needs to be substantially increased. Given the scope of threat scenarios, the ability to hold 30 to 60 days of fuel supply at operational tempo in Australia needs serious consideration. The same comment holds for weapons stocks.

**In summary**, the Royal Australian Air Force is well-balanced and its posture provides an excellent force for the defence of Australia. When placed on the order of battle, Triton unmanned aerial vehicles, Poseidon and Wedgetail aircraft, and the soon to arrive MC-55A Peregrine aircraft, supported by the Jindalee Operational Radar Network, can provide an excellent surveillance capability well into, and beyond, the northern Archipelago. A medium range strike capability is available with the Super Hornet, the range of which can be extended with air-to-air refuelling. The Lightning, a fifth-generation stealth fighter, is proving more than equal to the task of air defence.

The significant deficiency in the RAAF’s inventory is a strategic strike capability. Strategic strike has a significant deterrent effect and provides the ability to strike at enemy forces without the support of large formations of escort aircraft. This not only reduces the large logistic support requirements for a large strike package, it reduces the inherent risks associated with these packages. It also provides an unpredictability of where and when it would strike.

## **Political and Budgetary Considerations**

All of this has massive budgetary implications and the political dimension is challenging, although hopefully it would enjoy bipartisan support at the policy/grand strategic level, if not at a more detailed

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<sup>7</sup> *The Interpreter*, Lowy Institute 6 May 2020.

level. At a minimum, Australia needs to move in the next financial year from the current 1.96 per cent of GDP to 2.5 per cent and to 3 per cent in the three years following.

While the focus of the Defence Strategic Review is the decade to 2032-33, there is a need to project further into the future so Australians can see where they are heading (medium-term objectives) and have an investment context. This should be in seven-year phases, in part in order to respond to the perceived plan of the Chinese Communist Party to attack Taiwan in seven years.

## Conclusion

The 1987 ADF was required to be self-reliant and capable of defending Australia without the assistance of allies. Today's ADF is a long way short of that aspiration, notwithstanding that the new government has specified it as a requirement.

In particular, the Air Force lacks a strategic strike bomber; the Navy has insufficient submarines to deny the choke points through the Indonesian-Melanesian Archipelago or a fixed-wing aircraft carrier to enable air and amphibious operations in Australia's neighbourhood; and the Army is far too small to defend the mainland and is neither structured nor equipped for expeditionary operations in our neighbourhood. Unassisted by allies, the current ADF would offer little deterrence to a determined nation-state with territorial designs on the mainland or in the neighbourhood.

Simply put, Australia's defence force, its primary and secondary industries, its population, and its governance arrangements are not designed, structured or postured for the self-reliant defence of Australia and its neighbourhood in the contemporary geostrategic circumstances. This is a whole-of-government issue and needs to involve government at federal, state and local levels led by the Commonwealth. *Inter alia*, it will require a massive expansion of the defence force and probably the introduction of universal compulsory national service. The political and budgetary implications are daunting, but must be faced if Australia is to ensure its security and preserve its way of life.

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## References

- Barrett, T. W. (2021). Resilience in Australia's maritime industry. *United Service* **72** (4), 10 – 14.
- Campbell, Mark (2014). The LHD in Australia's maritime strategy. *United Service* **65** (3), 21 – 24.
- Collins, John (2014). Case study: the utility of amphibious forces in the 21<sup>st</sup> century. *United Service* **65** (3), 15 – 16.
- Defence, Department of (1956). *Commonwealth war book: summary of important action to be taken by government departments* (Department of Defence: Melbourne).
- Defence, Department of (1976). *Australian defence (1976 defence white paper)* (Australian Government Publishing Service: Canberra).
- Defence, Department of (1987). *The defence of Australia 1987* (Australian Government Publishing Service: Canberra).
- Defence (2016). *2016 defence white paper* (Department of Defence: Canberra).
- Defence (2020a). *2020 defence strategic update* (Department of Defence: Canberra).
- Defence (2020b). *2020 force structure plan* (Department of Defence: Canberra).
- Dibb, Paul (1986). *Review of Australia's defence capabilities*. Report to the Minister for Defence, March 1986 (Australian Government Publishing Service: Canberra).
- Dibb, Paul (2021). China threatens Australia with missile attack. *The Strategist* (Australian Strategic Policy Institute: Canberra) 26 July 2021.
- Dunley, Richard (2019). Is sea denial without sea control a viable strategy for Australia? *The Strategist* (Australian Strategic Policy Institute: Canberra), 10 August 2019.
- Gilfillan, Kim (2019). Force from the sea: Australia's amphibious capability: an update. *United Service* **70** (4), 12 – 17.
- Hughes, Robin (2022). Australia approved for JASSM-ER package. *Janes* 25 July 2022.
- IEA (2018). *Agreement on an international energy program* (International Energy Agency: Paris).

