

# Australia's Submarine Capability <sup>1</sup>

Vice Admiral Tim Barrett, AO, CSC, RAN, Chief of Navy

Perhaps, in part, because I spent so much of my early career hunting submarines, as an aviator in Sea King helicopters, I feel a great affinity with our submariners. Military aviation and submarines both came of age a century ago; they are both defining capabilities for all modern naval forces; they both place unique demands on people and systems in unforgiving environments; and they often enjoy an enviable *esprit de corps*.

Looking back over the history of our submarines over the past 100 years, I see much from which we might learn and a great deal of which the RAN can be very proud. The first thing that we can learn is the value of a balanced fleet.

In 1914, the RAN was a small but effective force. Over the first few months of the First World War, it carried out most of the tasks we would expect the Navy to be able to carry out today. The Navy successfully transported the Australian Naval and Military Expeditionary Force to Rabaul and the first Anzac convoy to the Middle East—two events which have recently been commemorated.

These were our first amphibious operations and some of our first strategic lift tasks. While the Rabaul operation was not without cost, with the submarine *AE1* in particular being lost at sea, our ships cooperated with British, Japanese and French vessels to seize Germany's Pacific colonies and to shut down its communications network in the region.

The Navy was successful in its first ship-on-ship engagement—and in November 2014 I attended the ceremony at Cocos Island where we commemorated the crews of both HMAS *Sydney* and SMS *Emden*—crews who fought their ships to their utmost and then, once the battle was over, put the same energy into saving life. And in 1915, just a year after its delivery voyage, the submarine *AE2* was successful in offensive operations; the first Allied submarine to penetrate the Dardanelles and enter the Sea of Marmora.

The Navy also played a large role in **detering** the German East Asian Squadron from operating around Australia and our region. It is worth understanding how that deterrent effect was achieved—a subject which is very well captured in Dr David Stevens' new history of the Navy in the First World War, *In All Respects Ready*.<sup>2</sup> It describes the significant achievement of having a balanced capable fleet, including our two submarines, available and ready for operations from the outset of the war, and their immediate deployment to secure our interests in the Pacific and beyond.

That Fleet was significant on many accounts but not the least as a clear statement of the nation's intent to uphold its sovereignty, secure its borders and protect its interests—and as an irrefutable demonstration of its capacity to do so. The deterrent effect of the Fleet was largely resident in the capabilities of the battlecruiser HMAS *Australia*, just as today it is largely resident in our submarine capability, our principal strategic deterrent.

Against that background, I think it worthwhile to set out again why Australia has submarines as part of a balanced Navy and ADF force structure.

So, why do we have submarines? The short answer is 'deterrence'. In many minds, deterrence is associated with nuclear weapons and the world's major powers. However, deterrent effects are not only derived from nuclear weapons. While other nations and larger navies achieve a strategic deterrent effect through the deployment of nuclear weapons, Australia as a middle and regional power can and does achieve a similar effect through its conventional submarine capability.

The ability of our submarines to deploy at range and exercise freedom of manoeuvre, while avoiding counter-detection, is predicated on the preservation of stealth—the ultimate tenet of submarine operations. Importantly, because of their attributes, our submarines present as the most capable anti-

submarine warfare platforms in the ADF. They are also likely to be the only naval vessels capable of secure operations along the full length of Australia's sea lines of communication in the foreseeable future, particularly in otherwise non-permissive environments and during combat operations.



**Figure 1: Collins class submarines, HMA Ships *Rankin* (foreground), *Waller* (centre) and *Collins* in transit through Gage Roads, Cockburn Sound**

(photo courtesy RAN)

It is, of course, in the realm of combat operations that submarines are most feared. From their inception, the ability of submarines to deliver decisive combat power has been simply phenomenal and the firepower of Australian submarines has developed impressively throughout the century. The offensive capability of our Navy and, in particular, our submarines, has been critical in shaping Australia's strategic environment. With their unique combination of selective destructive power, stealth, range and endurance, our submarines can deter coercion and aggression against Australia and its interests.

It is this inherent potency of Australian submarines that engenders credibility as either a combatant or a deterrent, or both, and enables them to serve as Australia's principal strategic deterrent capability, demanding the attention of others. As such, they provide the Australian Government with options to respond to the use or threat of force, at a time and location of Australia's choosing under almost any conceivable threat scenario. Given that the Indo-Pacific will be home to more than half of the world's submarines within two decades, our submarine capability will continue to be vital to our national interests.

Understanding the foundations of how to achieve deterrence is crucial in guiding the management and operation of the submarine capability. As Chief of Navy, I have the responsibility as Capability Manager to deliver this deterrent effect with available, seaworthy and battle-worthy submarines.

To be an effective deterrent, a submarine force needs to be able to consistently achieve credible presence in strategically significant locations. ***The deterrent effect of our submarines is built on a foundation of availability and realised through deployability.*** It is vitally important that this fact is understood across the submarine enterprise, the entire system which supports the capability.

Of course, a single submarine does not a submarine force make. The submarine capability is comprised of many constituent parts, including effective logistic and support structures, command and control

systems, submarine safety systems, training systems at sea and ashore, and even submarine search-and-rescue capability. We must be able to sustain and support our submarines across all the fundamental inputs to capability. We must be able to do so from their home port and on lengthy deployments. And we need sufficiently sophisticated metrics to forecast their requirements under different operational conditions.

