Foreword

The Warfare Officers Career Handbook provides information for members of the Royal Australian Navy’s Warfare community. For the purposes of this handbook, the Warfare community is deemed to include all officers of the Seaman, Pilot and Observer Primary Qualifications. The Warfare Officer Community symbiotically contains personnel from the seaman, Submarine, Aviation, Hydrographic and Meteorological, Mine Clearance Diving and Naval Communications and Intelligence groups.

The Warfare Officers Career Handbook is a source document for Warfare Officers to consult as they progress through their careers. It is intended to inform and stimulate consideration of career issues and to provide a coherent guide that articulates Navy’s requirements and expectations. The book provides a summary of the Warfare branch specialisations and the sub-specialisations that are embedded within them, leading in due course to entry into the Charge Program and the Command opportunities that follow.

The Warfare Officers Career Handbook also describes the historical derivation of current warfare streams to provide contemporary relevance and the cultural background within which maritime warfare duties are conducted. It discusses the national context in which Warfare Officers discharge their duties. Leadership and ethical matters are explored, as is the inter-relationship between personal attributes, values, leadership, performance and sense of purpose.

There is no intention that this handbook replicate or replace extant policy and procedural guidelines. Rather, the handbook focuses on the enduring features of maritime warfare. Policy by its nature is transient. Therefore, as far as possible, the Warfare Officers Career Handbook deals with broad principles and not more narrowly defined policies that rightly belong in other documents.

The preparation of the first edition of this Warfare Officers Career Handbook has coincided with a period of significant change within the Warfare community. Technology continues to evolve as do the threats the nation faces and the global dynamics within which Australia conducts its affairs. Personnel policy also develops consistent with contemporary requirements and attitudes. Each of these variables impacts on the Warfare community. Readers are therefore urged to use this book as background and to refer to extant policy and seek informed advice when considering career decisions, and to consult career managers for the latest information.

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Commodore, RAN
Chairman, Naval Warfare Advisory Council
September 2006
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Introduction

The Royal Australian Navy

The Royal Australian Navy (RAN) is the naval force of a medium power, island nation with no continental land borders and one of the largest areas of maritime jurisdiction of any nation. The RAN’s cultural and material origins stem from the Royal Navy (RN). For example, the RAN employed Queen’s Regulations and Admiralty Instructions as its primary procedural manual until the mid 1960s. Its political origins follow from Australia’s obligation to contribute to and, in due course, assume responsibility for, its own defence following Federation.

Imperial Defence

From European settlement in 1788 until 1859, Australia depended for naval defence on units detached from the RN based in Sydney. In 1859, Australia was established as a separate British Naval Station and until 1913, a squadron of the RN was maintained in Australian waters. Notwithstanding the RN’s presence in Sydney, several colonies took steps to provide for their own local maritime defence under the provisions of the Colonial Naval Defence Act of 1865. Under these provisions, the colonies of Victoria, New South Wales, Queensland, South Australia and Tasmania all acquired small numbers of naval vessels and raised local forces to man them.

Creation of the RAN

The Australian Navy was created on 1 March 1901 when, after Federation, the states transferred all their naval and military forces to the Federal Government. By this time the ships inherited by the new Commonwealth Naval Forces (CNF) were for the most part obsolete and rundown. Despite the concerns of local naval authorities over the growth of foreign naval power in the Pacific, there was initially little prospect for improvements to the CNF while successive British naval commanders continued to reassure local authorities that the RN would provide for Australia’s maritime protection.

The RN, however, faced a growing number of challenges to its global naval supremacy. These could not for long be ignored and at the 1909 Imperial Conference, the Admiralty supported a more substantial Australian naval contribution and advocated that the CNF be expanded into a modern, balanced naval force. This force was to be centred on a battle cruiser, with cruisers, destroyers, submarines and a number of auxiliaries in support. On 10 July, 1911, His Majesty King George V was pleased to grant the title of ‘Royal Australian Navy’ to the CNF.
On 4 October, 1913, formal control of the Australia Station passed to the Commonwealth Naval Board, ending direct Imperial control. During the same period the Royal Australian Naval College (RANC) for the training of officers opened at Osbourne House in Geelong, relocating to Jervis Bay in 1915.

**World War I**

At the outbreak of hostilities in August, 1914, the Australian Fleet comprised a battle cruiser, three light cruisers, three destroyers, two submarines and numerous support and ancillary craft. The ships and men of the RAN operated as an integral part of the RN. The total number serving in the Permanent Naval Forces at the outbreak of hostilities was 3,800 all ranks. At the close of hostilities 5,263 personnel were serving whilst the Reserves provided a further 76 officers and 2,380 sailors for home service and 51 officers and 1775 sailors for service overseas.

The RAN’s initial task during WWI was to protect Australia’s ports, shipping and trade routes from the German East Asia Squadron. In securing the maritime frontiers the RAN took part in the first amphibious assault of the war when it played a leading role in the capture of the German colonies in the Pacific. The success of this operation was, however, marred by the disappearance of the submarine AE1 that was lost with all hands in unknown circumstances.

Following this operation the Navy began the vital role of convoy protection, escorting the first of the ANZAC convoys to the Middle East. While escorting a convoy the light cruiser HMAS *Sydney* was detached to investigate the sighting of a suspicious warship off the Cocos-Keeling Island group that was later identified as the German light cruiser *Emden*. *Emden* was duly engaged and destroyed.

The RAN was also actively engaged in supporting the Gallipoli campaign. The Australian submarine AE2 was the first Allied unit to successfully penetrate the Dardanelles where she attacked shipping in the Sea of Marmara, until she was eventually lost after an action against the Turkish Navy. On the Gallipoli Peninsula the RAN Bridging Train also provided vital engineering support to the troops ashore and its members were among the last Australians to leave the Peninsular.

Australian ships also served in other naval operational areas, including the African coast, the Indian, Pacific and Atlantic Oceans and the North and Mediterranean Seas.

**Between WW I and WW II**

Following the cessation of hostilities in November, 1918, a period of global naval retrenchment and negotiated disarmament began, culminating in the Washington Treaty of 1922 that brought drastic changes to naval planning.
Under the terms of this treaty the battle cruiser *Australia* was scuttled off Sydney Heads in 1924.

In this same year Australia ordered two 10,000 ton cruisers and two modern submarines. The two cruisers commissioned as *Australia* and *Canberra* in 1928. In the following year the submarines *Oxley* and *Otway* were delivered. A seaplane carrier had also been ordered in 1924 from Cockatoo Dockyard, Sydney and was subsequently commissioned as HMAS *Albatross* in 1929. A further vessel, HMAS *Moresby* was acquired in 1925 for surveying duties.

The monotony of peace-time exercises was occasionally broken by operational activities such as a punitive expedition to the Solomon Islands in 1927 undertaken by the cruiser *Adelaide*.

In the early thirties, a lack of funds imposed many economies on naval activity, one being the transfer of the RAN from Jervis Bay to Flinders Naval Depot in Victoria. The strength of the RAN fell to 3,117 personnel plus 131 members of the Naval Auxiliary Services. In 1932 the strength of the Reserves stood at 5,446. It was also in this period that the submarines *Oxley* and *Otway* and the seaplane tender *Albatross* were transferred to the RN as part payment for new capability.

In 1933, the RAN added five destroyers to the Fleet to replace aging ships that were due for scrapping. These ships were themselves not new but later became famous during World War II as the ‘Scrap Iron Flotilla’. Three Modified Leander Class 6 inch cruisers were also acquired. The first, HMAS *Sydney* (II), was commissioned into the RAN in 1935, with *Hobart* and *Perth* being commissioned in 1938 and 1939 respectively.

The technical, organisational and tactical development of the Fleet was not robust but sharpened dramatically in the late 1930s as international tensions became more prominent.

**World War II**

At the declaration of war in September 1939, the RAN order of battle comprised two heavy cruisers, four light cruisers, five destroyers, three sloops and a variety of support and ancillary craft. The total number of personnel serving in the Permanent Naval Forces at the outbreak of war was 5,010. By July 1945, the heavy demands of war had increased this to nearly 37,000 all ranks.

The initial WW II operations followed the pattern set in WW I. Australia’s sea lines of communication were secured against German raiders and the fleet contributed units to Allied naval forces. Ships again came under RN control on many occasions and between the declaration of war against Germany and the Japanese attack on Pearl Harbour, the RAN served as far afield as the North and South Atlantic, the Caribbean, the Mediterranean, the Indian Ocean, Persian Gulf and Red Sea. ‘The Scrap Iron Flotilla’
earned a particularly distinguished reputation in the Mediterranean, as did the cruiser *Sydney (II)* with her destruction of the Italian cruiser *Bartolomeo Colleoni*. *Sydney (II)* was later lost with all hands in an action with the German merchant raider *Kormoran* off the West Australian coast. The *Kormoran* was also sunk in this engagement. This remains the largest loss of Australian defence personnel in a single action.

The Japanese attack at Pearl Harbour on 7 December, 1941, and the subsequent Japanese advance down the Malay Peninsular altered fundamentally Australia’s strategic circumstances. Most forces were redeployed in favour of home rather than European defence. The RAN operated with the British, Dutch and American Navies in the failed defence of the archipelagic waters to the north and later in the campaigns to recover the islands in these waters.

During the Pacific War the RAN participated in many notable engagements including the battles of the Java Sea, Sunda Strait, Coral Sea, Savo Island and Lingayen Gulf. In addition it provided maritime support to amphibious and resupply operations across the south-west Pacific and the Indian Ocean. The naval coastwatch network was another vital Australian contribution to the Allied cause.

Combat losses during the war were very heavy. In addition to *Sydney*, the cruisers *Perth* and *Canberra* were sunk, as were the destroyers and sloops *Nestor, Vampire, Voyager, Waterhen, Parramatta* and *Yarra*. Nearly thirty other RAN ships and vessels of all types were lost as a result of their wartime service. 2,170 members of the RAN lost their lives.

**Later Conflicts**

Since the end of WW II, units of the RAN have engaged in Allied and coalition operations consistent with the national policy of deploying in combined operations in support of foreign policy objectives. This was initially focused on wars and insurgency involving communist expansionism in Asia, post-colonial revolutions and civil wars. The aircraft carrier HMAS *Sydney*, destroyers and frigates were deployed to the Korean War as a contribution to the United Nations commitment. RAN ships conducted operations against Chin Peng’s forces during the Malayan Emergency that commenced in 1948 and during the Indonesian ‘confrontation’ with Malaysia in 1964.

The Pacific war had caused the Australian Government to review its strategic defence policy and alliances, a process that was further fuelled by subsequent
events in South East Asia.
In 1951 Australia negotiated a security arrangement with the USA and New Zealand, known as the ANZUS treaty. Australia ratified the South East Asia Treaty Organisation (SEATO) pact on 27 October, 1954. In 1955 the Commonwealth Far East Strategic Reserve was created to which Australia contributed forces.

The RAN’s acquisition practices also changed. Turning away from British designs, in 1962 the Navy acquired two Charles F Adams Class guided missile destroyers (DDGs) from the USA. A third was later ordered. Subsequent platform and system selection placed great emphasis on interoperability with the USA, a need that was strengthened by the RN’s progressive withdrawal of its Far East Fleet from 1972.

The RAN contributed destroyers, air crew and clearance divers to the Vietnam War as well as substantial heavy lift logistic support. The Navy also undertook the operation of two merchant ships commissioned into the RAN, using RANR personnel, for the purpose of re-supplying Australian land forces.

During the 1990s the RAN played an active role in supporting United Nations peacekeeping operations throughout the world, including those in Somalia, Cambodia, Rwanda and East Timor.

Embargo enforcement in the Persian Gulf was sustained for more than a decade from 1990 and combat operations were undertaken in two wars against Iraq. Regional peace-keeping operations were also undertaken in Bougainville and the Solomon Islands.

Today’s Perspective

The RAN today is a highly effective and internationally respected Navy. Much of its rich culture and traditions originated from the RN, but throughout the 20th Century to the present, the RAN has progressively developed its own proud and enviable history of independent achievement. Its development has been shaped by war and the requirements of operational service in defence of Australia’s national interests. The maritime strategy that Australia needs for its future security will continue to rely on a strong, capable and balanced Navy.
Chapter One

The Role of Sea Power in the Defence of Australia

“We make war that we may live in peace”.¹

Introduction

Australia is an island nation. It has no continental land borders. Its economy and livelihood are dependent upon trade. The RAN exists to defend this island and the trade upon which it relies. Warfare officers and sailors provide the skills afloat that direct the ship’s maritime operations, sensors and weapons in the pursuit of the Navy’s mission.

This chapter provides the national and operational context within which this handbook has been written. The chapter is not a treatise on maritime doctrine. Readers are invited to consult the relevant professional publications (see the reading list at the end of the chapter) to locate such information.

The Nature of the Maritime Environment

The maritime environment is diverse and dominates the globe. 70% of the earth’s surface is covered by sea, across which the vast majority of world trade is carried. Regional nations are heavily dependent on the sea for commerce and trade, natural resources, fisheries, tourism and defence.

Australia shares this feature with its regional neighbours. Australia’s economy and prosperity are absolutely dependent on shipping and its unfettered access to sea lines of communication. Globalisation has meant that our economy is more integrated with other nations and thus less self-sufficient. 99.9% of Australian trade by bulk and 72% by value is carried by ship while a quarter of all Australian rural jobs, and a fifth of all urban jobs, are directly dependent on exports.

The maritime environment is uniquely multi-dimensional and encompasses the air above and the depths below the sea surface, as well as the littoral fringes of adjacent landmass. In some circumstances it may be thought to include the rivers that find their way to those littoral waters and the lakes in which they may rise.

In Australia’s region of interest, the nature of the maritime environment is particularly diverse: expansive deep oceans, shallow continental shelves and tropical archipelagic waters. Australia’s northern maritime operating environment is dominated by shallow, tropical seas, archipelagos and choke points.

¹ Aristotle Nicomachean Ethics Book 10.
These are laced with navigation hazards and environmental perturbations that strongly influence maritime strategy and deployment options. This diversity is reflected in the variety and types of ships, aircraft and other forces that are required for operations in this multiform environment and the strategies and tactics employed.

**Maritime Power and the Utility of Navies**

Maritime power is the capacity of the nation to employ the seas and oceans for the purpose of fulfilling its national goals, including political objectives, economic prosperity, security and the wellbeing of its citizens. Maritime power is generally deemed to include mercantile means, industrial infrastructure, technical and environmental knowledge base, as well as military resources and the geography within which these characteristics are applied.

Geoffrey Till\(^2\) articulates the advantages conferred by maritime power, and its historic inter-relationship with free societies, trade and prosperity. Britain and the USA have between them been the dominant maritime powers since the eighteenth century. History indicates that global maritime powers have prevailed in war, prospered in peace and generally dominated world events. As a traditional close ally of these major powers, Australia’s continuing prosperity

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\(^2\) Unless indicated otherwise, most of the concepts and views described in this section have been drawn from: Geoffrey Till, “Seapower: A Guide for the Twenty First Century”, Frank Cass 2004
and survival, throughout the conflicts of the 20th Century, has depended on the network of seaborne communications and trade routes that have in turn been dependent on and sustained by Anglo-American supremacy at sea.

Maritime warfare is fundamentally about the control of Sea Lines of Communications (SLOCs). Contemporary maritime doctrine describes two fundamental strategic concepts related to the exercise of maritime power:

**Sea Control** – the central objective in maritime warfare. It can be defined as the condition that allows one’s own forces freedom of action to use the sea for its own purposes and to deny the use of the sea to an enemy. Throughout the history of Anglo-American international conflict, where the sea has been a factor, Sea Control has been the pre-requisite condition for the subsequent final resolution on land and victory over an enemy.

For Australia, Sea Control achieved by the young RAN enabled the Australian led defeat of German forces in New Britain and the South Pacific in 1914 and later the safe passage of ANZAC troop convoys to the Middle East and Europe. The RAN contributed to similar Sea Control operations in WW 2 in the Mediterranean and the Pacific and, more recently, it enabled the successful insertion and sustainment of the INTERFET forces during operations in East Timor in 1999-2000.

**Sea Denial** – a corollary to, and the condition short of full Sea Control that prevents an enemy from using the sea for their own purposes. Historically, this strategy has normally been pursued by
a weaker maritime nation (eg: Germany in both world wars), being unable to achieve Sea Control in its own right but attempting to at least deny it to its opponent.

The military component of maritime power "embraces all sea, land and air forces whose unifying factor is to maintain a nation’s free and unencumbered use of the sea." The Navy is clearly a fundamental, if not the dominant, part of this component.

Naval forces are, by their nature, highly mobile, flexible and multi-purpose. RAN Doctrine Publication No. 1 provides an excellent discourse on the inherent characteristics and advantages of warships and navies. In short, and more so than land or air forces, effective maritime forces provide the Government with a wide range of military response options in escalating circumstances extending across the conflict spectrum from a diplomacy role through to hostile action.