- Leach, D. W., Leece, D. R., Dent, P. N., and McDonald, D. W. (2004). Re-building the Australian merchant navy. *United Service* **55** (3), 5 – 19.
- Leece, D. R. (2013). 2<sup>nd</sup> International Defence and Security Dialogue. Australia's immediate neighbourhood: the strategic outlook and its defence and security implications: introduction. *United Service* **64** (2), 7.
- Leece, D. R. (2014a). Amphibious operations. *United Service* **65** (3), 7.
- Leece, D. R. (2014b). Amphibious operations: an introduction. *United Service* **65** (3), 9 – 13.
- Leece, D. R., and Wolfe, I. M. C. (2021). Forward operating bases: Is there a place for them in Australia's new defence strategy? *United Service* **72** (1), 17 – 23.
- Moyse, Bob (2022). Defence review must find a way to join the parts of the ADF together – before it's too late. *The Strategist* (Australian Strategic Policy Institute: Canberra), 30 September 2022.
- Tietzel, David (2019). Australia's capacity to generate naval task groups for amphibious operations. *United Service* **70** (4), 9 – 11.

### **Appendices**

1. Australia's Evolving Defence Policy 1946 – 1987.
2. Countering Chinese Strategic Pressure.
3. Army Reserve: Some Additional Considerations Related to Continental Defence and Mobilisation.

## APPENDIX 1

### **Australia's Evolving Defence Policy 1946 – 1987**

Between World War II and the end of the Vietnam War, Australia's defence policy was based on the strategic concept of 'forward defence' – essentially that we would fight our enemies as far forward of the Australian mainland in Asia and the Pacific as was feasible. We would do so in conjunction with allies.

By 1975, while it was still assumed that any significant attack on Australia would need to be developed from or through the Indonesian-Melanesian Archipelago (the Archipelago), forward defence was no longer feasible in what had become a post-colonial era. Indonesia had gained its independence shortly after World War II (1945-49), Malaysia gained its independence in 1957 and 1963, and Papua New Guinea its independence in 1975. Australia, from then on, could only deploy land forces in the Archipelago if invited to do so by the resident sovereign power. Further, the defeat, in strategic if not tactical terms, of the United States by Vietnam in 1975, coupled with Nixon's 1969 Guam doctrine<sup>8</sup>, meant that America was no longer a reliable ally and, henceforth, Australia would be responsible for its own security.

This was captured in a 1976 Defence white paper (Defence 1976) in which our primary strategic concern was seen as the Australian continent and contiguous maritime areas; the 'forward defence' strategy was replaced by a 'continental defence' strategy; self-reliance would replace reliance on allies for our security; and the three separate services, the navy, the army and the air force, would be united for the first time as an operational force, the Australian Defence Force.

The 1976 Defence white paper made sense, but working out how to implement its concepts took a decade, fortunately a period of 'high peace'. A leading strategic thinker in the Department of Defence, Paul Dibb, was commissioned to undertake a review of Australia's defence capabilities and his report was published in 1986 (Dibb 1986). He proposed that Australia's naval, military and air forces should be structured and postured to defend Australian territory and Australia's interests, independently of allies if necessary.

#### **The Defence of Australia 1987**

Dibb became lead author of the 1987 Defence white paper (Defence 1987). The basis of this strategy was 'self-reliance' – Australia must be able to defend itself, a daunting prospect given the extent of Australia's 'strategic region' (a quarter of the earth's surface); and its 'area of direct military interest' (10 per cent of the earth's surface).

The white paper examined the realistic threats to Australia. While possible sources of military pressure against Australia could range from low-level conflict to invasion, low-level conflict could occur at any time, whereas an enemy would need a long period to prepare before mounting an invasion, leading to the concept of warning time of a decade for higher-level threats. Hence, the main focus would be on low-level threats.

