

## MAJOR SURFACE COMBATANTS

*The backbone and real power of any navy are the vessels which, by due proportion of defensive and offensive powers, are capable of giving and taking hard knocks.*

Alfred T Mahan<sup>1</sup>

Highly capable surface combatants are well placed to provide a flexible and rapid response to the broad range of threats that may arise in Australia's large sovereign area, as well as supporting our nation's global interests further afield. Surface combatants provide unique capabilities that complement other elements of the Australian Defence Force (ADF) force structure to ensure a layered defence or concentration of effects against a wide range of threats.

Australia's strategic geography requires strong and flexible maritime forces capable of sustained operations to preserve our interests at sea. When combined with the distances and extremes of weather conditions that determine the feasibility of such operations, it is apparent that the requirements can only be met in a single unit through the characteristics unique to major surface combatants: mobility in mass, access, readiness, flexibility, adaptability, reach, poise, persistence, and resilience.

To effectively conduct the military role, the major surface combatant is expected to counter a range of threats in all environmental conditions. In the traditional military environment, these threats include:

- submarines capable of surveillance and intelligence operations, laying mines, and launching anti-ship torpedoes and missiles
- fixed-wing and rotary-wing aircraft similarly capable of surveillance and intelligence operations, laying mines, and launching a range of anti-ship missiles, guided and unguided bombs
- surface combatants with similar capabilities and characteristics to our own, including embarked helicopters
- smaller combatants and fast attack craft, usually armed with guns and/or anti-ship missiles and particularly capable of operations in the littoral
- land-based forces, including artillery and battlefield, cruise and ballistic land-attack missiles, and artillery
- intelligence and surveillance systems, ranging from land, air and space-based strategic systems to tactical level platforms, and personnel.

Surface combatants must also be capable of responding to a range of asymmetric threats, while meeting an increasing number of diplomatic and constabulary responsibilities, including:

- unconventional attacks from terrorists or militias, proliferation and use of unconventional capabilities including biological, chemical and radiological weapons, and attacks on information systems
- terrorism, international organised crime, piracy, illegal fishing, quarantine infringements, drug and arms smuggling, and illegal immigration.

In the combat role, the focus of most navies, including the Royal Australian Navy (RAN), has changed since the late 1980s from Cold War open-ocean combat to operations in the littoral. Recalling the fundamental doctrinal principle that maritime forces seek to establish sea control in order to conduct the military task of maritime power projection, and to permit the use of sea lines of communication (SLOC), the complexity of the littoral environment provides significant challenges for maritime forces.<sup>2</sup>

This is particularly so for the ubiquitous surface combatant force, which must dominate the battlespace in order to provide air, surface, and sub-surface cover for other naval, land, and air assets. In operations where other elements of the ADF are deployed, surface combatants must operate as an integral part of the ADF's overall joint capability, in cooperation with submarines, maritime air and land forces. Surface combatants provide unique capabilities that complement other elements of the ADF force structure to ensure a layered defence or concentration of effects against a wide range of threats. Surface combatants must be able to contribute to simultaneous operations in widely separated locations.



*HMAS Ballarat transits the Hudson River during a goodwill visit to New York July 2009. Surface combatants demonstrate the strength of alliance relationships through highly visible activities such as diplomatic visits (Defence)*

To achieve the government's goals, ADF operations are anticipated in both the littoral and open-ocean environments, in areas proximate to and remote from Australia, and under extreme variations in climatic conditions. The capacity of the surface combatant force to deploy around the globe to achieve these requirements has been well demonstrated. In recent years, RAN surface combatants have regularly operated off the north Australian coast, in the Southern and Indian Oceans, the Persian Gulf, Southeast Asia, North Asia and the Pacific Ocean. In 2002-03, RAN surface combatants simultaneously sustained major operational deployments to the Persian Gulf (Operations SLIPPER, FALCONER and CATALYST) while undertaking border protection operations to the north of Australia (Operation RESOLUTE).

The RAN's current surface combatant force consists of four *Adelaide* class guided missile frigates (FFG) derived from the United States Navy *Oliver Hazard Perry* class, and eight *Anzac* class helicopter capable frigates (FFH), derived from the German MEKO 200 frigate design. Both classes have

been extensively upgraded since commissioning and further upgrades are planned for the *Anzacs*. These improvements include: the Harpoon anti-ship missile providing a significant anti-surface warfare capability; good close range anti-air warfare (AAW) capability through the Evolved Sea Sparrow Missile (ESSM); the Phalanx Close-In Weapon System; a strong defensive undersea warfare suite; and the highly capable Link 16 tactical data link system. Both classes of surface combatant can embark the Sikorsky S-70B-2 Seahawk helicopter, fitted with an anti-submarine warfare (ASW) sensor suite and able to carry lightweight torpedoes. It has recently been announced that new naval combat helicopters, with advanced ASW capabilities, will be introduced 'as a matter of urgency'.<sup>3</sup> They will include ASW dipping sonar systems, air-launched torpedoes and air-to-surface missiles.