Maritime warfare is manoeuvre warfare. The geography of operations will move because events and strategies will evolve in response to political decisions and enemy action, as well as the pursuit of one’s own shorter-term military objectives. The deployment of the right forces to the right place at the right time is the essence of maritime power. This is especially so in Australia’s case, both historically and today, because of our enduring dependence on SLOCs and the huge geographic area surrounding Australia in which maritime operations are conducted.

The Physical Environment in Maritime Operations

Maritime operations are fundamentally affected by meteorological and oceanographic circumstances in all feasible contexts and for all operational roles. Wind, sea state, visibility, precipitation, air and sea temperature, ice accretion, clouds, cyclones, humidity, electromagnetic ducting, turbidity and so on, all influence sensor and weapon performance and, in some cases, the ability to operate at all. Some activities are inhibited or degraded by certain weather conditions: upper-deck evolutions, boardings, flying operations for example.

These impact on human behaviour as well as that of systems, including the ability to concentrate, calculate, focus, react spontaneously and co-ordinate one’s own actions. Motion sickness, for example, diminishes job performance dramatically. Exhaustion from heat or cold, or exposure to constant motion and noise is likewise fatiguing.

Similarly, the geography of maritime areas has a potential impact upon operations due to navigation hazards, bottom topography, water depth, beach incline or bottom quality. Those undertaking duties afloat should pursue expertise in their understanding of all these matters.

Weather can affect sensor performance. HMAS Vendetta in heavy seas off Sydney 1978.
In sum, the maritime environment is demanding and unforgiving. Our ships and supporting maritime forces must be capable of operating effectively in all environmental conditions to enable the Navy’s ultimate mission of winning in combat at sea.

**Geo-Strategic Situation**

Australia shares maritime boundaries with Indonesia, Timor L’Este, Papua New Guinea, New Zealand, the Solomon Islands and the French Pacific and Indian Ocean Territories. More broadly, Australia’s ‘region of interest’ covers 25% of the globe and is fundamentally maritime and littoral. This being so, our national security relies significantly on effective maritime forces.

Australia’s strategic environment is complex and rapidly changing. It exhibits ongoing tensions between and within nations, overlaid by innovative and well resourced terrorism. In recent years nations capabilities deriving from within the Asia-Pacific region have shown rapid growth in military capabilities deriving from growing economies and emerging perspectives of national status and purpose. The region seems set to be the most dynamic in terms of political evolution and economic progress over the next few decades.

Dominating the security of the region will be the maturing and shifting international relationships between the major powers (China, India, Japan, Russia, USA). Economic strength, political maturity, generational change and environmental and demographic factors will influence traditional thinking and foreign policies.
Against this background, localised conflicts and tensions may be expected to continue.

Closer to Australia, the countries of our immediate neighbourhood (Indonesia, Timor L’Este, Papua New Guinea and the island states of the South West Pacific) are confronted with economic, political and environmental challenges. These have resulted in tensions and violence into which Australia has been drawn.

Non-military threats to security derive from terrorism, international crime, uncontrolled migration, resource poaching, disease and quarantine threats, environmental disaster and other events with constabulary overtones. The Australian Defence Force is employed to assist other Government authorities in implementing Government policy on these matters and thereby contributes to national security beyond the threat of military attack.

Environmental issues within the Exclusive Economic Zone (EEZ) of the coastal state became a factor in national security planning in the 1990s, particularly with the implementation of the 1982 United Nations Convention on the Law of the Sea (UNCLOS). Activities that might impact on the environment are increasingly perceived as a possible threat to a nation’s well being and thus to its national security. As an example, one state’s poor environmental behaviour might lead to resource depletion affecting many other states (eg: migratory fish stocks).

The subsequent decline in important ocean based resources could cause tension or conflict as countries compete for, or seek to protect, their access to the residual resources. Military forces could, therefore, be engaged in defensive or pre-emptive actions to gain or maintain control over these scarce resources.

Emerging resource protection issues are evident from contemporary events and have implications for maritime capability development and the discharge of naval tasks. These include the difficulties in defining some maritime boundaries, such as having accurate information on where legal borders lie, and the resolution of disputes.

Conflicts will occur over maritime resources including illegal fishing and international law, as it pertains to the pursuit of vessels. Disputes will include demarcation issues between agencies over who have, or should have, responsibility for policing our maritime boundaries and the capabilities required to effectively achieve this. Additional border protection issues including the effective use of navies and the future for maritime strategy and maritime law in the new strategic era of transnational terrorism, may be expected to be enduring features of naval considerations for the foreseeable future.
The Australian Navy’s Domain

“The key to defending Australia is to control the sea and air approaches to our continent, so as to deny them to hostile ships and aircraft, and provide maximum freedom of action to our forces. That means we need a fundamentally maritime strategy”.

One of the fundamental responsibilities of a State is to protect its territorial sovereignty at all potential levels of the conflict. Australian defence policy is primarily concerned with the maintenance of territorial integrity. The Navy, like the Australian Defence Force as a whole, is largely presently structured for defeating attacks on Australia and maintaining a capability to operate at the higher levels of conflict.

Australia also faces significant wider security challenges due to its vast coastline, large maritime jurisdictional area and distance from traditional allies. In addition to purely Defence considerations, Australia also exercises sovereignty over offshore assets that contribute to the national economy and identity. These include islands and territories at substantial distances from the continental shelf and resources such as fish stocks, oil and gas reserves and seabed minerals.

External territories extend from the tropics to the Antarctic. Resource extraction and the supply of offshore territories are fundamentally maritime in nature. The RAN plays a major role in offshore sovereignty enforcement and is increasingly required to operate in a constabulary role in its littoral waters.

extending up to 350 nautical miles (nm) offshore from the mainland and offshore territories. Australia also has a substantial geographical responsibility under other international protocols for search and rescue and for hydrographic operations. Taking these responsibilities together, the Navy routinely patrols an area covering 10% of the globe.

**Constabulary Duties and Community Assistance**

The discharge of constabulary duties has been an enduring theme in the activity of Australian naval forces. The trend has been to discharge more of these functions in contemporary times.

Peace operations, economic blockades, Maritime Interdiction Operations and sanctions enforcement form a part of the diplomatic devices used to separate adversaries and/or impose international will on reluctant parties. They are invariably conducted under international auspices and are characterised by defined mandates underpinned by international law. They have highly adaptive rules of engagement, exhibit coalition interoperability and generally involve littoral operations.

Defence Force Aid to the Civil Authorities is undertaken in co-operation with other government and statutory authorities and, in some cases, contracted agencies.

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5 Australia exercises powers and rights in the surrounding seas. Territorial Seas extend to 12 nautical miles offshore. Contiguous Zone 12-24 nautical miles for Customs control, fiscal and sanitary regulations. The Exclusive Economic Zone extends 200 nautical miles with rights to seabed and water resources. The Continental Shelf extends in places to 350 nautical miles where some seabed rights may be claimed.
The armed, disciplined and flexible resources of the Australian Defence Force are ideal for these purposes. This may include: fishery surveillance, customs and immigration enforcement, counter terrorism, quarantine, environmental protection, piracy suppression and hazardous waste clean up.

The exposure of warfare officers to duties of this type may be expected to continue and attract an attendant requirement to pay attention to the legal aspects perhaps more so than has been practised in the past.

Similarly, the RAN has been employed in providing Defence Force Assistance to the Civil Community in the form of succour, relief and material aid to the community following natural disasters. The readiness, lift capacity, persistence, communications, staff resources, self-reliance, embarked aircraft and span of skills evident in warships, all lend themselves to this activity.

Interoperability

Interoperability with Allies and potential coalition and United Nations partners is essential, having regard to Australia’s historic and continued commitment to peace operations and its treaty obligations. Regional security and mutual understanding is also aided by exercising with regional neighbours.

Interoperability with the US remains of paramount importance. In addition to Defence objectives, this will allow technology access that informs the Navy’s capability development plans and access to logistic and tactical information.

Development of the Fleet

“A thoroughly good navy takes a long time to build up ... ships take years to build, crews take years before they become thoroughly expert, while the officers not only have to pass their early youth in a course of special training, but cannot possibly rise to supreme excellence in their profession unless they make it their life-work”.

Theodore Roosevelt
Former President of the USA

Australia’s broad defence strategy remains maritime in nature involving the three armed forces working jointly. To achieve this, Navy must maintain a broad span of operational capabilities and a skill base well informed about contemporary tactics and systems. A national defence industrial infrastructure is essential to support the force in being and to contribute to its progressive improvement. The tempo of operations will not diminish and a high degree of readiness will be required of the Navy.

The Asia-Pacific region’s maritime nations will continue to improve their capability. Some nations may become more assertive in protecting maritime resources and SLOCs as their economies improve and they grow in self-confidence. The RAN must therefore continue to develop appropriate technologies that
Future RAN surface ships will be equipped to perform multiple tasks and operated with allies and coalition partners.

retain combat relevance and ensure its credibility.

Australia may be expected to promote future stability in the Asia-Pacific region. The Navy will participate through its diplomatic support role, international exercises and training with regional armed forces, all of which are intended to foster mutual understanding and enhanced interoperability.

Naval warfare is a high technology competitive enterprise, always responsive to innovative development and strongly influenced by the combat capability of potential adversaries. The RAN is relatively small, having regard to its geographic area of operations and the nation’s extended SLOCs. For these reasons recourse has been made to modern systems that diminish the disadvantage of small numbers, with considerable emphasis on surveillance, intelligence and networking of systems.

New challenges, including the threat of ‘cyber war’, continued international terrorism and the havoc wrought by failed states, presage an unpredictable future. These and other emerging threats will call for new deterrence options spanning the full range of threats that may be faced.

In the littoral, technical advances in area-denial forces including mines, small boats, diesel submarines, sophisticated anti-ship cruise missiles, land based aircraft and ballistic missiles have expanded the challenge. As the threat evolves and becomes more capable, so must the Navy’s combat systems.

The Navy will continue to transform its concepts, organisations, doctrine, technology, networks, training and ship staffing policies consistent with the ADF’s
migration to a network centric force structure. This involves the integration on an ADF wide basis of sensors, information systems, platforms and weapons to achieve increases in warfighting effectiveness.

There will be continued emphasis on the shared use of information by co-operating forces and systems leading to:

"a future where our traditional forces are not only seamlessly integrated with each other, but also externally integrated with a wider range of supporting organisations, agencies, and to an extent, the community."³

Australia will strive for better quality, prompt intelligence and for reliable surveillance systems than can detect both conventional forces and also those able to project more asymmetric threats. Faster and better decisions will be required, especially as the equipment, skills and command arrangements employed by adversaries improve. This will be mirrored at the strategic and political level. The desire to have a faster decision making cycle than an enemy will be reflected in revolutionary information systems. The means to acquire, integrate and distribute information will continue to evolve and attract investment into the future.

The community’s access to diverse sources of information is challenging conventional assumptions and attitudes toward the conduct of warfighting by informed societies. There is increased focus on individual accountability and issues of contemporary ethical values and social morality.

In contentious situations, near immediate justification and explanation of actions is sought by society. This requires that military forces provide an audit trail of their actions including evidence of decision making processes and actual outcomes.

The cost of weapons and warfare and the desire to avoid ‘collateral’ damage and unnecessary deaths will be reflected in accurate positioning and modern reconnaissance systems. The mirror image of this is the recourse to stealth technology to assist covert activity, where desired, and to diminish the effectiveness of an aggressor’s weapons. The use of (relatively) low cost and low risk uninhabited and remotely controlled vehicles will be a growing feature of maritime operations in all dimensions: air, surface and sub-surface.

Navy’s broad intentions and capability development plans are contained in the Chief of Navy’s long range strategic plan, colloquially known as Plan Blue, which is based on extant Government guidance, strategic assessments, experimentation

and other information. Specific major capability development projects are listed in the Defence Capability Plan (DCP). This plan is, by its nature, transient, as are the assumptions and theories that underpin it.

Comments on short and medium term trends in Navy’s Force Structure are discussed later in this handbook in the context of specialist undertakings.

Conclusion -

The Fundamental Challenge for Navy’s People

The sea can be harsh and unforgiving and requires the highest standards of professionalism from mariners. An enduring challenge for Navy is the complexity of maritime warfare, combined with the increasing sophistication of platforms and weapons systems. These create a demand for Navy people with high professional skills across many disciplines and capable of operating in highly trained and close knit teams. History shows that ships with the best officers and sailors invariably win in combat at sea. Maritime warfare in the 21st century will be no different.

Suggested Reading –

The Role of Sea Power in the Defence of Australia

Chapter Two

Role of the Warfare Officer

“Things appear romantic enough in prospect and retrospect, that at the time are only monotony, and sweat, and thirst, and sickening fear.” ¹

Introduction

The Navy offers an opportunity to perform a duty and to perform it so well that the cause of the country benefits thereby. The Navy is unrivalled as an interesting life. It is as ever changing as the sea itself. It is exciting. It is absorbing and it is intellectually demanding.

First and foremost, the Navy is a fighting service. Its mission is to be able to “fight and win at sea”. The successful achievement of this mission requires a corps of officers that are masters of the complex art of naval warfighting.

Expertise in naval warfare comprises a set of unique and wide-ranging skills. Fundamental mariner and warfare skills are initially acquired by following a comprehensive training program, enhanced and sustained by frequent practice, experience and ongoing individual professional study. Subsequent professional career paths will be different and generally unique to the individual. Decision points will recur during every career, sometimes unanticipated and at short notice. Career decisions present opportunities and challenges. They may exhibit risk. Decisions made in response to these events will affect not only the nature of a career but also, in all probability, the individual’s private life.

Warfare Officers

For the purposes of this book all officers of the Seaman Primary Qualification (PQ) are considered Warfare Officers, as are Officers qualified as Pilots or Observers. The Navy requires approximately 1000 trained Seaman Officers to fill about 900 positions in the ranks from Sub Lieutenant to Commander. In addition, 260 Pilots and Observers are required for approximately 220 positions. This is about 60% of all trained Naval Officer positions.²

As an Officer of the Watch (OOW), as a specialist warfare practitioner or as a Part of Ship Officer, the Warfare Officer is intimately involved in the conduct and direction of the ship’s maritime operations in a leadership capacity. The ultimate goal of the Seaman Officer is command at sea and, to a large degree, the training continuum of Seaman PQ Officers is directed towards this objective. This will see the junior Warfare Officer progress through his/her training gaining mariner, warfare and specialist qualifications as he/she develops the skills and experience to be a senior Warfare Officer.

² Numbers are approximate. Exact numbers vary with changing requirements.
Samuel Pepys joined the British Naval Board in 1655 with no previous maritime experience and taught himself to be an expert in naval material needs. In 1660 he was appointed ‘Clerk of the Acts’ following the Restoration of Charles II to the English throne. Pepys became a contract management virtuoso and built a reputation for eliminating fraud in contract supplies. He was appointed as Secretary to the Admiralty in 1672.

During his career he promoted many reforms including a shipbuilding program of unprecedented dimensions and the introduction of half pay for officers, which made possible the establishment of a core of professional naval officers. This provided the basis for an expansion of the RN that enabled British imperialist expansion in the 18th and 19th centuries and national economic development. He created the administrative foundations that lead to the 20th Century Royal Navy and, through it, the origins of the RAN. He also established a large archive at Magdalen College, Oxford, which became a major library for naval history.
The Navy’s Seaman Officers inherit a professional role that may be traced directly back to Samuel Pepys’ re-organisation of the RN in the 17th Century, through the Australian Navy’s British antecedents. Their role more generally derives from the earliest days of organised naval shipping. Today’s Seaman Officers are therefore the contemporary custodians of precious history and traditions.

Similarly, Pilots and Observers are the custodians of the proud history and traditions of Australian naval aviation. This history began in WWI when the RAN operated sea-planes from cruisers attached to the RN and includes the fixed wing carrier era from 1948 to 1982 (see Chapter 9).

The Role of the Warfare Officer (Seaman PQ)

Seaman PQ Warfare Officers have similar mariner functions to professional Merchant Navy officers to the extent that they are skilled in the art of operating ships safely in the presence of navigation hazards, other ships and unwelcome weather. That said, Warfare Officers are fundamentally different from their Merchant Navy colleagues by virtue of their skill in maneuvering and fighting ships co-operatively, in close company, at high speed and in a multi-dimensional environment. This skill, exemplified by the award of the Bridge Warfare Certificate (BWC) for the Seaman PQ, is the distinguishing feature.

The later acquisition of ‘specialist’ warfare skills, now expected of all Warfare Officers, equips the officer with the expertise to discharge the specific fighting functions and weapon/sensor use that enable and direct maritime combat operations.

The Seaman Officer’s career has three general phases: mariner, specialist Warfare Officer, and sea command. These occur sequentially, each phase building upon the skill and experience of the former. The junior Warfare Officer’s initial career phase is directed towards the award of the BWC and the consolidation of this qualification in a seagoing Officer of the Watch (OW) appointment. The OOW discharges a very high level of direct personal responsibility compared to other naval, military and community occupations.