Low-level conflict could involve an enemy seeking to force political concessions by harassing and raiding remote settlements, vital assets and infrastructure, off-shore territories and resource assets, and shipping in proximate waters. These became known as 'credible northern contingencies' and the priority would be to prepare for them. To address them, we needed to be able to prevent an enemy from attacking us successfully in our sea and air approaches; gaining a foothold on our territory; and/or extracting political concessions from us through the use of military force. These were uniquely Australian interests so we needed the independent military capability to defend them. The strategy to emerge became known as the 'defence of Australia' or 'continental defence' strategy. It embedded the concepts of deterrence and self-reliance.

The defence of Australia strategy was designed to provide defence in depth within our area of direct military interest and needed forces able to track and target an adversary; mount maritime (naval and air) operations in the sea-air gap; conduct offensive strike missions against enemy bases and interdiction

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<sup>8</sup> The Guam Doctrine, in effect, provided that each ally nation of the United States was in charge of its own security in general, but that the United States would act as a nuclear umbrella when requested.

missions in the sea-air gap; employ mobile land forces to defeat hostile incursions at remote locations in Australia; and protect military and civilian infrastructure and populations.

To achieve this defence in depth, the ADF would be structured and postured to deliver strategic intelligence and surveillance; strategic strike; maritime strike and interdiction; air defence; and land defence.

### **References**

Defence, Department of (1976). *Australian defence (1976 defence white paper)* (Australian Government Publishing Service: Canberra).

Defence, Department of (1987). *The defence of Australia 1987* (Australian Government Publishing Service: Canberra).

Dibb, Paul (1986). *Review of Australia's defence capabilities*. Report to the Minister for Defence, March 1986 (Australian Government Publishing Service: Canberra).

## APPENDIX 2

### **Countering Chinese Strategic Pressure**

The following observations are offered with a view to promoting discussion on their impact upon Australia's short-term defence preparations to resist and, hopefully, deter Chinese strategic pressure in the Asia-Pacific region.

1. The People's Liberation Army (PLA), if not its supreme leadership, is aware of and respectful of the organisational and war-fighting capacities of the United States (US) and its allies in the Asia-Pacific.
2. The PLA is also aware that China has no distinguished military track record, especially in naval warfare. Previous mainland efforts at seizing offshore islands from Taiwan (or, more properly, the Republic of China) have all met with disaster.
3. The PLA-Navy (PLA-N) has a large fleet of surface and sub-surface vessels, the majority of which do not have the benefit of having been deployed beyond Chinese waters, unlike those of Western navies, because China's defence strategy is based on the offshore 'island chain' concept. The state of training of these ships and their crews and embarked aircraft for sustained military operations is likely below the levels sustained by the West.
4. We should not underestimate the contribution to the achievement of Chinese goals that might be made by their huge fishing fleet and 'seaborne militia'.
5. Co-ordinated operational command of the various arms of the PLA and associated Chinese maritime forces is not often practised. When it has been, problems have arisen. The Central Military Commission is aware of this deficiency and has sought improvements.
6. The PLA is aware of the mismatch between Western aircraft, aircrew training and experience, and weapons loads, on the one-hand; and their own on the other hand.
7. The Chinese consider that home-grown technology, particularly in missiles, can bring the military experience mismatch back into balance, if not swing it in the PLA's favour, but they do not know that, and nor does Australia. [Of note is that the PLA does not have an instrumented live firing range to use for ship certification that is anywhere near as rigorous or comprehensive as that of the United States Navy and Royal Australian Navy.]
8. The PLA is fully aware of the difficulty of conducting a longish, cross-water assault against Taiwan proper and have most likely studied – very diligently – the Western experience in this kind of operation. They also may have studied World War II Japanese amphibious operations doctrines and history. So should Australia.
9. The Chinese expect the US to fight for Taiwan, but they are not sure who else might join the Americans. They probably count Australia in, but their big worry is Japan; what does the statement 'a Taiwan contingency is a Japan contingency' really mean? Do we know?
10. The Chinese expect little support from China's 'friends' and would have difficulty in cobbling together an effective war-fighting coalition if a nation-state offered to join them. China is not even sure that their own complex command and control arrangements would work in an invasion of Taiwan. They, perhaps, could invite some kind of co-operative reaction from the Russian Far East Fleet to distract the US and Japan.
11. China is aware that it is critically exposed to commercial, industrial and mercantile disaster if the PLA cannot keep the sea lanes open, or if the opposition takes their merchant shipping out of service.
12. The Chinese also know that Western nations will put all the effort they can into underwater assaults on China and PLA-N vessels, which is a particular vulnerability of theirs in the waters in which any operation against Taiwan would occur.
13. With an armed attack on Australia by any power, including China, a remote possibility, priority now has to be given to the capability and capacity of Australia's maritime and air forces in offence and defence. Land-based missile defence against a potential enemy assault can come later.