*HMAS Darwin at the Indonesian Fleet Review August 2009*  
(Defence)

In situations beyond the reach of friendly land-based air power, or where operations must be continuously maintained for extended periods, surface combatants provide the most viable military option. Their sensors and weapons can be employed in the undersea, surface and air environments at the same time. Unlike most other combat units, surface combatants are fully self-contained and offer great flexibility to meet changing operational circumstances. Multiple tasking and re-tasking is common in mid-deployment, with little or no detriment to the operational efficiency of the ship. Depending on the scope of the maritime operation, major surface combatants will be able to operate independently or as part of a joint or combined force. As a rule, they will be the primary provider of mobile, sustained combat power at sea, with the cumulative effect of different offensive and defensive capabilities progressively producing a balanced capability across the maritime battlespace.

The surface combatant's primary mission is to contribute, as part of a system of systems, to the establishment and maintenance of sea control in a hostile, multi-threat environment. The surface combatant must be able to conduct effective ASW, AAW and anti-surface warfare (ASuW). Not only must the combatants have the necessary weapons and sensors, but they also must have the personnel skilled in their use supported by an efficient command and control, communications and intelligence infrastructure. This requires significant training and exercise programs to establish and maintain proficiency. Underpinning the ship's ability to fight, and fundamental to the whole ship entity, is the indispensable support provided by the ship's engineering and logistic infrastructure. Effective ASW, AAW and ASuW requires a surface combatant to coordinate organic, task group and aircraft sensors, and fuse the information – which may include intelligence from other sources outside the task group – into a recognised picture before initiating and coordinating offensive or defensive action. In certain circumstances the surface combatant may be required to coordinate the actions of friendly submarines acting in support of the force at sea.

Maritime power projection may include the landing of amphibious or special forces, the delivery of military forces by sea (sealift), and the provision of bombardment by guided or unguided weapons from seaborne platforms. In establishing the majority of conditions for the conduct of maritime power projection, surface combatants may protect advance force - hydrographic, mine warfare and clearance diving operations that clear the way for follow on forces. They will usually protect the amphibious or other maritime power projection forces, both during transit and inside the area of operations. Maritime power projection operations may occur over several days or weeks, depending on the circumstances, which emphasises the importance of the surface combatant's endurance. Lastly, surface combatants can use their own guns, missiles and electronic warfare systems in the offensive projection of power over land. Naval gunfire support (NGS) capability may reduce the amount of land-based artillery required in-theatre, easing the logistic demands on the amphibious force. If SLOCs have been secured over wide areas, then commercial and military shipping may transit without threat. If an adversary is directly contesting use of a SLOC, shipping will require close protection. Surface combatants have a key role to play in both securing SLOCs, and in close protection of merchant shipping.

Major surface combatants are built to fight and win in combat and the resources and skills developed for warfighting underpin their ability in the constabulary role. They have larger crews than most other RAN ships, and they have sophisticated command, control and communications capabilities, helicopters, boats and stores, all with broad application across the span of maritime operations. Highly capable naval forces are essential elements of Australia's political influence, enhancing stability, promoting inter-operability among allies and coalition partners, deterring aggression, providing rapid response to political instability and natural disasters, enforcing national and international legislation and supporting national interests at home and abroad.

Surface combatants contribute to a range of constabulary tasks, such as enforcing environmental, fisheries, immigration and quarantine laws, peace keeping and peace enforcement tasks. Due to those resources and skills developed for warfighting, surface combatants also contribute to a range of diplomatic tasks, from the provision of various forms of assistance, through presence to more coercive deterrence. The intrinsic value of the surface combatant as a diplomatic tool should not be underestimated. Against the backdrop of a potent symbol of maritime power the hosting of reception events, trade fairs and the like in foreign ports has historically generated goodwill and fostered mutual understanding and trust with host nations and visitors. Similarly, these visits have allowed the ship's companies to conduct a range of community liaison and charity tasks to enhance such relationships.

The dreadnought battleship, nuclear powered submarine and the aircraft carrier were all hailed as the manifestation of the capital ship at various times during the 20th century. Today, it is the thoroughbred warship or surface combatant that provides the majority of nations with the ability to exercise power at sea.

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1 Alfred T Mahan, *The Interest of America in Sea Power, Present and Future*, Sampson Low, Marston & Co, London, 1896.  
 2 For more information see Royal Australian Navy, *Australian Maritime Doctrine, RAN Doctrine 1*, Sea Power Centre - Australia, Canberra, 2000, especially Chapter 5.  
 3 Department of Defence, *Defending Australia in the Asia Pacific Century: Force 2030*, Canberra, 2009, p. 73.