We must also be able to monitor the performance of our submarine capability with effective feedback mechanisms and **enterprise level agility**—I emphasise agility—to respond to what we learn. Given all of this, continued focus on implementing the recommendations of the Coles Review, which is fundamentally about generating available and capable submarines, is a major strategic priority.<sup>3</sup>

Equally, our determination to generate an expanded and robust submarine workforce now and into the future is predicated on available and deployable submarines. Just as you cannot learn to swim on the internet, you need submarines at sea to build an experienced and proficient force. Our ongoing program of deploying our submarines is underpinned by the availability generated by the submarine enterprise—indeed, it was my pleasure recently to welcome HMAS *Sheean* back from a particularly lengthy, highly successful and classically independent deployment.



**Figure 2: A Collins class submarine during a weapons-firing exercise off the coast of Western Australia**

(photo courtesy RAN)

I have pointed to the importance of potency. We are achieving this through close cooperation with our allies and partners, in particular the US Navy, including of course through our joint combat system and heavyweight torpedo program. However, I reiterate that this potency can only be delivered by available submarines and this requires an effective sustainment system, which is something that is a national responsibility.

What some will see in my discussion of availability is the distinction between the requirements for building and the requirements for sustaining. Here I will be very clear about my experience as an aviator, because I believe aviation and submarines share attributes, and that many key principles in terms of sustaining the capability are similar. In aviation, sustainment is part of the acquisition process; it is part of

the design process. You cannot accept an aircraft into service without a demonstrated, through-life sustainment methodology that can be implemented as you receive the aircraft.

In the submarine context, if **deterrence is underpinned by availability, then availability is underpinned by sustainment**. And by sustainment, I mean all of those activities I have discussed which sustain our submarine capability. That sustainment must be indigenous—it must be a sovereign capability because the links between sustainment, availability, capability and deterrence are so close. This is not to say close relationships with overseas partners, both in government and industry, are not important—they are of course essential. It is to say that having an effective sustainment system here in Australia is vital.

From a seaworthiness perspective—and I use ‘seaworthiness’ here in the sense of the Defence Seaworthiness System, for which I am responsible—what we need is to have complete knowledge of the submarine we operate, which includes:

- A complete understanding of the design;
- A complete understanding of the design intent; and
- A complete understanding of every aspect of the boat, its systems and all their attributes.

None of that determines the build location. But the principal sustainment location does drive the capability we obtain from our submarine capability.

The RAN’s development as a national institution and, within this, the development of an effective submarine capability has continued to evolve over the last century. Today, our submarines provide Australia with strategic weight. Just as the ability of our submarines to shape our strategic environment is a critical enabler for many of the ADF’s other capabilities, so too the availability, capability and deployability of our submarines are the critical enablers of the strategic deterrent effect that they can and do achieve.

There is no doubt we live in interesting times. For Australia’s submariners, I suspect that this has always been so. For a century now, Australian submarine operations have had a significant impact on both the preservation of peace and on the conduct of war at sea. It is certain in my mind that Australia will continue to need its submarines into the future and that we will need all the strategic weight that they can bring to bear. To achieve this, a clear focus from all quarters of the submarine enterprise on achieving available, capable and deployable submarines is essential.

As we commemorate and celebrate a ‘Century of Silent Service’, I would ask you to look forward with me to a century when Australia’s submarines will achieve even greater prominence as the nation’s principal strategic deterrent.

*Vice Admiral Barrett joined the RAN in 1976 as a Seaman Officer and later specialised in aviation. A dual-qualified officer, he served in HMA Ships Melbourne, Perth and Brisbane and HMS Orkney as a Seaman Officer, and then as Flight Commander in HMA Ships Stalwart, Adelaide and Canberra.*

*His staff appointments include Deputy Director Air Warfare Development, Director Naval Officers’ Postings and Director General of Defence Force Recruiting. He has also served as Commanding Officer 817 Squadron, Commanding Officer HMAS Albatross, Commander Australian Navy Aviation Group, Commander Border Protection Command and, most recently, as Commander Australian Fleet.*

*Vice Admiral Barrett holds a Bachelor of Arts in Politics and History and a Masters of Defence Studies, both from the University of New South Wales. He recently completed the Advanced Management Program at Harvard Business School.*

*Vice Admiral Barrett assumed command of the RAN on 1 July 2014.*

## NOTES

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- <sup>1</sup> This is an edited version of a speech presented at the Submarine Institute of Australia's 7<sup>th</sup> Biennial Conference, held in Fremantle from 11-13 November 2014, on the occasion of the recognition of 100 years of submarine service.
- <sup>2</sup> David Stevens, *In All Respects Ready: Australia's Navy in World War One*, Oxford University Press: South Melbourne, 2014.
- <sup>3</sup> John Coles *et al*, *The Study into the Business of Sustaining Australia's Strategic Collins Class Submarine Capability*, Department of Defence: Canberra, 2014, available at <<http://www.defence.gov.au/dmo/aboutdmo/currentreviews/colesreview/>> accessed 28 January 2015.