14. In an application of 'strategic communication', the nature of Australia's maritime exercising and training, particularly with the US, should be shaped very obviously towards countering amphibious assault.
15. Australia's minelaying and minesweeping forces need bolstering and training to a high degree of efficiency, and we need many more mine weapons we can deploy offensively by air and submarine. This is an ideal opportunity to test unmanned vehicle technology.
16. Further, 'strategic communication' can be generated by high-profile ADF and Border Force exercising in the stopping and seizure of merchant shipping. The Special Air Service Regiment and 2<sup>nd</sup> Commando Regiment have a role in this.
17. The ADF needs more submarines and long-range attack missiles for air, surface and sub-surface launch soon to keep the pressure on the Chinese.
18. Australia needs more surface warships too. Most, if not all of these, should be equipped with 'cheap and cheerful' short-range anti-fishing boat missiles.
19. Australia needs to massively boost its readily-available fuel reserves and store much of these in deployable merchant tankers fitted and trained for replenishment at sea. The ships should be commanded by Naval Reserve officers.
20. To meet the personnel demands of this augmented force, Australia may need to introduce universal conscription for national service.

## **APPENDIX 3**

### **Army Reserve: Some Additional Considerations Related to Continental Defence and Mobilisation**

Even with the expansion of the ADF, it will still only be large enough to field three combat brigade groups. In an era when more may be needed to be committed in a defence emergency this essentially risks being a 'one shot' force. It is critically important then that there is a follow-up, sustainment and surge capacity. This should be provided by ADF Reserve forces. For Army in particular, the current pressures would indicate that the time when key tasks for Reserves were round-out of Regular forces and integration was the 'mantra' is no longer relevant.

#### **Preparation for Mobilisation ('expansion base')**

During the 1920s and 1930s both Generals Harry Chauvel and John Monash (and most likely Brudenell White) believed that in circumstances where finances were tight or scarce, it was imperative that a command structure and formation headquarters, including their staffs, were maintained and trained. This policy led to the maintenance of seven divisional headquarters and 20 plus brigade headquarters. This enabled Australia to mobilise effectively in 1939/40.

**Reserve Formation Headquarters:** It is important today, then, that all current Army Reserve formation headquarters have a war fighting role and not just an administrative one. Army is moving in this direction and has given them a homeland security role, but it needs to be substantially enhanced for vital asset defence. This should include Headquarters 2<sup>nd</sup> Division and all its current brigade headquarters, including Headquarters 8<sup>th</sup> Brigade. The consequences of adopting such a policy is there would be a force headquarters and at least six brigade headquarters specified to be the immediate vital asset protection force on mobilisation.

**Reserve Divisional Units:** The units within these formations in general, should mirror their Regular counterparts. An example would be the generic Royal Australian Armoured Corps (RAAC) regiment, which should have a heavy squadron (perhaps operating mobile gun system vehicles – self-propelled guns, if affordable – rather than main battle tanks) and two medium reconnaissance squadrons. There is now a major deficit in the Reserve RAAC and Royal Australian Artillery (RAA) capability, with re-rolling and cost-cutting reducing the skills base to the level such that the Reserve RAA is almost non-existent and the Reserve RAAC is reduced to supplying assault troopers to Regular units for round-out.

**Reserve Light Cavalry Regiments (Corps Troops):** Outside those assets required to mobilise the 2<sup>nd</sup> Division, other existing RAAC regiments are being re-rolled as light cavalry and equipped with the Hawkei vehicles. These units should carry out a full range of RAAC duties, but in the light role. Each regiment should have a mobile artillery battery attached to it consisting of light 105mm howitzers and 120mm mortars. Aside from reconnaissance, such units would be well-suited to local defence (due to their knowledge of terrain, vehicle handling and local demography), and for long-range patrols elsewhere in Australia. To ensure their survivability, consideration should be given to the Hawkei vehicles for these Reserve units being armoured as appropriate. Consideration also could be given as to whether a cheaper vehicle could be developed for these units. Such a concept is implementable in most areas of Australia. Indeed, as warranted, there may be scope for the establishment of a new Reserve RAAC regiment in Queensland as well as one or more regiments in other areas of Australia.