After BWC consolidation, the Seaman Officer undertakes training aimed at obtaining specialist warfighting skills and leadership development. These skills are: Principal Warfare Officer, Mine Clearance and Diving, Maritime Geospatial (Hydrography) and Submarines. These are discussed in more detail in later chapters.

Bridge Skills

The environment of a ship’s bridge, where the OOW’s responsibilities are discharged, is invariably complex and energetic. Many factors affecting the OOW’s performance are external or outside the officer’s control.
Competence as an OOW is a necessary pre-requisite for later specialisation, which builds upon the ship knowledge, navigation, seamanship and ship handling skills acquired when qualifying as an OOW. Equally important are the self-confidence, sense of responsibility and decision making attributes that are intrinsic characteristics in an able OOW.

The achievement of the BWC qualification occurs necessarily early in a Seaman Officer’s career and at a young age for the level of responsibility held. This qualification is the Seaman Officers’ foundation skill, and the level of accountability expected becomes a major influence on personal and career development.

The Role of the Warfare Officer (Pilot and Observer PQ)

Pilots and Observers follow a different career path (see ABR 6289 Chapter 8), which delivers a critical warfighting capability to maritime forces in particular and the ADF more generally. These career paths offer Squadron Command opportunities for selected officers. Pilots and Observers may dual qualify as Seaman PQ officers. The role of Pilots and Observers is discussed more fully in Chapter 9 – Naval Aviation.
Salt Horse

The ‘salt horse’ is a Seaman Officer with no recognised ‘specialist’, ‘functional’ or ‘additional qualifications’ training beyond that of the BWC. The notion of the ‘old sea dog’ with “one hand for the ship and one hand for himself” may retain some romantic attraction but the realities of crewing modern warships demand a multi-skilled and versatile officer. The ‘salt horse’ is not a recognised specialist field and Seaman Officers will be required to nominate their preferred specialisation following consolidation of their BWC.

Warfare Officer Duties and Responsibilities

The span of occupational employment and skill-based tasks of Seaman PQ Officers, Pilots and Observers is extensive. Specific responsibilities are published from time to time in Defence Instructions (Navy) Administration 30 series. The list at Appendix 2 encapsulates the range of activities in which Warfare Officers are the professional practitioners.
After skills and experience are developed as a specialist Warfare Officer afloat, the Seaman Officer migrates into the Sea Charge Program and through it, the opportunity for Sea Command. From this group most of Navy’s senior leadership team is grown.

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<tr>
<th>Primary Qualification (PQ)</th>
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<th>• Pilot</th>
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<td>• Observer</td>
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<tr>
<td>Specialisation</td>
<td>• Principal Warfare Officer</td>
<td>• Flying Instructor</td>
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<td>• Mine Clearance &amp; Diving</td>
<td>• Helicopter Flying Instructor</td>
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<td>• Submarines</td>
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<td>• Aero Systems Qualified</td>
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<td>Functional Qualification (FQ)</td>
<td>• Intelligence</td>
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<td>Additional Qualification (AD QUAL)</td>
<td>• Communications &amp; Information Systems</td>
<td>• As per Seaman for those Pilots and Observers who are dual qualified</td>
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<td>• PWO Above Water Warfare</td>
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<td></td>
<td>• Submarine Warfare Officer</td>
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3 Sourced from ABR 6289 Chapter 1 Annex B and amended for subsequent policy decisions
HMAS *Australia* (II) on delivery cruise 1929. Note the absence of any sensors other than visual range finders and communications equipment.

HMAS *Australia* (II) post WW II. Note the addition of warning radar, radar controlled fire control systems for both main armament and air defence guns, IFF, MF/HF D/F, UHF radio and others systems.
**Future Role of Warfare Officers**

The Navy will grow into a force with greater flexibility, firepower, lethality and survivability. It will continue to evolve to better contribute to Joint and Combined operations, particularly in the littoral areas that characterise Australia’s area of maritime interest. It will retain the flexibility to perform constabulary operations, aid to the civil community, search and rescue and diplomatic functions.

Technological advances will continue to be pursued where appropriate. Some of the anticipated future capability will be highly automated. Stealthy and efficient hull forms will be introduced with more efficient forms of propulsion.

Future surface ships will have multi-role functionality including air warfare and, potentially, land attack. Large amphibious platforms will also feature in Navy’s future force structure.

Capability upgrades would be achieved more frequently than now with continuous through-life capability improvements and fewer large mid-life upgrades made possible with more open architecture based systems. This would be reflected in the professional development of officers with continued opportunity being provided to update skills consistent with system changes afloat.

There will be emphasis on the shared use of information by co-operating forces and systems. Faster and better decisions will be required, especially as other nation’s maritime capabilities improve.
The need to have a faster decision making cycle than an enemy will be reflected in revolutionary information systems. The means to acquire, integrate and distribute information, and then act on it, will continue to evolve and attract investment during the careers of the readers of this book.

Shore infrastructure support is expected to consolidate over time into fewer, larger operational bases with the consolidated capability to support Force Element Groups (FEGs) where possible. By doing so, greater geographic stability for Navy’s people would be achieved.

Against this background there will remain a requirement for proximate numbers of officers qualified to lead and direct the activities of the ship and its aircraft, plan operations and oversee the military and combat tasks. Some variations will occur in specialist skill requirements and other functional qualifications as the threat, systems design and tactics change over time. Officers will be required who possess a deep knowledge of the underlying functionality of ships’ warfighting systems and in particular, the management and presentation of integrated information. Seamanship and navigation skills will remain fundamental in the skill set, supported by improved automation and positioning guidance.

The Warfare Officer cohort will remain the core group from which the Navy selects its Commanding Officers afloat and its other more senior operational commanders.

### Suggested Reading – Role of the Warfare Officer

- DI(N) ADMIN 30 series.
Chapter Three

Principal Warfare Officer (PWO)

“Sydney’s gunnery narrative is of great interest both technically and from the more general point of view. It shows the results obtainable by an efficient control team backed by good material, and it should be given the weight due to the experience of a ship which has had the unique opportunity of firing 2200 main armament rounds in action in six weeks.”

Part 1 – The PWO Function

The PWO on watch is the officer in charge of the Operations Room, to whom authority is delegated by the Commanding Officer to “direct, co-ordinate and control ship operations.” PWOs also undertake designated departmental management roles. The PWO is one of four recognised Seaman Officer specialisations, the training for which takes place in the Principal Warfare Officer Faculty in HMAS Watson.

The PWO is intimately involved in controlling the ship’s activities aimed at accomplishing the assigned mission. To fight and win is a non-negotiable goal because failure to succeed will, in the worst case, involve loss of the ship. The PWO’s pivotal function in fighting the ship assigns great responsibility to the position. It therefore requires the highest standards of professional excellence, leadership and accountability.

PWO training is delivered in two components. The first will be to prepare officers as the PWO of a ‘private ship’ and will qualify the officer as a specialist PWO. The second component will focus on Task Group command level skills and duties, force management concepts, and sub-specialist skills. Officers who complete second level training will be awarded one of four Additional Qualifications (ADQUAL). The background to the PWO and the four ADQUALs are discussed below.

Derivation of the PWO Specialisation

After WW II, the RAN had several warfare streams within its Seaman Officers’ cohort, which conformed to those of the RN. These reflected the technology and tactics in use at the time and were influenced by naval operations in WW II.

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2 DI(N) ADMIN 30-6 dated 24 Feb 97, para 2.
Missile Strike on HMAS Hobart 1968. On the morning of 17 June Hobart was patrolling between Tiger Is and the North Vietnamese coast about 25 nm north of the border with the South. Enemy helicopter activity had been reported in the area and a USN ‘Swift’ boat had been sunk. Hobart was tasked by CTU 77.1.0 (CO USS BOSTON) to search for water borne logistic craft and slow moving aircraft.

At 0313 Hobart was struck in the starboard boat space by an air-launched missile. The ship had been tracking an unknown aircraft at the time. The missile strike was the first indication the ship was under attack. Hobart went to Action Stations, ordered full ahead and manoeuvred violently. The missile hit rendered the SPS 52 radar and the Tartar missile control system unserviceable. Both 5” guns could fire in local control only. The ship was now ineffective as an AAW platform.

The aircraft was now being tracked on the surface search radar (SPS 10) and was observed re-attacking at high speed and low altitude. Two more missiles hit about 90 seconds after the first. The ship had not reached the Action State but the action alarm had the effect of clearing the aft seaman’s messdeck, which proved a fortuitous circumstance. The second missile penetrated the transom at 2 deck level, passed through the Gunners Store, up the passageway, demolished the Engineers Workshop and entered the aft seaman’s messdeck. It set fire to a storeroom, broke a water-main and cut a degaussing cable. A sailor returning from Action Stations four hours later found the bulk of the missile engine casing in his bunk.

The third missile struck starboard side amidships and caused further damage to the fire control systems, gyroscopes and more physical destruction. The loss of gyros made it impossible to direct Boston’s CAP, which had been placed under Hobart’s control.

The attacking aircraft was now observed from the AA Control position. It climbed and turned to re-engage. The forward gun opened fire in local control and the aircraft broke off the attack.

Hobart closed USS Boston, under escort from USS Edson and Chandler. Two sailors had been killed in the attack and 13 injured, three of whom were evacuated by helicopter to Da Nang. Hobart later set course for Subic Bay in the Philippine Is for repairs, which took six weeks.

Later analysis of damage to the Ikara magazine and evidence given during the Investigation revealed that a fourth missile was fired and presumably detonated on the sea surface. The missiles were AIM Sparrow IIIIs with an expanding rod warhead fired from an F4 Phantom fighter aircraft, attached to the US 7th Airforce. The cause was described as an “operational error”.

See HMAS HOBART Report of Proceedings June 1968
Captain K.W. Shands RAN
They were: Communications (which included electronic warfare and shore based intelligence collection by radio), Gunnery, Torpedo & Anti Submarine Warfare, Navigation and Direction. Australian naval officers undertook courses in these subjects in the UK, some of which were 12 months in duration.

The development of missile warfare during the 1950s and 1960s caused a rethink of the warfare professional structure. Anti-ship missiles greatly reduced the reaction time available to surface ships and represented an ‘all weather’ threat. Warning time did not allow ships the luxury of going to ‘Action Stations’, which was past practice and which allowed the relevant specialist officers to be at their stations and ready to fight. Improved integration of defensive tactics was also required, compared to the highly compartmented tactics then employed. Multi-skilling of officers became necessary. This was originally done by loading up the existing, already long, courses.

The sinking of the Israeli destroyer Elath in October 1967 by Styx missiles fired from Port Said emphasised the changing dynamics of surface ship defence. In the RAN, the missile attack on HMAS Hobart on 17 June, 1968, during operations off the Vietnam coast also demonstrated the changed nature of the threat.

The RN developed a concept of pre-programmed responses to missile attack initiated by the Operations Room Officer on watch. Following extensive simulator demonstrations and controlled ship trials, the concept was first fully exercised in Exercise Bersatu Parduh involving the British Far East Fleet in 1970. The RAN contributed a carrier task group to this exercise.4

From 1972 all Warfare Officers were trained in common tactical procedures such that regardless of the time of day, each ship would have an officer on watch capable of responding to a threat. The days of “Stand to – the dawn!” were over. The early PWO courses were conducted at HMS Dryad in southern England and took seven months. These courses provided the Australian Navy’s initial PWO skills base.

So that deep specialist skills were retained, an Advanced Warfare Course (AWO) was introduced and delivered after an officer had obtained sea experience as a private ship PWO. AWO courses took five months and were available in the traditional warfare streams.

3 Exercise Bersatu Parduh was the last major exercise undertaken by the Far East Fleet prior to its progressive withdrawal to UK home waters.
AWO courses were also conducted in the UK. They placed emphasis on Task Group planning, Force Warfare control functions and departmental duties. The PWO/AWO structure was in place for eight years before the two courses were in effect combined into one course.

The cost of UK training increased dramatically in the late 1970s and its relevance was diminishing. From the mid 1960s, the Australian Navy’s fleet composition had altered from a strong British design base to one of progressively American and home grown origin. The introduction of the American designed and built DDG Class, A4 *Sky Hawk* fighter and *Tracker* aircraft and the Naval Combat Data System diminished the relevance of RN courses, as did the deployment of indigenous weapons and sensors such as Ikara and Mulloka. The first American designed FFG built for the RAN was launched in 1978.

PWO training was repatriated from the UK and an Australian ‘Surface Warfare Officers Course’ commenced in January 1985. The name reverted back to PWO Course in 1989.

PWO training is conducted at HMAS *Watson* in the Captain Darling building. Captain Stanley Darling, OBE, DSC and two bars, VRD, RANR served with great distinction in World War II as a specialist in the then emerging field of Anti Submarine Warfare (ASW). PWOs maintain a keen awareness of the RAN’s warfare heritage, and keep alive the memory of pioneers such as Captain Darling through the Naval Warfare Officer’s Association. This organisation includes former and currently serving Warfare Officers who meet to discuss matters ranging from historical interest to future naval developments. All PWOs are encouraged to become members of the Naval Warfare Officer’s Association.

**PWO Training**

PWO training was subjected to another periodic review in 2003 in recognition of the changing and expanding nature of maritime warfare and the limited capacity of the then existing course structure to meet the throughput requirements. Training is delivered in two components. The first component, the PWO Course, qualifies officers to perform the duties of an on-watch PWO in a private ship.

The PWO Course follows a modular structure that includes a core warfare module available to all Seaman PQ Officers, Pilots and Observers. This provides a common baseline across all warfare disciplines. The PWO Course is about 21 weeks long and includes substantial simulator time and a sea assessment prior to qualification. These are structured to grow self-confidence by adding complexity consistent with the state of progress of the student.

Following experience afloat as a PWO, officers will be able to undertake sub-specialist and Force Warfare training to prepare them to perform Group Warfare
Officer tasks in the Above Water Warfare, Communications, Navigation and Surface Warfare disciplines. This training will be conducted as an ADQUAL and attract an appropriate suffix to an officer’s post-nominals. Readers are encouraged to consult with the PWO Faculty in HMAS Watson regarding the development and timing of these courses.

Appointments for PWOs

Thirty PWO trained officers are needed to graduate each year to meet workforce requirements and the PWO course can cater for 36 students per annum. The Royal New Zealand Navy (RNZN) also places officers on these courses.

PWO appointments exist in all major fleet units with the majority being in the Surface Combatant Force Element Group. Ships will carry a mix of PWO and PWO ADQUAL officers.

Sea time ratios conform to Navy standards. There is a wide diversity of shore appointments for PWO’s, which may narrow following the achievement of an ADQUAL.

Some Aspects of PWO Service

PWO Course standards are high as befits the critical function of the PWO, including the conduct of weapon practices and weapon exchange in real world operations. The level of expertise that is demanded requires an ability to absorb information from multiple sources, prioritise responses and act intuitively. The ability to discriminate between competing options of an urgent nature is expected. Vacillation is not a virtue for a PWO. Intimate familiarity with the Operations Room and its sailors is axiomatic.

An intimate knowledge of the Operations Room and how to use it is a fundamental core skill for PWOs. HMAS Melbourne 1992.
Safety during training and weapon practices is a major task and considerable emphasis is placed on safety and risk management procedures both during training and operations.

In the end, however, the warship’s role is to fight and win and Commanding Officers will expect cogent and honest advice and options from their PWOs, and resolution in combat.

The Operations Room environment is intimate, being both crowded and also the hub of combat decision making and planning. This is a workplace where a sense of humour is a decided benefit. Sea service can be demanding and stressful due to the responsibility borne, the sustained watchkeeping requirements and the limited operational respite during real world operations. Planning and departmental tasks add to the workload.

The relationship between the PWO and the OOW is critical to successful war fighting and ship safety, and is not amenable to misunderstanding. Both the PWO and the OOW are responsible directly to the Commanding Officer for aspects of their duties. Neither officer can function without the support of the other. Co-operative action to achieve shared goals is required. The relative responsibilities of the OOW and the PWO are documented in the DI(N) ADMIN 30 series. The Chief of Navy’s Command Guide is also instructive.

When the teamwork between the PWO and OOW breaks down, the results can be catastrophic as was the case with the South African Warship *President Kruger*.

Continuation training and exercising is a feature of the PWO’s duties and this can

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5 DI(N) ADMIN 30-15 dated 20 June 2003 was extant at time of writing this book.

be tedious but is essential to maintaining the level of Command Team and Operations Room teamwork and practice upon which proficiency in combat is based. Dash, elan and initiative will be less than valuable attributes, unless they are underpinned by a solid foundation of professional knowledge and task skill.

**Additional Qualifications**

Within the PWO specialisation, there are four ADQUALS: Above Water Warfare, Communications, Navigation and Surface Warfare. These are discussed later in this chapter.

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**PWO-OOW Case Study:** In February 1982 the South African Ship *President Kruger*, a modified Type 12 frigate, collided with the replenishment ship *Tafelberg* and was sunk with the loss of 16 lives.

At the time of the collision the two ships, together with the *President Pretorius*, were conducting an ASW exercise at night. *President Kruger* was OTC and OCS. The frigates were sector screening ahead of *Tafelberg* and a reorientation of the mean line of advance was ordered at 0340, from 010 to the south east. The Captain had not been called.

In *President Kruger*, the Operations Room was controlling and the bridge had the con. The PWO ordered a course change to 180 at which time *Tafelberg* bore 180 and 3000 yards from *President Kruger*. The OOW informed the PWO of this fact. The latter’s recorded reply is: “that can’t be – come right another 20 degrees”. The OOW did not question this order and applied 10 degrees of starboard wheel. During the slow turn it was evident from the bridge that *President Kruger* would cross *Tafelberg*’s bows. The PWO was not informed.

With the range between the two ships 900 yards, an increasingly anxious OOW called down the voice pipe: “we are closing fast, suggest we come hard left”. The PWO, who had lost *Tafelberg* in the radar’s ground clutter, ordered “Negative come hard right 240 degrees”. The OOW then said “I’m coming hard left – Port 30”. The second OOW at the pelorus did not hear the OOW but did hear the PWO and ordered “Starboard 30” and *President Kruger* continued across *Tafelberg*’s bows. The OOW on the starboard bring to bridge was unaware that his order Port 30 order was not obeyed. The ships collided.

A number of factors were involved but clearly the relationship between the Bridge and Operations Room was a major contributing factor. The PWO was senior to the OOW, who did not possess a full BWC. The PWO was also the OOW’s Training Officer and did not trust his OOW’s judgement. The OOW did not fully appreciate his responsibility to question the PWO on any decision he felt might jeopardise the safety of the ship.
Part 2 - Above Water Warfare

“Hit first, hit hard, and keep on hitting.”

Admiral Jacky Fisher

Role

The Above Water Warfare (AWW) ADQUAL was originally created by combining the duties of the pre-existing Gunnery specialisation and some of those of the Direction Officer specialist.

AWW training has been delivered in a variety of formats over the last thirty years and has remained focussed on the threat from anti-ship missiles and from aircraft. AWW is organised around the integrated employment of guns, missiles, electronic warfare and airborne defence systems.

Derivations – the Gunnery Officer

It used to be said of Gunnery Officers, that you became one so as to avoid having to serve with one. This was a little unfair – maritime warfare evolved around gunnery and reached its apotheosis with the design and construction of battleships capable of delivering 18 inch shells over 40 kilometres.\(^7\)

The traditional gunnery functions included specialised skills relating to ammunition design and storage, ballistics calculations, aiming and laying of the guns visually and, in due course, by radar. Constant training and drill was required to develop the teamwork necessary between the many components of manually operated, complex gunnery systems. Collateral duties related to Landing and Boarding Parties, ceremonial, small arms and explosive ordnance (when no MCDO was borne).

“The Gunnery Lieutenant is to have charge of and be responsible for all guns, gun mountings, and machinery in connection with them, including firing gear and night sights, except when the machinery referred to is steam, oil, or gas engine.”\(^8\)

The development of ship-launched missiles was a natural extension of the Gunnery Officer’s duties, although the (relatively) complex and advanced technology of missiles required a shared responsibility with the ship’s Weapons Electrical Engineering Officer (WEEO).

\(^7\) The Japanese battleship YAMATO, when completed in 1941, had a full load displacement of 72,800 tons and mounted 9 x 18 inch guns, 12 x 6.1 inch and 12 x 5 inch AA guns.

\(^8\) Kings Regulations & Admiralty Instructions, 1913 Chap XXIV para 900
The Gunnery Officer was responsible for the tactics and efficient use of the weapons and the WEEO for the material readiness of the system and the missiles themselves.

The acquisition of the Charles F Adams class of Guided Missile Destroyer (DDG) in the mid 1960s with surface launched Anti-Air Warfare (AAW) missiles and more automated control and guidance, lead to a re-arrangement of duties for the use and maintenance of AAW systems. Furthermore, automated ammunition handling arrangements diminished the numbers of semi-skilled sailors required to manually transfer ammunition and to maintain electro-mechanical equipment. This was exemplified in the later FFG and ANZAC Class gun systems.

**Derivations – the Direction Officer**

Radar was first deployed at sea in 1938 and rapidly improved when better power amplifiers were designed together with smaller, lighter radar antennae. The roles of the Direction Officer had their origins in the use of radar to track aircraft and to direct friendly aircraft movements.
to engage enemy aircraft formations. This work was pioneered by the Royal Observer Corps in the UK. The radar plotters tracked the position of aircraft on glass boards and the officers directed the movements of friendly planes. These skills were developed and refined by the Royal Air Force, and were operationally demonstrated during the early years of WW II.

The primary role of the Direction Officer afloat was the control and direction of fighter aircraft, advice on tactics and their co-ordination with other AAW systems. Non-commissioned personnel were also trained in the control and direction of aircraft.

This function was originally focussed on aircraft carrier operations but broadened when specialised air direction ships were developed and, later, AAW platforms. The close connection between the use of radar and the integration of air direction tasks led to greater involvement of the Direction Officer in the management of the entire Action Information Organisation (AIO). Computerised combat data systems automated this process and the Direction Officer was duly assigned responsibility for its efficient use within the broader responsibility of AIO management.

PWO (A) Training

Changing threats, systems and tactics has required regular redesign of AWW training. Future AWW training will be delivered as part of the Force Warfare Officer (FWO) Course and be oriented towards warfare commander functions. The training will be conducted at HMAS Watson as an additional qualification for PWO specialists who have completed at least one posting as a private ship PWO.

Future AWW Developments

AWW will remain a core function for PWO qualified officers for the foreseeable future. The threat to maritime forces from air launched and airborne weapons will remain. New sensors, weapons and tactics will require more informed and integrated co-ordination, which will be underpinned by network centric operations systems.

The introduction of the ADF’s Air Early Warning and Control (AEW&C) capability provides an additional layer of surveillance and direction in the maritime environment. The replacement of the F/A18 Fighter Aircraft by the new aerospace combat capability and the acquisition of air warfare destroyers will provide an improved and contemporary capability for AAW in maritime operations in the period 2010-2020, especially in the littoral. Concepts for both these platforms are being developed in co-operation with Allies.

Pending the introduction of these capabilities, current systems will continue to be developed, including missile and gun modifications, improved electronic warfare and close in self-protection systems. Continued requirement for collateral functions such as boarding expertise should be anticipated.
Part 3 – Surface Warfare

Role

The Surface Warfare (SW) PWO ADQUAL was originally created by combining the duties of the pre-existing ASW specialisation and some of those of the Communications Officer specialist.

SW training has been delivered in various formats over the past thirty years and has been focussed on the threat from submarine launched weapons and the management requirements of the Communications Department afloat. SW is organised around the integrated employment of all ASW weapons systems embarked in the force including maritime airborne platforms, supporting the PWO (A) in deploying Anti Ship Missile (ASM) decoys and ship manoeuvering while under attack, directing the PWO (A) with respect to surface ships to be engaged with ASM and launch and recovery of helicopters. It also includes responsibility for planning and managing the tactical and long-range communications needed to support operations afloat.

ASW Background

The potency of submarine warfare was demonstrated by its effectiveness in trade interdiction in WWI. Submarines generally attacked while on the surface or with the hull trimmed down. Their underwater endurance was short and their operational diving depth was shallow. Anti-submarine warfare tactics therefore originally involved using traditional surface weapons and close screening of the main body by destroyers.

Mortar MK 10 exploding ahead of an RAN Daring Class anti-submarine frigate.
After WW I major navies invested in ASW sensors and tactics, which were considered necessary but were (initially) given a low a priority. In the RN, specialist training in ASW was introduced in 1922 at HMS Osprey at Portland to provide suitably trained personnel to staff the evolving ASW structure and systems. Secret research provided the intellectual basis for the design and development of ASDIC ⁹ (later named sonar) equipment.

Improved weapons became available, originally as under-water bombs (depth charges). Short-range ballistic weapons followed (Hedgehog, for example) which had the pleasing advantage of engaging the submarine without having to pass over the top of it first. The effective range of ship-launched weapons was related to the short range of the sonar systems then available. As sonar performance improved, so too did longer range ASW mortars and, in due course, torpedoes.

System limitations required considerable skill in the conduct of close ASW action, the tactics for which became highly codified. The ‘Reverse Beetroot With Sidestep’ was, for example, a complex tactic for searching for a submarine that was submerged underneath the convoy. Despite developing considerable skill in such manoeuvres, the improved performance of submarines after WW II rendered close ASW action an unwise and unproductive adventure.

The availability of aircraft to spot and bomb submarines changed ASW tactics in WW II by providing defence in depth, which was supplemented by specialist surface ship Task Groups. Subsequent tactical development focussed on airborne platforms, strategic barriers and longer range weapons. Close ASW engagements, although practised diligently, became an in-extremis response, especially when guided torpedoes and submarine launched missiles were deployed.

Training in Torpedo Anti-Submarine (TAS) warfare in the RAN covered torpedoes, mine warfare, sonar, demolition, ASW weapons and related skills. Training took place in HMAS Rushcutter during WW II but relocated to HMAS Watson in 1956.

The RAN maintained a very professional ASW capability which, after 1955, was focussed on the aircraft carrier HMAS Melbourne and six River Class Destroyer Escorts (DE). Melbourne originally embarked Fairey Gannet aircraft and later Grumman Trackers, Wessex 31B helicopters and Seaking helicopters, all equipped with ASW equipment of contemporary capability.

⁹ Named after the Allied Submarine Detection Investigation Committee.
The Cold War threat to Australia’s sea lines of communication from submarines was such that considerable investment was made in ASW weapons and sensors. The Australian designed *Ikara* was the first guided ASW weapon to be deployed by navies. The *Mulloka* sonar was intended as an innovative sonar for Australian requirements and to develop a national industrial capacity.

**PWO (SW) Training**

Changing threats, systems and tactics required regular redesign of surface warfare training. In future, it will be delivered as part of the FWO course and be oriented towards Warfare Commander functions. The training will be conducted at HMAS Watson as an ADQUAL for PWO specialists who have completed at least one posting as a private ship PWO.
Part 4 – Communications and Information Systems

“If the said Lord and his fleet encounter enemy fleets where they must fight, they shall show all the ensigns and banners they have, so that each one may do his duty.”

The CIS Role

Communications and Information Systems (CIS) officers and sailors perform radio system management, visual signals and Information Technology (IT) tasks and management duties afloat and ashore. The CIS discipline has been subject to repeated review since 1984 due to the rapidly changing nature of the systems that support maritime communications and the evolving philosophy that underpins them, including the emergence of Network Centric Warfare concepts. Processes and skills of long standing have become obsolete and entirely new and exciting skill requirements have emerged.

The CIS field is expected to remain highly dynamic and at the forefront of contemporary technology because of the essential military need, reflected in current Defence doctrine to improve the availability, integration and distribution of information in support of all forms of warfare.

This will be manifest in the Navy’s transition from a network enabled platform to a network centric force structure, outlined in the Navy’s C4 Master Plan.

Communications are fundamental to the exercise of command and control. CIS officers and sailors manage its delivery and distribution. Maritime communications are conducted in the context of the Defence Information Environment and the pathways over which it operates. The CIS systems deployed in the defence environment require considerable management to achieve the desired capability and interoperability.

The CIS Officer

The CIS Officer is an operationally experienced officer with extensive education and warfare training. The CIS Officer’s primary role is the design, implementation and management of the CIS and EW architectures required to support the mission.

The CIS Officer will provide advice to the Command on the best use of the information paths available and their onboard management and ensure security through effective information discipline. Critical to the CIS Officer’s task is the ability to manage the competing priorities for limited bandwidth to satisfy operational, logistic, administrative and personnel requirements.

These duties are also exercised at the Force or Task Group level and in managing shore based communications assets, and policy and capability development roles. The duties of the CIS Officer are enumerated in the DI(N) ADMIN 30 series.

**History of the Sub-Specialisation**

Communicating between ships at sea and with the shore has been an endeavour since the first days of organised shipping. The ‘Black Book of the Admiralty’, which appeared in 1338, contained two single flag signals. This example aside, until the late 18th century signal books were written and promulgated privately.

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**The Battle of Salamis 480 BC.** Following the defeat of the Spartans at Thermopylae and the fall of Athens to Xerxes, a small combined fleet from the Greek states organised by Thermistocles confronted Xerxes’ Persian fleet in the narrow straits off Salamis Is, near the present day port of Piraeus. The Greeks were outnumbered about two to one by the Persian fleet of 650 triremes.

Xerxes combined force was split to control each end of the sound, which denied the Persians the ability to achieve concentration of force. The Greeks defeated first the enemy forces to the east and then reinforced their ships to the west.

The turning point in the battle is reputed to have been an unprecedented and highly co-ordinated manoeuvre (a ‘turn together’ in today’s naval language) that gave the Greek ships both the weather advantage and the element of surprise at the western end of the sound. This turn was initiated, so it is said, by a red cloak lashed to an oar and waved vigorously from a prominent position.

The battle of Salamis was the climax of Xerxes attempt to extend the Persian Empire to the mainland city states of Greece. The devastation and loss of supplies was such that Xerxes withdrew and European civilisation, such as it then was, was saved. (By way of an aside, this event was an interesting use of sea power in defending the exposed flank of a land force, in this case the remnants of the armies of the Greek states)

Whether this was the first example of such tactical control by signalling we may never know but it is certainly a powerful early example.
by individual senior officers. In 1799 the Board of the Admiralty printed its first signal book, based on principles developed by Admiral Lord Howe, which had the benefit of being universal. In 1867 the morse code, already in use on landlines, became available to the British Navy when Captain (later Admiral) Colomb invented the flashing signal lantern. This allowed night time communications between units under way for the first time.

In 1898 the British Admiralty issued ‘The Handbook of Homing Pigeons for Naval Purposes’. In the same year radio employing morse code (known as ‘wireless telegraphy’) was first introduced to British naval forces and was used exclusively at the time for long haul communications. This led to the growth of a corps of user-maintainer radio operators who were occupationally quite distinct from their flag deck.
shipmates, although both were engaged in naval communications tasks. Until the late 1930s, the Fleet tended to look on wireless as a capricious device that would never displace visual signalling. The Captain kept the Yeoman of Signals at his elbow and may have needed to ask who, precisely, was the Petty Officer Telegraphist?

By 1939 HF and VHF radios were being used and UHF was imminent, inexorably migrating into higher bandwidths as the communications demand grew in response to the faster and more complex warfighting methods. Voice communications emerged, known as ‘wireless telephony’. Inter-ship radio use multiplied dramatically. An organisational nexus was formed between information exchange by visual signalling and that by radio, being fuelled by the encroachment that radio was making on functions previously the domain of the flag deck.

The Communications sub-specialist officer as now known, was created in the RAN in 1948 following RN practice, as a Seaman Officer and part of the weapons/sensor operator organisation. At the same time the RAN created an electrical engineering branch, which progressively assumed all technical support functions. Information systems management was added to the Communications Officer’s duties afloat in 1997.

### Intelligence Collection by Radio Means

Coincident with the introduction of radio communications was its mirror image: radio intercept, which was in place in the RN early in WW I. The development of both radio communications and electronic intelligence collection progressed hand in hand through the 20th Century. Intelligence collection by radio drove requirements for improved cryptography, which became a differentiated skill and, in due course, an automated one when the volume of traffic overwhelmed manual coding techniques. A cyclic process of information protection and penetration ensued and remains a perpetual feature of communications tasks.

Radio direction finding techniques, initially using Medium Frequency (MF) and High Frequency (HF) transmissions, were developed and applied to both navigation and tactical intelligence collection functions afloat. The intercept of radio communications adapted naturally to the intercept of other electronic emissions when radar was introduced, creating the function of Electronic Warfare (EW). Specialised receivers and transmitters (signals jammers) emerged.

The related technologies lead to EW operations being embedded within the Communications Officer’s responsibilities afloat and ashore. Later technology drivers caused increased specialisation within all three disciplines.
Postings

CIS appointments are geographically diverse and show a distinctly Joint Services emphasis. This is reflected in both the range of tasks and the authorities within which they may be undertaken.

In addition to sea duties and those in base communications centres, CIS appointments are available in Maritime Headquarters, Naval Headquarters, the Defence Chief Information Officer’s Group, Defence Material Organisation, North West Cape, Headquarters Joint Operational Command, HMAS Stirling, HMAS Cerberus, Fleet Information Systems Support Office (FISSO), Defence Signals School Simpson Barracks and Capability Development.