#### **Reserve Officer Training**

Assuming that the current proposals for an increase in the size of the Regular Army of at least 25 per cent continue, the issue of officer manning becomes a problem. The current in-service training for prospective army officers whether Regular or Reserve is handled through the Royal Military College, Duntroon. Despite scope for some increased capacity, it is unlikely that the existing training establishments in the short-term could deal with the numbers required. There is a need to establish a second line of officer production for both Regular and Reserve officers. This is not a new issue. The Officer Cadet School (OCS) Portsea provided this service very effectively for many years. It is appreciated that the desire for better officer education, leading to the introduction of the Australian Defence Force Academy (ADFA), in part led to the abandonment of the Portsea concept. Likewise, during the Vietnam War, to handle an army that was 60 per cent larger than today, led to the creation

of the Scheyville Officer Training Unit (OTU). This unit produced officers for essentially short-service commissions. Most performed competently in their subsequent military careers. Interestingly, all three of the platoon commanders of D Company, 6<sup>th</sup> Battalion, Royal Australian Regiment at the battle of Long Tan were Scheyville graduates.

**Officer Cadet Unit:** The creation of an OTU-style school would provide benefits to both Regular and Reserve components of the Army. Inductees would attend officer courses and corps schools for say six-to-twelve months, then graduate as second lieutenants before serving on full-time for a further 12 to 18 months. There should then be a requirement to either accept a short-service a Regular commission or a short-service Reserve commission for a further three years. Further service beyond that would be by mutual negotiation<sup>9</sup>.

Any increase in the officer manning of the Regular Army, especially in emerging technologies, will be competing at the present time in an exceptionally tight jobs and skills market. Utilising such an OTU-based scheme may provide the officers needed.

**University Regiments:** Scarce placements in officer producing establishments will have a negative effect on the Army Reserve if steps are not taken to build further capacity. Traditionally, Reserve officers were produced by university regiments and officer cadet training units (OCTUs). To save money, OCTUs were disbanded leaving just university regiments. Increasingly, university regiments have become specialised, dealing with just part of the officer course or in some cases have moved out of the officer production stream. The University of New South Wales Regiment has effectively become the 2<sup>nd</sup> Division individual other-rank training unit.

University regiments, however, also are an important interface between Australian universities and the ADF. We could use them to better advantage. Not just the raw talent of university students is important for producing ADF officers, but cyber issues, hypersonics technology that fuels asymmetric warfare, and other arcane studies that the ADF either needs or will need are locked in universities.

Graduates in these fields can generally earn salaries in industry that the ADF simply cannot match. Reserve service offers a way by which the skills of these graduates can be made available to the ADF at negligible cost to the ADF, similar in effect to officers in the ADF legal and health services. The university regiments remain vital as they provide officers for the Army Reserve, military training for and connections to undergraduates, and potentially can hothouse graduates with skills that the Army is seeking but may not otherwise be recruited via conventional military recruiting methods.

University regiments need to be officer producing units because the Reserve needs to expand as well. University regiments specialising in training other ranks are very successful but, although initial employment training, promotion training, and specialist courses, are vitally important to the Army, they are regarded as vocational training (TAFE course equivalents) by university hierarchies.

## Recommendations

1. The extant Army Reserve formation headquarters should be given a warfighting role and their staffs trained accordingly so as to provide a command structure for a vital asset defence force [force headquarters and six brigade group headquarters] on mobilisation.
2. Non-divisional Army Reserve light cavalry units should be raised in regional Australia to provide both local defence and long-range reconnaissance and surveillance patrols elsewhere as needed.
3. An officer cadet school on the OTU model should be established to provide a surge capacity in officer production, particularly on mobilisation.
4. Each Australian university should be linked to a university regiment and close and personal relationships developed with university hierarchies.
5. Each university regiment should provide both officer training and military training to undergraduates.
6. Each university should be identified by its expertise in the key specialist skills of national importance to Defence and its linked university regiment should operate a specialist sub-unit utilising those strengths (*e.g.* cyber, surveillance, drones *etc.*). Undergraduates in the relevant courses should be encouraged to join Defence, either in a permanent or part-time capacity.

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<sup>9</sup> This concept has similarities to both the current gap-year Reserve officer training programme and the part-time Reserve officer training programme (which can be completed as a continuous block).