Communications Development

The evolving Defence Information Environment will provide the architecture of networks, the Joint infrastructure, web-based infrastructure, and network security for the conduct of Network Centric Warfare. This is emerging as the Navy’s cornerstone warfighting concept which derives maximum force warfighting potential through rapid and robust networking of diverse, well informed and geographically dispersed warfighters.

The command and control environment of the future must be capable of contending with the complexity of the battle space. Network Centric Warfare will be based on a robustly networked system of sensors, decision aids, weapons, war fighters and supporting systems to support Joint and naval forces in their execution of missions across the entire range of military operations. Management of this environment will be a major operational task for the foreseeable future.

PWO (C) Training

Changing threats, systems and tactics have required regular redesign of sub-specialist communications training. In future, it will be delivered as part of the FWO Course and be oriented towards Warfare Commander functions. The training will be conducted in HMAS Watson and HMAS Cerberus as an
ADQUAL for PWO specialists who have completed at least one posting as a private ship PWO.

**Part 5 – Navigation**

**Role of the Navigating Officer**

Navigation is another PWO ADQUAL. The Navigator, assisted by the Navigator’s Yeoman where borne, plays a pivotal role in the Command Team irrespective of the size and type of ship. A ship cannot “fight and win in the maritime environment” if it cannot safely navigate to and within the battle space.

The standard of training received by RAN Navigators is very high and compares favourably to that of other western navies. It provides a logical progression through intermediate, long and advanced training that links prior experience to future employment. Training received at the Australian Maritime College in Launceston during the Advanced Navigation Course provides a valuable broader perspective to the application of navigation principles, especially in larger ships.

Navigating HMA Ships is one of the most challenging and rewarding careers upon which an officer can embark. The responsibility, command relationships, skill and status attached to the Navigating Officer’s role attract considerable job satisfaction and respect.

The Navigating Officer’s function and many of the skills employed can be traced back to the earliest days of organised marine activity. After all, someone had to get all those Greek ships to Salamis in 480 BC to fight Xerxes’ fleet! Polynesian navigators were sailing by the stars in the 12th Century and possibly earlier. The voyages of Torres, de Gama, Magellan, Cook, Marion, La Perouse, Beechey and others were as much achievements

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**The Navigating Officer.** “In my day you could always tell the Navigating Officer by his tie, which was extra shiny and expansively knotted, and by the two inches of white shirt cuff upon which he traditionally scribbled down his fixes. But most of all, you could tell the Navigating Officer by that general air of faintly superior knowledge which, like the bactrian camel, who alone knows the hundredth name of God, sets the Navigating Officer apart from the rest of us.”

John Winton We Joined The Navy

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of navigation as they were ones of seamanship and scientific discovery.

Even where supported by modern equipment such as satellite navigation, the Navigating Officer retains the residual skills of the past as a contingency capability. Navigation skills are shared with the merchant marine and recreational users and transfer across the boundary that marks Navy’s unique war fighting skills. Navigation is the core skill of steering ships where we want them to go, safely, and is embedded in the role of every Seaman Officer.

There is a view sometimes expressed, that navigation is being automated to the point where the sub-specialist requirement might be questioned. This is not the case. Despite satellite based Global Positioning Systems (GPS), astrological navigation (astro-nav) calculators, electronic charts and other forms of modern technology, someone still needs to manage these systems and apply their underlying functionality. More importantly, battle damage, accidents and breakdowns will deprive users of their electronic tools from time to time, and require recourse to the more rudimentary methods of manual navigation in which the sub-specialist Navigating Officer is expert.

**Training**

Intermediate Navigation Course (n) is 14 weeks duration and prepares officers for navigating duties in a Minor War Vessel (MWV), such as a patrol boat. It includes Navigation Yeoman (Nav Yeo) duties because some MWVs carry no Nav Yeo. This course and the sea experience that follows as a MWV navigator are prerequisites for the Long Navigation Course (Long N).

The Long N Course is 10 weeks in duration. It includes more detailed meteorology, astro-nav, tide calculations, ship handling, chart maintenance, navigation equipment operation and capabilities, ship operational planning, passage planning as a senior officer’s navigator, pilotage, Rule of the Road, two weeks in the simulator and two weeks practical sea time that includes a Go/No Go assessment.

The Advanced Navigation Course (N+) is conducted annually and takes approximately four weeks. The course includes deep draft ship handling theory and simulator time. Bridge simulator work with the future Commanding Officer
Combat in Pilotage Waters. On 10th April 1940, Captain Warburton-Lee, in command of the 2nd Destroyer Flotilla, entered Ofotfiord under orders to prevent enemy forces landing at Narvik and to interdict supply ships. He was also given discretion to capture the town with a Landing Party! He intended to attack at dawn, at high water, with five destroyers. The enemy force comprised 10 large fleet destroyers and 2,000 troops ashore.

Captain Warburton-Lee’s force proceeded “through continuous snowstorms, in very low visibility and along strange channels beset with navigational hazards” to arrive off Narvik at 0400. This was done darkened, without radar and while maintaining radio silence. Three destroyers entered Narvik harbour at 0430 and, at high speed, attacked with guns and torpedoes.

Enemy destroyers now emerged from smaller fiords on the flanks of the British squadron. Captain Warburton-Lee attempted to withdraw under fire from a force which was superior in both numbers and weapon calibre. A running battle ensued in the gloomy waters of the sound, shrouded in snow drifts and the smoke of gunfire. Both sides lost two destroyers but the British force managed to recover the damaged ship *Hotspur* – an achievement reflecting excellence in both seamanship and navigation.

On 13th April, 1940, the battleship HMS *Warspite* and nine destroyers re-entered the confined waters of the fiords. Lacking tactical surprise the force proceeded at high speed in poor weather and without radar. The remaining German destroyer and supply ships were destroyed.

occurs where possible, and includes Commander Task Group (CTG) operations officer assignments.

**Contemporary Change**

Increasing levels of automation is a feature of modern navigation that will continue as new classes of ships are introduced into service. The rate of change in navigation processes has accelerated since the introduction of radio based aids (initially M/HF Direction Finding, Loran, Decca and Omega) and more recently GPS.\(^\text{13}\) Hand held calculators to assist with astro-nav and ring laser gyroscopes are other examples of modern navigation aids. Other contemporary developments include the Maritime Transport Security Act 2004, Automatic Identification System (AIS) and the Digital Voice Recording System (DVRS).

The Electronic Chart Distribution Information System (ECDIS)\(^\text{14}\) and its related Navigation Display System will have a marked influence and improvement on Navigating Officer

\(^{13}\) First trialled in the RAN in HMAS *Hobart* in 1976 during Operation Phineas Fogg.

\(^{14}\) ECDIS was first installed in the Navigation School HMAS *Watson* in mid 2004.
workloads, especially pilotage planning. This does not of course relieve the Navigator of his skill responsibilities or the need to comprehend the systems’ functionality and foundation principles. Overseas operational experience indicates that ECDIS will assist Bridge team workload, ship safety and Command confidence.

These and other factors are changing the way the Navigator goes about his/her business but not what that business is. Despite technological developments, the possibility of collisions, grounding and berthing incidents as well as the science of tropical storm avoidance remain a reality for the modern Navigating Officer\textsuperscript{15}, and the requirement for a specialist navigator possessing deep-seated knowledge and understanding of the principles behind the technology will continue.

**PWO (N) Training**

Changing systems and tactics has required regular redesign of sub-specialist navigation training. In future, it will be delivered as either part of the FWO Course, or prior to the PWO Course upon completion of service as the navigator in a MWV, and will be oriented towards Warfare Commander functions.

\textsuperscript{15} The Fleet Navigation Officer reports 23 such incidents in 2003 alone.
Part 6 – Amphibious Warfare

Amphibious Warfare offers both Seaman Officers and PWO’s exposure to challenging joint operational experiences in the littoral environment. This specific sphere of naval operations encompasses aspects of all the PWO disciplines. The future of the ADF’s amphibious force is very promising with the planned acquisition of two large Canberra Class (greater than 20,000 tonnes) Landing Helicopter and Dock (LHD) ships to replace the existing fleet of amphibious ships. It should be noted that the totality of the ADF’s amphibious capability will be further analysed to determine its precise future composition. Irrespective of the eventual force structure Navy will continue to require Warfare Officers experienced in amphibious operations.

Appointment to warfare positions in the Landing Platform Amphibious (LPA) Class and the Landing Ship Heavy (LSH) (and their replacements in due course) is suitable for an officer who is PWO qualified, preferably with amphibious and joint warfare training. Command of the LPA and LSH ships is expected to remain at Commander rank. Officers with the aforementioned skills and amphibious experience and a knowledge of land force operations, would be well placed to aspire to these commands and possibly the LHD’s in the future.

The Command, Control, Computers and Intelligence (C3I) capability of the LPA Class provides a broad operational flexibility for the ADF and offers exposure to varied and unique command experiences. Later appointments such as Commander Amphibious Task Group (Captain rank) would benefit from prior LPA or LSH command.
An Australian Army Armoured Personnel Carrier disembarks from HMAS *Balikpapan* (L-126) onto the beach near Suai, East Timor.
Suggested Reading –
Principal Warfare Officer (PWO)


- Defence Instructions Navy (Administration) 30 Series.


Chapter Four

Mine Warfare and Clearance Diving

Introduction

Mine Warfare and Clearance Diving (MCD) is a recognised warfare specialisation based upon the core mine warfare capability of six Coastal Mine Hunters (MHC) and two fully operational and deployable Clearance Diving Teams (CDT). There are also three deployable Mine Countermeasures Headquarters (HQ) and two Clearance Diving HQs. MCD is a Warfare specialisation for officers. Mine Warfare (MW) without the Clearance Diving role is a recognised AD QUAL for Warfare Officers.

The occupation is a tough, physically and mentally demanding job for both officers and sailors that requires sub-surface swimming, diving and the handling of heavy equipment, often in difficult places with little infrastructure. MCD Officers (MCDO) and Clearance Diver (CD) Senior Sailors carry responsibility that is discharged in the context of small group situations, sometimes isolated from immediate support.
**MCD Duties**

These are described in the DN(1) ADMIN 30 Series. MCDOs are the ADF’s specialist diving officers, with particular skills in Explosive Ordnance Disposal (EOD). Their roles and tasks include Mine Counter Measures (MCM), including the location and destruction of enemy mines, recovery of mines for intelligence purposes, Special Operations tasks (such as clandestine beach reconnaissance and clearance prior to an amphibious assault), EOD both on land and underwater, and the disposal of Improvised Explosive Devices (IED).

EOD tasks are undertaken in ships, ashore and in port facilities. Clearance Divers, when borne in Major Fleet Units (MFU), have responsibility for a ship’s MCM equipment and its operational efficiency. They also perform underwater battle damage repair and hull maintenance.

MCDOs have a substantial and proud history. Eight RAN Volunteer Reserve (RANVR) officers were awarded the George Cross or George Medal in WW II and two more have subsequently been awarded.
Lieutenant Commander Goldsworthy GC DSC GM. Leon Goldsworthy was commissioned as a Sub Lieutenant in the RANVR in 1941 having been a technician in the Physics Department of Adelaide University. He was posted to the UK for training and volunteered for the ‘Rendering Mines Safe Section’ of HMS Vernon at Portsmouth. He quickly learned to use his pre-war training in electricity and physics for bomb disposal tasks. His work often required him to defuse mines underwater wearing a bulky diving suit that made the slow, steady movements required in this work very difficult.

On 13 August 1943 Leon Goldsworthy defused a German mine in the water off Sheerness using a special diving suit, which he and a colleague had helped to develop. In September and October 1943 he defused two mines, one of which had rested at a Southampton wharf for two years and the other in the River Thames. For this he was awarded the George Medal. Then, in April 1944, he disarmed an acoustic mine that had lain in the water off Milford Haven for two and a half years. In September 1944 he received the George Cross for his work in recovering and defusing mines.

Before the Allied invasion of France, he was involved in the selection and training of men for port clearance and he was awarded the Distinguished Service Cross in January 1945 for his bravery and leadership in clearing Cherbourg Harbour, which was needed urgently to supply Allied troops advancing across France. On one occasion he disarmed a new German ‘K’ type mine in 15 metres of water under shellfire.

After his work in France, Leon Goldsworthy served with the United States Navy in the South Pacific Theatre, helping to defuse Japanese mines in the Philippines and in the Borneo area. He was among the first to enter and search the caves in Corregidor.

He was promoted to A/Lieutenant Commander in September, 1944, and was Australia’s most highly decorated naval officer, having rendered more than 300 mines safe. He died in 1994.
Characteristics of the Occupation

The MCD occupation is suitable for someone looking beyond mainstream warfare duties within the surface fleet. MCDOs are adaptable, flexible and have an expectation of deploying at short notice to often remote areas or unknown situations in which unexpected challenges are routine. MCDOs usually enter this specialist field for several years, interspersed with appointments to non-specialist duties before returning to MCDO duties from time to time. Some choose to dual specialise as PWOs and return to Fleet and compete for the Sea Charge program and MFU Command.
Much time is spent cold and wet. Aspirants for this specialisation would benefit from a capacity to obtain joy from climbing in and out of cold, damp wet suits. The specialisation tends to attract those with an adventurous streak and who enjoy outdoor, physical activity. Practitioners speak of a variety of potential scenarios in which their duties are discharged and the unpredictable nature of deployments in time, place and task. MCDOs also employ traditional seamanship skills afloat in a way not often observed in some modern fleet units because they often do not have immediate access to automated tools. Fitness is a very high priority and forms an important part of the culture of the branch. A reality reflected in the nature of daily continuation training and duties.

**CDT 3 in Vietnam.** In 1967 CDT 3 was formed for operations in Vietnam. It was assigned to the Vung Tau harbour defence unit in February 1967. Operation Stabledoor was the name given to the defence of shipping against underwater attack in the main South Vietnamese ports. CDT 3’s original duties also included EOD in Phuc Tuy Province and salvage tasks.

Vung Tau was the site of several military installations including the 1st Australian Logistic Support Group at Nui Dat. It was a major site for the disembarkation of troops, vehicles and logistic support equipment for the Australian Task Force. Vung Tau was also the anchorage for ships waiting to enter the port of Saigon 70 kms upstream and was a target for enemy underwater sabotage.

From mid 1968 CDT 3’s functions were expanded to include special operations in Viet Cong occupied areas. This involved beach surveillance, riverine patrols, demolition of obstacles, destruction of tunnels and bunkers and participation in reconnaissance patrols and ambushes in company with South Vietnamese units and USN advisers. Ordnance recovery and disposal, including booby traps and WW II ammunition, was a constant theme of CDT 3’s work.

Numerous aircraft and ship salvage operations were undertaken with emphasis on recovery of unexploded ordnance. Ship repairs were also undertaken. During its four years in Vietnam CDT 3 conducted 7,441 bottom searches.

CDT 3 remained in Vietnam until May 1971. Eight detachments each of an officer and five sailors served there. CDT 3 was awarded one DSC, two DSMs, one BEM and three Mention-in-Dispatches. The team provided the professional basis for the contemporary development of clearance diving in the RAN.
Officer and senior sailor duties include leadership of small groups that are fundamentally reliant on teamwork for the successful discharge of their duties. Considerable trust is placed in colleagues. Close and intimate teamwork with non-commissioned personnel is required, and the leadership style of MCDOs reflects this.

Most MCD postings are in HMA Ships Stirling and Waterhen and in the MHC class ships. There are 30 CDs, including two officers, based with 4 RAR at Holsworthy as a component of the national counter terrorism capability.

There are some opportunities to work overseas and to participate in tactical and technical development with Allied navies. Some MCM tasks are heavily reliant on intelligence collection.

The CDTs deploy regularly. Their speed of response, flexibility, compact structure and non-threatening presence makes them an attractive deployment unit. They are also very important for their preparatory role in amphibious operations. Senior appointments within the specialisation are limited and the current career model facilitates officers achieving senior rank in non-MCDO positions.

Divers from HMAS Australia (I) training.
MCD Training

Officer training is undertaken after the award of a BWC and lasts approximately 64 weeks; 39 of these relate to CD Officer (CDO) duties and 25 weeks to MW. The CDO course includes diving, underwater tools operation, aqualung, deep diving and the supervision thereof, with a strong overarching emphasis on safety. Ship’s diving activity gives an insight into some of the implications of an MCDO career.

The Officers’ course extends students physically and mentally and replicates as far as is possible and safe to do so, the stresses of real world operations. The MW course includes the PWO Course Common Warfare Module. The MCDO is trained to know how a mine works as well as how to safely defuze and disassemble it. The Basic MW Course does not train to this detail and skill, concentrating more on the MHC tactical data system and the mine warfare combat data system.

An Advanced MW Course of eight weeks is available and undertaken in the United Kingdom (UK).

A Counter Terrorism Course is provided at 4 RAR Tactical Assault Group for MCDOs and CDs posted there. This contains core skills that exhibit ‘commando’ characteristics. Many of these skills, such as small arms weapon operation, are repatriated back into the Clearance Diving Teams (CDT).

Suggested Reading –

Mine Warfare & Clearance and Diving

- Defence Instructions Navy (Administration) 30 Series.
- ‘A Day in the Life of a Clearance Diver’, CPOCD J. A. VOORHAM CSM, Australia’s Navy 1993/4, AGPS.
Chapter Five

Maritime Geospace

“Yesterday morning a cutter arrived consigned to a house here & was offered for sale, and as she is in my opinion the vessel of all others most suited for the Expedition the Governor is now at my request treating for her.”

Lieutenant P. P. King describing the acquisition of the *Mermaid*.

Part 1 - RAN Hydrographic, Meteorological & Oceanographic Force Element Group

The RAN Hydrographic, Meteorological & Oceanographic Force Element Group (HMFeG) is the agency responsible for the provision of operational maritime military geospatial information in support of the ADF. It enables the ADF to exploit the above and below water physical operating environment for strategic, operational and tactical advantage. HMFeG tasks include the production of military geospatial information, combat support and operational survey.

Within the HMFeG, the Australian Hydrographic Service (AHS) is the Commonwealth Government Agency responsible for the publication and distribution of nautical products and other information required for the safety of ships navigating in Australian waters.

The AHS is a modern organisation that discharges civil and military obligations. It has a prominent role in the International Hydrographic Organisation and is a participant in the South West Pacific Hydrographic Commission. The AHS shares a nationally important and productive relationship with the Australian Maritime Safety Authority (AMSA). It produces digital and manuscript products and electronic navigation charts.

Also within the HMFeG, the Director of Oceanography & Meteorology (DOM) provides resources for oceanographic and meteorological data acquisition and management.

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1 Lieutenant P. P. King letter to the Secretary to the Admiralty 1st October 1817.
Part 2 – Hydrography

Hydrographic Duties

Hydrographers undertake a vital task in support of the RAN’s maritime operations. The Hydrographic Branch has been innovative and one of the hardest working and hardest worked branches of the Navy. It produces fundamental underpinning information for all naval activity and employs all the core skills of the mariner.

The organisation is headquartered in the Australian Hydrographic Office at Wollongong NSW. As the majority of survey work occurs in northern waters the survey ships and aircraft are based in Cairns.

Rear Admiral Phillip Parker King RN FRS. P. P. King was the son of Governor Philip Gidley King and was born on Norfolk Is in 1791. He entered the Royal Navy at age 15 and served continuously at sea for eight years, including operational service in the Napoleonic war. He served under officers with notable survey credentials such as Admirals Otway and Pellew, and was acquainted with Matthew Flinders who encouraged him in his career choice.

In 1817 King was appointed in command of an expedition to survey that part of the Australian coastline which Matthew Flinders had been unable to complete when Investigator become unseaworthy. King employed the cutter Mermaid and made three surveying voyages around the Australian coast in 1817-1820. He embarked in the brig Bathurst in 1821-22 and made a more extensive survey of the north and western coasts of the continent. He also undertook a running survey of the inner Barrier Reef.

He was promoted to Commander in 1821.

He returned to England in 1823 to document his findings. His work ‘Narrative of the Survey of the Intertropical and Western Coasts of Australia’ was published in 1827. He was elected as a Fellow of the Royal Society and to the Royal Linnean Society.

In 1826 he took command of HMS Adventure in company with HMS Beagle and surveyed the southern and western coasts of South America including the formidable Magellan Straits. This task took four years and King was promoted Captain on completion. His ‘Narrative of the Surveying Voyages of HMS Adventure and Beagle, etc’ documented the work.

King retired from active service and took up pastoral pursuits at his properties to the west of Sydney and at ‘Tahlee’, Port Stephens, where he now lived. He made several marine
surveys of the east coast and one of Port Stephens in 1843. He became a commissioner of the Australian Agricultural Company and a member of the Legislative Council. He was a keen astronomer and had an observatory in his garden. In 1855 he was promoted to the rank of Rear Admiral of the Blue, the first Australian born officer to achieve Flag rank. He died in 1856.

Hydrographic Capabilities

The RAN possesses a range of capabilities that provide survey information both for the national charting authority and for military operations. Current hydrographics assets include:

Hydrographic Survey Ships: HMA Ships Leeuwin and Melville.

Survey Motor Launches: HMA Ships Shepparton, Benalla, Paluma and Mermaid, which normally work in pairs.

Laser Airborne Depth Sounder (LADS).

Deployable Geospatial Survey Team (DGST).

Hydrographic School assets – limited availability.
Hydrography in the RAN

Hydrographic survey of Australian waters commenced with European discovery of the continent and was undertaken by some of the greatest navigators of the age and whose deeds are well recorded. Matthew Flinders and Phillip Parker King retain a special status as role models for RAN hydrographers. Some of their charts remain in use today, virtually unaltered.

The RN retained responsibility for survey in Australian waters until October 1920 when the AHS was formed. The RN continued to deploy ships in support of the AHS until 1926.

The sloop/minesweeper HMAS Geranium was acquired from the RN in 1919 and commissioned in 1920 to undertake survey duties. Priority was assigned to the economic trade routes through the Great Barrier Reef and Torres Strait. Geranium was supported by HMAS Moresby and HMS Herald, the latter on loan from the RN in 1925/6.

Aircraft were adapted to hydrographic support early. Geranium was equipped with an A10-2 aircraft, which was the first recorded use of an aircraft for surveying purposes. In 1925 six shore based Fairey IIIs were deployed to Bowen to support Geranium. In 1926 Supermarine Seagull IIIs were also loaned for hydrographic support pending the completion of HMAS Albatross for which they had originally been purchased.

Survey operations off Queensland 1927. The survey motorboat Hearty being turned out from HMAS Moresby (I).

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2 Originally ordered in 1921 for cruiser duties.
Later, *Supermarine Seagull* Vs, constructed to an Australian specification, and also ordered for *Albatross*, were used for survey operations.

*Geranium* was retired from survey work in 1927. *Moresby* remained in service but was placed in operational reserve from 1930 to 1933. When international tension increased in the late 1930s, hydrographic survey again obtained priority and strategic surveys were completed.

The Survey Branch was disbanded in 1939 but re-established in 1942 when the poor state of charts in the island waters to the north became evident. Survey tasks were now in the front line and undertaken in advance of operations.

During the New Guinea campaign ships of the Hydrographic Service operated in all weathers and under frequent attack. Amphibious assaults, then as now, required knowledge of navigation hazards. Channels were charted and marked. Landings in the Hopei and Lae region in 1943 were dependent on rapid survey of the area under the direction of the RAN Hydrographic Branch, using Australian ships and personnel completing a task in a few weeks, which in normal circumstances may have taken months. This pattern was repeated throughout the islands campaign.

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**Operation Oboe Six – Brunei Bay, June 1945.** Japanese forces had occupied the Brunei Bay/Labuan area on the north west coast of Borneo in 1942. Allied forces were assigned to retake the area and develop it as a forward fleet base. Four beaches were selected for the assault, some distance apart. The assault force comprised 85 ships including *Manoora*, *Kanimbla* and *Westralia*.

The first ships to arrive were the Minesweeping and Hydrographic Group. The Hydrographic Unit comprised HMAS *Lachlan* (CTU 78.1.6) and US Ships *YMS 160* and *Satinleaf*. *Lachlan* laid channel approach buoys and carried out check soundings of the approaches. Cruisers then commenced a bombardment of shore targets. Lieutenant Cooper from *Lachlan* laid buoys near Labuan Is using a ship’s boat, while the barrage was underway. *Lachlan* herself conducted close inshore reconnaissance of Green Beach, siting buoys within 30 yards of the shore.

*Lachlan* re-entered the bay at dawn the following day and buoyed a narrow channel leading to the town of Brooketon. The CO, Lieutenant Commander Tancred, reported: “*Lachlan’s boats … with two LCS, two LCI and YMS 160 rendering close support, went into the channel and completed the survey. Two destroyers … dropped shells dangerously close to the boats, but with the exception of two shots from the shore at one of Lachlan’s boats just north of Brooketon, no enemy resistance was experienced …*”
The beach assault commenced on 10 June following an intense bombardment. *Lachlan* continued her survey and channel marking work and she conducted a rapid survey of Anson Passage, within the bay, which was duly buoyed.

On 15 June *Lachlan* again deployed her boats to survey the approaches to the town of Weston and the Padas River on which it was sited, assisted by *YMS 160* and an LCS. Weston was believed, incorrectly, to be occupied by the Japanese. On the 17th Lieutenant Starkey from *Lachlan* piloted the assault craft up the river to Weston. Survey and pilotage work continued in the Brunei Bay area for several days.

Rear Admiral Royal, commanding the naval forces, commended Lieutenant Commander Tancred: “Your seamanlike and efficient performance here at Brunei and at Tarakan have been a source of great pleasure to me and should be one of great pride to you. You have a well organized, courageous and efficient crew. To you I give the highest naval praise.”

Survey Branch was awarded 2 OBEs, 13 DSCs, 4 DSMs and 14 Mention-in-Dispatches during WW II.

The RAN’s role of providing the national hydrographic capability continued after WW II using converted warships. The frigates HMAS *Barcoo* and the older *Warrego* were designated for survey duties from 1952. HMA Ships *Diamantina* and *Gascoyne* were recommissioned from the reserve fleet to replace them as oceanographic research and survey ships in 1959.

In 1957 Motor Stores Lighter (MSL) No 252 was taken out of reserve, initially as a tender to *Warrego*. MSL 252 was promptly converted to a coastal survey ship and commissioned as HMAS *Paluma* (III) in February 1958. This remarkable little ship remained on survey duties mostly in northern waters until March 1973, by which time the hull and machinery were 28 years old.

*HMAS Morseby* (II) was completed as a purpose designed survey ship in 1964 in Newcastle and was the first warship fully designed and built in Australia. She was equipped with a helicopter and considered the most visually elegant ship afloat in the RAN at the time. *Gascoyne* was paid off in 1966. HMAS *Flinders* was commissioned in 1973 and replaced *Paluma*.

The main priorities for survey work were the newly developing ore ports and shipping routes on the north west coast, and the perennial requirements of the Great Barrier Reef and Torres Strait. Natural gas deposits were discovered which placed further pressure on survey requirements. Bulk carriers were increasing in size dramatically and margins for error diminishing. Economic
pressure to improve the rate of effort caused the RAN to deploy Attack Class patrol boats to the north-west shelf in 1969-74, working in close company with *Morseby*. The development of LADS was a technological solution to increase the speed of survey operations.


**Contemporary Operational Service**

As indicated above, survey work often precedes military operations and the RAN Hydrographic Branch has a proud history of combat support. Survey ships and units also undertake a broader range of tasks when priorities require. The rotary wing capable units are especially adaptable. They are suited to constabulary duties, Search and Rescue (SAR) and disaster relief, in particular. Hydrographic Ships (HS) present a benign disposition and are designed for extended deployments.

Recent operational service has included hydrographic tasks in Timor (DGST, LADS and SML). The DGST was the first maritime unit into Dili Harbour, just as *HMAS Flinders* was the first RAN unit into Darwin after Cyclone Tracy (excepting the patrol boats based there). The DGST deployed to the Solomons.

The two hydrographic survey ships undertook border patrols during
Operations Relx and Relx II. Both HS carried up to 130 personnel although only equipped with 52 bunks during this task and were at sea for up to 45 days.

The DGST is involved in most major exercises. It provides the Defence Science and Technology Organisation (DSTO) support and undertakes a summer season in southern waters. The Hydrographic Service has a strong linkage to the MW community.

Hydrographic Officers’ Courses and Qualifications

Hydrography may be selected as a specialisation after Seaman Officers have obtained their BWC.

There are two levels of training for Hydrographic Officers, both of which have civil accreditation. The first is the ‘H2’ Course delivered by the RAN Hydrographic School in HMAS Penguin.

This is an intensive six-month course that covers the practical aspects of Hydrographic Surveying including theoretical and academic studies. Subjects include geodesy, the practical operation of survey equipment including satellite position fixing, depth measurement, hydrographic data logging and processing and the operation of small survey craft. The course carries an International Hydrographic Organisation (IHO) accreditation as meeting the standards of competence for hydrographic surveyors, subject to sea experience. Officers are awarded the ‘H’ specialisation when the course has been successfully completed.

Six to eight officers are required to do the course each year to meet staffing needs. Where possible, volunteers are posted to a survey ship for experience before undertaking the H2 course.

On completion of the H2 course officers are posted to sea for consolidation training, normally as an assistant surveying officer aboard one of the larger survey ships. Subsequent postings may be to sea as Executive Officer aboard a smaller survey ship or to staff positions at the RAN Hydrographic Office in Wollongong.

After several postings, commonly two or three, surveying officers may be posted to the Long Hydrographic Course at HMS Drake in England. This is a six month IHO accredited Category A course which prepares Officers to supervise the conduct of Hydrographic Surveys, a pre-requisite for Commanding Officers of surveying ships.

Possible postings after the Long Hydrographic Course include the Command of smaller survey ships, instructor positions at the RAN Hydrographic School and more senior staff positions such as the Quality Control Officer or Staff Officer Operations at the Australian Hydrographic Office.

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3 Heard Is 2000/01, Tasmania and Mawson base in Antarctica 2002/03.
There are approximately 50 specialist Hydrographic Officer positions in the Navy. Of these about 20 require an accredited Category A hydrographic qualification. All Hydrographic Officers remain Seaman Officers in the RAN who may be called upon for duties in general service both afloat and ashore at any time.

Other overseas courses are considered from time to time to provide improved education in emerging technology (for example: rapid environmental assessment, scanning sonar technology).

Educational Pre-requisites

All Seaman Officers are eligible for selection as surveying officers. There are no additional educational requirements, though the nature of the specialisation relies on abilities in mathematics and some familiarity with science subjects.

Many Hydrographic Officers also possess a tertiary qualification but this is neither essential nor a pre-requisite for the H2 course.

Qualifications exhibited by current officers include: Bachelor of Surveying Degree (Bsurv), BA (Hons) MIS (Aust), BSc, BSc (Hons), MSc, MSc Tech, PgradDipSurv.
Factors to Consider in a Hydrographic Branch Career

An officer who sub-specialises in Hydrographic Surveying has many challenges to meet during a rewarding career. It is a sub-specialisation which has a proud history of discovery and one upon which both the ADF and the wider maritime community depend for safe navigation and ultimately their safety. Every chart upon which seafarers depend represents the work of surveying officers at sea.

The primary role of a surveying officer is to collect the information that is required to make charts and provide the associated services, which help make navigation at sea safe. Duties include watchkeeping on the bridge of surveying ships, leading survey parties both ashore and afloat in remote locations, and assessing and compiling survey information before it is rendered to the Australian Hydrographic Office.

Geographic postings are mainly at Cairns, where the ships and the LADS are based, at the RAN Hydrographic Office at Wollongong and at the RAN Hydrographic School in Penguin. Leeuwin and Melville employ a three-crew rotation staffing system that eases the harbour duty load, compared to some other ships. Ship deployments have had a strong emphasis on northern waters and this is expected to continue. There are limited exchange service opportunities overseas.

Hydrographers exhibit a strong reference back to survey archives and sense of history:

“we feel as though we are pioneers ourselves – we seek out the white bits on the chart.”

They are very proud of current achievements and of those who have gone before. Hydrographers produce an identifiable product – they create something that is not perishable but forms a vitally important input to naval forces in the conduct of their operations and for the wider community to use in its economic, government and recreational activity.

Quality control is fundamental and to that extent the work can sometimes be tedious. Work is repetitive in some ways but in practice duties afloat exhibit considerable task diversity. Hydrographers aspire to undertake real world operations where possible and appropriate to do so.

Personnel considering a specialist hydrography career are encouraged to read extant Hydrographic Oceanographic and Meteorological Force Element Group (HMFE) plans for an up-to-date indication of contemporary issues and planned directions within the specialisation.
Likely Developments

Hydrographic tasks are an enduring feature of naval work although the technology employed may change with increasing use of airborne and satellite based techniques to support those afloat. The SMLs are expected to remain in service until 2015. System upgrades will keep them technically current for hydrographic duties.

Melville and Leeuwin have a nominal replacement date of 2020, having received a mid life upgrade in 2011.

Like all naval endeavours, hydrography is an enthusiastic employer of new technology. Hydrographic systems projects relate directly to the gathering of appropriate information in order to make informed decisions on maritime operations. The LADS capability will be maintained and improved; Electronic Charting is becoming contemporary and Australia is one of the first maritime nations to pursue this form of hydrographic information management. A Rapid Environmental Assessment (REA) Capability will emerge to acquire information about the land adjacent to waters to improve our understanding of the sea-land interface.
Part 3 - Meteorology and Oceanography (METOC)

“...it is essential to have detailed knowledge of the hydrosphere of the Earth, to understand the processes occurring in it, and its effect on the land and the atmosphere, and the formation of the weather. … research oceanographic ships, scientific organisations, equipment, and, of course, the appropriate personnel are required to understand the seas and oceans. All of this is one component of the sea power of a country”

Admiral of the Fleet Sergei Gorshkov, C-in-C Soviet Navy.⁴

METOC Responsibilities

Policy and responsibilities for the discharge of Meteorological and Oceanographic (METOC) functions are contained in D1(N) Ops 45-1 ‘Oceanography in the RAN – Policy and Responsibilities’.

The Directorate of Oceanography and Meteorology (DOM) is a component of the HMFEG. METOC Officers provide oceanographic and meteorological information and services and substantial support to the RAN fleet, aviation squadrons and other national agencies and to meet the ADF requirement for military operations and strategic planning. They manage the Defence and National oceanographic databases and enable the ADF to exploit the above and below water physical operating environment for strategic, operational and tactical advantage. Operational support is the highest priority but METOC products also contribute to non-Defence agencies. This effort has included the operational deployment of METOC teams to provide direct support to maritime operations.

METOC Officers staff the:

- Operational METOC Centre (OMC) that supports the ADF through the provision of advice and information to enable greater operational exploitation of the environment. The OMC provides METOC support to frontline units in the form of Mobile METOC Teams.
- Fleet Weather and Oceanography Centre (FWOC) provides real time forecasts and other information to support to ADF maritime activity and ships at sea.
- Naval Air Station Weather and Oceanography Centre that provides aviation safety and tactical meteorological and oceanographic support to RAN Fleet

Air Arm Squadrons and other units based in HMAS *Albatross*.

Australian Oceanographic Data Centre (AODC) that provides non real time data, specialised datasets, information and consultation in support of ADF maritime operations. The AODC operates the National Oceanographic Data Centre.

METOC is a specialised field requiring appropriate educational qualifications. METOC specialists typically exhibit the following: DipMet, BSc, MSc.

**Oceanographic Survey Ships**

HMAS *Diamantina*’s role after recommissioning in 1959 was mainly oceanographic survey and trials in the Indian Ocean. She embarked scientists from the Commonwealth Science and Industry Research Organisation (CSIRO) and the RAN Research Laboratories (RANRL) for research tasks. In February 1960, scientists aboard *Diamantina* discovered a fissure in the ocean floor west of Cape Leeuwin, which dropped to depths of over 4,000 fathoms. Now known as the Diamantina Trench, it is believed to be the deepest recorded water in the Indian Ocean.
HMAS *Kimbla* was converted from a boom defence vessel in 1958 to oceanographic research and trials duties, mainly on the east coast. Like *Diamantina* she embarked CSIRO and RANRL personnel. She was paid off in 1985 having been in RAN service for 30 years.

HMAS *Diamantina* was replaced in 1980 by the new oceanographic research ship *Cook*. HMAS *Cook* was sold in 1990 after a comparatively short service life.
Suggested Reading – Hydrography and METOC

- Defence Instructions Navy (Administration) 30 Series.
- HMFG Hydrocscheme.
- Australian Hydrographic Service website: www.hydro.gov.au
Chapter Six

Submarines

Submarine Roles

The Submarine Force Element Group (SMFEG) is a discrete component of the Navy’s force structure. Major investment has been made by the nation in submarines because of the important capabilities possessed by the submarine platform, in particular its capacity to undertake its duties covertly, at great range for extended periods and with strategic influence.

They are armed with torpedoes and anti-shipping missiles and potentially with mines. Their roles are to conduct maritime strike, anti-surface warfare, undersea warfare and mining, maritime surveillance, reconnaissance and intelligence collection, and the deployment of Special Forces.

The submarine is a powerful deterrent to the conduct of surface ship operations by an adversary and can severely diminish the capacity for such operations in higher level conflicts. The capability to deny free use of the sea through covert action, or implied action, can contain and potentially eliminate an enemy’s naval operations against Australia.

The submarine’s long range and ability for covert, sustained loiter on station makes it ideally suited to operations in Australia’s maritime approaches and beyond. Much of its inherent flexibility results from its endurance.

Current Capability

The submarine squadron includes six Collins Class boats constructed by the Australian Submarine Corporation in Adelaide and which were commissioned between 1996 and 2003.

Submarines often co-ordinate with other ADF units and Task Groups. Modern war fighting tasks and tactics require operations in direct support of Task Group operations, either in a defensive or offensive support role and which are a more common feature than hitherto.

The existence of a submarine warfare capability within the ADF has had a major impact on the broader debate about maritime warfare and the evolution of tactics. Knowledge acquired in, and transferred from, the submarine community has strongly influenced tactical development and operational concepts across a range of ADF capabilities and military options.
The existing platforms are planned to remain in service until 2026 – 2030. Their capability will be retained at contemporary levels or higher through continued combat system upgrades and/or replacement, rectification of class hull integrity issues, a new Heavy Weight Torpedo being acquired from 2006 and a continuous platform improvement programme.

**Submarines in the RAN – a Summary History**

Submarine warfare has been a component of the RAN’s capability for most of its history, albeit one provided by the RN from 1949 to 1966.

The one significant gap in Australian based submarine forces was from 1931 to 1949.

Considerable contention preceded the order for two submarines being placed by the Fisher government in December 1910.¹ These were two British built E Class submarines, AE1 and AE2, which were commissioned in February 1914. They arrived in Sydney in May 1914. Both submarines were deployed to New Britain after the commencement of hostilities in WW I. AE1 was lost with all hands on 14 September 1914 in unknown circumstances, while returning from patrol off Rabaul. She was the RAN’s first operational loss.

AE2 was re-deployed to the Mediterranean Sea where she arrived in January 1915, and was tasked in support of the Gallipoli operation. She was lost due to enemy action on 30 April 1915 in the Sea of Marmara, having penetrated the Dardanelles - the first allied ship to successfully do so. The wreck of AE2 was identified in 1998 and is a subject of some contemporary discussion.

Six J Class submarines were transferred from the RN to the RAN in 1919. They were large and fast for their time but history has assigned them a reputation for unreliability. They were based briefly at Rippleside in Geelong, close to the site of the former Naval College at Osborne House, before being relocated to Flinders Naval Depot and placed in reserve.

2 There are several published accounts of this exciting and courageous endeavour, for which the Commanding Officer of AE2, LCDR H. H. G. D. Stoker RN, received the DSO. Interested readers are encouraged to refer to LCDR Stoker’s own phlegmatic report published in Volume IX of the Official History of Australia in the War of 1914-18, A. W. Jose, at pps 241-248.
They were sold, stripped and scuttled between 1924 and 1930. The last visible evidence of them is a portion of J3 at Swan Is near Geelong. Largely ignored in RAN chronicles, the acquisition of these ships nevertheless indicated the RAN’s aspiration at the time to possess a contemporary submarine warfare capacity.

The pursuit of a submarine capability was again manifest in the acquisition of HMA Ships *Otway* and *Oxley*, which were commissioned into the RAN in 1927. Like the *J* Class, however, their operational careers in Australia were short and they were returned to the RN in 1931 due to the reductions in national defence capability arising from the economic situation.

By agreement with the United Kingdom, RN submarines were deployed to Sydney from 1949 until 1975. Based primarily at HMAS *Penguin* in Sydney, these ships were employed mainly in fleet and air force anti-submarine training. They also provided some transfer of skills in submarine operations prior to the acquisition by the RAN of four *Oberon* Class submarines in the late 1960s. Ten HM Submarines of the *A* and *T* Classes were based in Sydney for various periods, the longest being ten years from 1949 to 1959 by HMS *Telemachus*. The last of the *A* and *T* Class based in Australia, HMS *Trump*, departed in 1969.

The requirement for the presence of the RN submarines diminished when the RAN *Oberon* Class was acquired, commencing in 1967, although HMS *Odin* was home ported in Sydney from 1972 to 1975.
The RAN acquired two additional ‘O boats’ in 1977-78, to bring the squadron to six ships.

The Oberon Class ships were progressively withdrawn from service between 1992 and 1999.

**Officer Training**

The nature of the submarine platform is such that considerable training is necessary in addition to that required for service in surface ships. This is especially so because of the third dimension required in navigating the submarine and the physical nature of the platform’s design.

Submarine operation involves risks not experienced in the surface fleet. There are many recorded accidents in all navies that operate submarines and considerable attention is paid in training to managing these risks. The training regime is therefore inevitably demanding and it requires pre-existing mariner skills and experience by the officer trainee, namely, a Navigation Watchkeeping Certificate (NWC).

A five day Enhanced Selection Process (ESP) is available as a ‘toe in the water’ familiarisation before an officer volunteers for submarine service. This carries no obligation. Aspirant submariners are encouraged to undertake the ESP at the earliest opportunity.
The Submarine Officer Training Course (SMOTC) is the entry level course for officers seeking to pursue a career in submarines. SMOTC is approximately seven months long and has both shore and sea going components. It culminates in the award of the Submarine Specialist Badge (Dolphins).

Once an officer is submarine qualified, the training continuum is equivalent to that of the surface fleet in that it contains warfare, navigation, Executive Officer and Commanding Officer courses. The Commanding Officers’ Courses include training with the Royal Netherlands Navy.

**Overseas Postings**

Exchange posting is periodically available with the United States Navy (USN), RN and the Canadian Navy (CF(N)) and courses are conducted in the Netherlands, and potentially Canada. Project related postings may also occur overseas and development plans for the SMFEG will facilitate perhaps two of these in the medium term.

**Some Aspects of Submarine Service**

The history of submarine warfare is characterised by feats of considerable courage and human endeavour. The tide of global conflict almost turned on the success of submarine warfare during both WW I and WW II. The feats of Prien, Kretschmer, Endras, Nimitz, Mars, Wanklyn, Tomkinson and others may be added to those of Lieutenant Commander Stoker mentioned above and, in some cases made those individuals household names.

During the ‘Cold War’, the strategic threat and deterrence provided by missile armed submarines influenced geo-strategic policies and to some extent, still does so. Anti-submarine operations became the topic of popular literature and cinema events. The reality of submarine operations in the first decade of the 21st Century is, however, more prosaic than contemporary fiction may suggest. Officers drawn to this undertaking would do well to put aside any romantic notions. Submarine service is a technically advanced and demanding vocation that calls for skilled job performance, patience, intelligence, strong sense of responsibility and personal robustness.

One of the reasons for this is the extra physical dimension of the platform and the hazardous circumstances this creates, irrespective of combat action. The weight of ocean water creates a pressure of about one atmosphere per square centimeter for every 10 metres depth below the surface. The added limitations of visibility, constrained navigation aids and sonic perturbations create risks not always experienced in surface ships but which are ever present considerations when

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3 It is ironic that this famous submarine pioneer assumed command of the USN's Pacific Fleet in December 1941 on the deck of USS Grayling, which was the only available undamaged ship in Pearl Harbour at the time.
operating a submarine. Furthermore, the submarine can be an unforgiving platform when accidents occur.

A second reason, perhaps, is that submarine service attracts a certain type of individual and creates pride, teamwork and trust within the craft that has allowed full expression of guile and derring-do. Past tactics based on single ship operation (albeit sometimes in co-operation with other forces, such as the ‘wolf pack’ tactic in WW II) liberated Commanding Officers and enabled them to employ their resources of initiative, imagination and intuition to a level not always possible in other maritime operations.

Submarines offer immense job satisfaction for those who are drawn to this service. The squadron is home ported at HMAS Stirling and aspirant submariners would benefit from a liking for the Rockingham-Perth district or have an expectation that they would do so. The submarine community enjoys the advantage of a single home port and the geographic stability that it affords. Nevertheless, shore postings within the submarine service are geographically diverse.

Interesting overseas deployments occur. Deployments can be lengthy, up to 20 weeks, although in practice average time away from the home port is substantially less. Long hours are expended at work while underway, perhaps 14 hours per day, but the personal rewards justify this effort.
Duties alongside can also be demanding because of short in port visits that leave little time to prepare the ship for return to sea. In overseas ports, the requirement for operational security adds to the responsibilities to be discharged while alongside.

Recreational activity afloat is constrained by the nature of the platform. Social and professional intimacy with one’s shipmates afloat is inevitable and a patient and sociable personality may have advantages in this type of vessel. Privacy is not a readily available commodity. Those people prone to moods of isolation, or who find the seclusion of their own company satisfying, may be ill advised to pursue a submarine career.

Submariners are a select group, entry to which is limited to those who meet the pre-requisite requirements that are described in policy documents. Submariners take justified pride in their profession and the important national tasks they perform. Their work is interesting and unique in society, as is the lifestyle.

Submarine service is excellent preparation for careers in more senior postings. Submarine command is a MFU command. Many eminent senior officers including one Chief of Naval Staff, have been drawn from submarine backgrounds.

*HMAS Dechaineux* exercising off the coast near Darwin.
**Suggested Reading – Submarines**

- Defence Instructions Navy (Administration) 30 Series.
- Submarine FEG Master Plan
- Volume IX of the Official History of Australian in the War of 1914-18, A. W. Jose.
Chapter Seven

Naval Aviation

“With the influx of personnel and a more reasonable flying commitment, aircraft availability is, once again, at a high level”.1

Introduction

Naval aviation provides a range of capabilities to the ADF including surveillance, reconnaissance, anti-submarine warfare, anti-surface warfare, maritime utility support and transport, search and rescue, disaster relief, hydrography and training support.

Naval Pilots and Observers are Warfare Officers. Officers who hold both the Seaman PQ and a Pilot or Observer Qualification are deemed to be dual streamed and do not require further specialisation within the Seaman PQ.

The Pilot requires confidence, excellent physical co-ordination and reflex, mental agility and strong powers of

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concentration, endurance and small group leadership skill. The Observer should be of similarly admirable type and operates the weapon systems, provides tactical advice and assists in aircraft operation. The Observer is multi-skilled in the platform’s warfare system operation with a deep understanding of its underlying functionality.

A Brief History of Naval Aviation

The Wright Brothers achieved heavier than air flight at Kittyhawk in the USA in December, 1903. Today this achievement might be considered a ‘concept demonstration’. Subsequent engineering development was extraordinarily fast and within seven years the first aircraft launch from a ship had been attempted by a US civil pilot, Eugene Ely, from the USS *Birmingham*.

The Admiralty called for volunteers from trained pilots in 1910 to provide a naval aviation cohort. Test launches from HM Ships *Hibernia* and *Africa* occurred in 1912. France and Japan both had seaplane tenders by 1913. The Royal Naval Air Service was formed in 1914. In 1917 the battle-cruiser HMS *Furious* was completed as an aircraft carrier with a 160 ft flight deck forward and hanger space for 10 machines, this capacity was soon enlarged both in deck space and machine numbers.²

The RAN’s first experience with ship launched aircraft was in 1917 when HMAS *Brisbane* was temporarily fitted with a crane operated Sopwith Baby seaplane for reconnaissance operations against the German commerce raider WOLF. The Commanding Officer reported favourably on his new capability.

HMAS *Sydney* was fitted with a rotatable launching ramp on a forward turret in 1917 and *Melbourne* was similarly fitted in 1918. Both were equipped with *Sopwith Camel* fighters. HMAS *Australia* launched a *Sopwith ‘1 1/2 strutter’* aircraft from her deck on 9 March 1918 (see photo in Appendix 1).

After WW I HMA ships offloaded their aircraft and associated equipment, acquired while operating with the RN, and returned to Australia. Nevertheless, officers had seen the possibility of naval aviation. Trials continued in 1920 due in large measure to the energies of the then Commodore–in-Chief of the Australian Squadron; Commodore Dumaresque.

Dumaresque had operated an aircraft as the Captain of HMAS *Sydney* and was deeply impressed by aviation’s potential in naval operations.

The Australian Government ordered six *Fairey III D* seaplanes for the squadron’s cruisers but these were instead delivered to the Royal Australian Air Force (RAAF) when it was created in March 1921. They

² A second hangar and decking was added aft later in 1917 and in 1921/5 the funnel and bridge structure was substantially reconfigured to further improve flying operations. An island was added in 1939. See ‘British Battleships’ Dr Oscar Parkes, Seeley Service 1973, pps 621/2.
were based at RAAF Point Cook. Among other things, these aircraft supported hydrographic survey work by HMAS *Geranium* in the Great Barrier Reef thus establishing a naval aviation link with the hydrographic service that has continued ever since.

In 1925 the Government announced the construction of the seaplane tender *Albatross* at Cockatoo Is Dockyard. She was launched in 1929.

Six *Supermarine Seagull III* aircraft were acquired for *Albatross* to undertake fleet support duties. These aeroplanes were delivered in 1926 and, pending the ship’s completion, were deployed to Bowen to support HMA Ships *Moresby* and *Geranium* and HMS *Herald* then engaged on the Great Barrier Reef survey.

There was a brief period in which the Government supported the notion of a Fleet Air Arm but in 1928 it awarded the RAAF full administrative and technical control of aircraft in support of naval operations. The RAAF provided the aircraft, pilots and maintenance of embarked aircraft. The Navy provided aircrewmen skilled in naval operations.

*Albatross* was laid up in 1933 due to the reduced defence expenditure caused by the depressed economy. Her aircraft were landed to RAAF Base Richmond. 24 new aircraft had been ordered for *Albatross*. These had been designed and constructed by Supermarine in Britain to Australian specifications. Known as the *Seagull V*, they were delivered two months after *Albatross* was placed in reserve.
By 1935 all RAN cruisers except *Adelaide* were fitted with *Seagull V* s and crews, using cordite powered catapults. These aircraft were operated throughout WW II. The RN adopted the *Supermarine Seagull V* design and renamed it the *Walrus*. An Australian concept, the *Seagull V/Walrus* was very successful and 750 were manufactured to 1944. The RAAF also ordered 24. *HMAS Albatross* was traded to the RN in 1938 in part payment for the Leander Class light cruiser, *Hobart*.

In the Pacific, maritime air power evolved during WW II from an emergent capability into the primary means of maritime power projection. Observing these developments, the RAN conceived plans for its own carrier based capability, which remained unfulfilled at the time of the Japanese surrender in August 1945.

Informed by the experience of WW II operations, the Australian Government resolved in 1947 to establish an Australian naval aviation capability and ordered two light fleet carriers from the UK. A number of RAN and Australian personnel had served with the British Fleet Arm and contributed their skills and experience in developing detailed plans to implement the Government’s decision. This represented the most important change in naval force structure since the 1922 Washington Treaty and the subsequent scuttling of HMAS *Australia* (I) in 1924.

The incomplete British carrier *Terrible* was allocated for completion and was commissioned as HMAS *Sydney* in December, 1948, albeit without the latest technology (for example, no angled flight deck) which inhibited operating the most up to date naval aircraft. She was equipped with 12 *Supermarine Fireflies*, 12 Sea Furies and two amphibious Sea Otters. *Sydney* served two tours of duty in the Korean War in 1951 and 1953, undertaking fighter ground attack tasks, air defence and pilot recovery.

HMAS *Albatross* was commissioned as a Naval Air Station in August 1948. RAN Air Station (RANAS) *Schofields* had originally been intended to be the principal repair and maintenance airfield but Navy had taken possession in name only from the Air Board, who did not need it. It was being used for migrant accommodation. RANAS *Schofields* was later commissioned as the Apprentice training base, HMAS *Nirimba*.

The carrier *Vengeance* was loaned from the RN from November 1952 to June 1955, as an aviation training ship pending *Melbourne*’s completion. *Vengeance* was equipped with Fireflies, Sea Furies and three Sycamore helicopters. HMAS *Sydney* was converted to flying training duties in 1955 and relieved *Vengeance* of the training task.3

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3 *Vengeance* was subsequently sold by the RN to the Brazilian Navy where it served as the ASW carrier *Minas Gerais*. 
HMAS *Melbourne* arrived in Sydney from the UK in 1956 - a modern light fleet carrier equipped with 12 Fairey Gannet ASW aircraft, eight jet powered DeHavilland *Sea Venoms* and two *Sycamore* helicopters.

HMAS *Sydney* was later converted to transport and limited rotary wing operation from 1967. She undertook troop transport and resupply tasks in support of operations in Vietnam until 1972. She was decommissioned in 1973.

*Melbourne*’s complement of aircraft was changed in 1963 to include 10 Westland *Wessex* ASW helicopters. In 1967 Grumman *S2 Tracker* aircraft and Douglas *A4 Skyhawks* replaced the *Gannets* and *Sea Venoms*, respectively. The *Wessex* aircraft were replaced, in their turn, by Westland *Seaking* ASW helicopters in 1976.

*Melbourne* was retired from service in 1982. Plans to acquire the recently commissioned RN light carrier *Invincible* at that time were interrupted by the Falklands War and subsequently discarded following a strategic repositioning by Government.

When *Melbourne* was decommissioned naval fixed wing aviation became land based. It included DC3 navigation training aircraft, HS 748 EW training aircraft as well as the operation of A4 and S2 aircraft from the RAN Air Station (HMAS *Albatross*). LADS operations have been undertaken from Cairns.

Rotary wing airframe use commenced when the *Sycamores* embarked in HMAS *Sydney* during Korean War operations and have expanded since then. Helicopters have been employed for hydrographic support, ASW, transport, SAR, utility tasks, surveillance, reconnaissance,
spotting and targetting, disaster relief. The acquisition of the *Seahawk* and *Sea Sprite* aircraft has introduced an entirely new anti-submarine and anti-shipping strike capability to the fleet. All major surface fleet units are helicopter capable and are expected to remain so.

**Aspects of a Naval Aviation Career**

When embarked, the Aviation Department is part of the Warfare Community of the ship – fully integrated and immersed in its activities, united with all other afloat departments. The Aviation Department contributes personnel to ship’s emergency parties and administrative duties afloat, in addition to flying duties.

The Flight Commander and the naval aviation team leave the ship during docking, maintenance and for training. Ships’ flights land to HMAS *Albatross* and to the helicopter support facility at Fleet Base West, when appropriate, to access the better maintenance space and facilities and to allow flying training that might not otherwise be possible while alongside. Deployment to *Albatross* allows simulator time to be obtained and the use of other squadron assets.

The aircraft are day and night capable and train accordingly, including night flying exercises when disembarked. When deployed in this way, the Flight Commander remains responsible to the ship’s Commanding Officer.
Admiral Sir Victor Smith AC, KBE, CB, DSC, RAN Rtd. Victor Smith joined the RAN in 1927 and commenced flying when appointed to Observer training in UK in 1937.

He was initially posted to 825 Sqn embarked in HMS Glorious which operated Swordfish aircraft. He was re-appointed to HMS Ark Royal in mid 1939 and involved in the search for Graf Spee. In June 1940, Lieutenant Smith led a flight of six Swordfish against Scharnhorst, two of which were lost. In late 1940 he was appointed as Senior Observer 807 Fighter Squadron operating Fairey Fulmers, a task undertaken from HM Ships Pegasus, Furious and Ark Royal.

In May 1941 he was shot down at sea. He was rescued by the destroyer HMS Cossack. He was again shot down and rescued in September. Shortly after, he was appointed back to 825 Sqn in Ark Royal, which was later sunk. He was rescued for the third time and taken to Gibraltar. He was awarded the DSC.

Recalled to Australia, Lieutenant Smith was posted to HMAS Canberra to fly the ship's Walrus aircraft. Canberra was sunk at Savo Is and Lieutenant Smith was rescued yet again. He returned to UK for service in HMS Tracker and shore based staff duties.

As a staff officer he developed plans for the establishment of the RAN Fleet Air Arm. He was appointed Executive Officer of HMAS Sydney in 1950 and participated in Korean War operations. He subsequently commanded HMA Ships Quadrant, Queenborough, Albatross and Melbourne. Senior appointments included FOCAF, DCNS, CNS and Chairman Chiefs of Staff Committee.

He was awarded the CB in 1968, KBE in 1969 and Companion of the Order of Australia in 1975 shortly before his retirement. He died in 1998.

For a more detailed account see ‘Flying Stations – A Story of Australian Naval Aviation’ especially pps 38-39.

The workload of ship’s flights conforms to ABR 5150 requirements regarding the maintenance of practical skills and other professional aspects. Consequences of failure of person or airframe are extreme, and are reflected in the continuation training, maintenance and rest requirements defined for the Aviation Department.

An aviation career offers considerable occupational and geographic diversity. In addition to sea appointments, there are training and administrative roles at Albatross, and as Senior Naval Officer at Pearce, East Sale, Tamworth and Oakey. Staff positions exist in Maritime Headquarters, Naval Headquarters, the Defence Material Organisation and in Headquarters Joint Operational Command (HQJOC).
in service lateral recruitment is a major source of aviation officers. Acceptance of flight training attracts a substantial Return of Service Obligation (ROSO), which in some cases covers the entire period of flying duties as an aviator in the RAN. After one or two sea postings Pilots and Observers are expected to specialise. They are also groomed for duties as the Squadron Operations Officer and Training Officer.

A broader range of duties is appropriate to prepare officers for Squadron Commanding Officer appointments to give a suitable span of contextual reference. As mentioned above, there is the opportunity for dual specialisation. Details of career progression requirements and opportunities are contained in Chapter 8 of ABR 6289

| Primary Qualification (PQ)               | • Pilot  
|                                         | • Observer               |
| Specialisation                          | • Flying Instructor  
|                                         | • Helicopter Flying Instructor  
|                                         | • Test Pilot  
|                                         | • Helicopter Warfare Instructor  
|                                         | • Observer Instructor  
|                                         | • Aero Systems Qualified               |
| Functional Qualification (FQ)          | • Intelligence               |
| Additional Qualification (ADQUAL)      | • As per seaman for those Pilots and Observers who are dual qualified               |

**Aviation Officer Training**

Initial training is conducted by the RAAF and constitutes a practitioner’s course on operating an aircraft. There is some exposure to Army as well as the RAAF, that facilitates an understanding of the Joint context of flying operations very early in an aviator’s career.

Operational Flying Training (OFT) occurs collectively in the squadron at HMAS *Albatross*, where pilots are initiated into ship operations and convert to aircraft with heavy emphasis on simulator training for the main airframe types. Training at this point includes detachment to ships. The Pilot or Observer Warfare badges or ‘Wings’ are confirmed at completion of OFT, after which appointment will be to a ship’s flight.
Observer training, as an airborne Warfare Officer, also occurs at HMAS *Albatross* oriented around the operation of complex equipment, its software functionality and the tactical aspects of platform operation. Naval aviators attend the PWO Course Common module.

The training continuum is challenging but assures that the officer arrives afloat fully trained, having flown several aircraft types by the time wings are confirmed. Once fully qualified, officers are required to demonstrate currency and periodic re-certification - see ABR 5150.

**Future Development of Aviation Capability**

The RAN is likely to acquire major fleet units in the future that have rotary wing capability. Although the airframe platform will change, the broad capabilities they provide will be retained and expanded.

The S-70-B2 Seahawk is being modified in the context of recent experience, including sensor and weapon upgrades. A midlife upgrade for the Seahawk airframe is planned later in the decade.

The *MRH 90* aircraft will replace the *Seaking* in the Maritime Utility and Support role from around 2010.
Chapter Eight

Intelligence

Introduction

Intelligence (INT) is a ‘Functional Qualification’ (FQ) within the RAN. As Navy continues to evolve towards increased levels of Network Centric Warfare (NCW) and network enabled operations, the role of the intelligence officer will be critical to the Navy’s ability to fight and win at sea. Technological advances in intelligence systems evolve exponentially and require well-trained intelligence experts to analyse the data and manage the capability to match Navy’s requirements. While service in an intelligence role may occur early in an officer's career, the requirement to gain broader experience and consolidation of PQ training is a key requirement for advancement and brings greater relevance to the provision of intelligence support to commanders at sea.

Role

The primary role of a naval Intelligence Officer is to support maritime operations and to provide maritime intelligence products and expertise to ADF strategic and operational commands. Navy will benefit from having trained intelligence officers in support of CTG operations and other key appointments. The aim of the INT FQ is to improve Navy’s capability through the development of specialist knowledge and experience as a secondary career structure.

Officer Entry into the Intelligence FQ

The choice of the Intelligence FQ is generally a mid career option, best made as a LCDR or when selected for promotion thereto.

Acceptance to the Intelligence FQ is by a Selection Panel comprising experienced Intelligence Officers, who will submit recommendations to the Director Naval Officer Postings (DNOP). The Selection Panel is convened by DNOP as the personnel needs of the service require. Selection results remain valid for three years and officers will be appointed to the Intelligence FQ as staffing demands require. Officers with a prior Intelligence General Qualification (GQ) are well placed to make this decision.

Security

Employment as an INT FQ officer in an intelligence related area will normally require a Top Secret Positive Vet (TS/PV) security clearance. Failure to gain this clearance may preclude an officer from remaining within the INT FQ.

Training Structure

The INT FQ is normally only available to officers of LCDR rank, except WO entry officers and some LEUT rank officers who wish to apply ‘by exception’.

Defence intelligence training takes place at the Defence Intelligence Training Centre at Canungra, inland from the Gold Coast. Three courses are presently available to personnel entering the INT FQ:

- Introduction to Defence Intelligence Course (IDIC)\(^1\)
- Defence Intelligence Research and Analysis Course (DIRAC)\(^2\)
- Naval Intelligence Officers Course (NIOC)\(^3\)

The following requirements are normally considered mandatory for considerations for selection to the INT FQ:

- a. consolidation of a PQ (Officers only);
- b. successful completion of both IDIC and DIRAC;
- c. assessed as competitive for promotion to higher rank; and
- d. fit for sea-service.

The intelligence officer’s training continuum is designed to prepare personnel to provide intelligence support to maritime forces afloat. As such, the training continuum focuses on developing the skills necessary to serve at sea as an embarked ‘N2’ and in a Joint Intelligence environment. Additional training is available to enhance the officer’s employment within the FQ.

Consultation should be undertaken with the career desk officer because the training regime is subject to frequent review.

**Typical Employment within the INT FQ stream**

There is considerable geographic diversity in appointment options, mainly on the east coast. Many postings are within Joint organisations. The structure of the FQ provides for postings from Lieutenant up to Commodore rank. Appointment options exist in the Headquarters Joint Operational Command (HQJOC), Joint Operations Intelligence Centre – Australia (JOICAUST), Director General Communications and Intelligence (DGC&I), Deployable Joint Force Headquarters (DJFHQ), the Defence Signals Directorate (DSD), Defence Intelligence Organisation (DIO), Defence Intelligence Training Centre (DINTC), ADF Warfare Centre (ADFWC), Defence Imagery & Geospatial Organisation (DIGO) and other Defence authorities.

\(^1\) The IDIC is a pre-requisite for the award of the Intelligence FQ.

\(^2\) Recognition of Current Competency/Recognition of Prior Learning will not normally be granted for this course.

\(^3\) This course has recently been updated and greatly improved – again RCC/RPL will not normally be granted.
Promotion

A separate INT FQ Qualification Based Board (QBB) will consider intelligence officers for promotion, irrespective of their PQ. This dovetails with the concept of mid-career transition, individuals being considered for promotion based on their employment and performance within the FQ, INT officers being ranked against other INT officers only and officers being presented to one QBB only.

Suggested Reading – Naval Intelligence

• ABR 6289, Chapter 8, Annex V. RAN Officers Career Management Manual.
Chapter Nine

Sea Command and the Sea Charge Program

“To be a successful commander, one must combine qualities of leadership with a knowledge of his profession. Either without the other is not of much avail.”

Introduction

Command of a warship is widely acknowledged among professional Seaman Officers as the greatest personal honour and responsibility that can be bestowed upon a naval officer. Ships’ captains, regardless of rank, belong to a select band of officers whose leadership skills and professional warfare competence directly determine the fighting efficiency and effectiveness of the Fleet and their individual ships.

All the earlier training that a Seaman Officer receives throughout their career is focussed to some degree on preparing them ultimately for command at sea. While almost all ambitious Warfare Officers aspire to command a major warship, only a few among the highest performers are selected, given the relatively small number of ships available. Furthermore, it is from only the best performers among these Commanding Officers that most of the Navy’s senior leaders are ultimately selected.

This Chapter aims to explain Navy’s approach to preparing and selecting officers for command with reference to the Sea Charge Program. It also aims to identify some of the considerations that might be borne in mind by those who aspire to Sea Command in particular, and some of the influences that might bear upon the Chief of Navy’s decision to entrust Command to particular individuals.

Sea Command

Sea Command is recognised as a specific category of Command. Command at sea confers authority, almost absolute, mirrored by total accountability for the actions of the ship and those embarked in her. It includes the potential to influence important events. The burden is enormous and, as history periodically records, the exercise of Command afloat can have consequences of national import.

There is therefore a price to be paid in stress, workload and accountability for the privilege of exercising Sea Command and the autocratic power this implies. It follows that the first attribute of those who aspire to it is the willingness to pay the price demanded in return for the authority that ensues.

1 Admiral Raymond A. Spruance USN, “Thesis on Command”, USNWC, September 1926.
The price paid is mirrored in the benefits command offers in terms of personal growth, job satisfaction and the gratification obtained from the exercise of leadership in the discharge of duty.

Command includes not only the ship but, importantly, also the people. Aptitude for command must equally be evident across both roles: professional skill and knowledge, and human leadership. Command is independent of rank. If you are a Commanding Officer (CO), then you are the ship, and your subordinate leaders can be expected to take on many of the attributes of your command style. You have all the authority that attaches to Command and with it, the ensuing accountability and responsibility irrespective of whether you are a senior Lieutenant or a senior Captain.

There are few roles in society more deeply lathered in tradition than Sea Command. These manifestations go well beyond naval service and are reflected in the merchant service as well and in community perceptions of what Sea Command implies. Sea Command is also a very personal experience. As one officer newly in Command of one of HMA Ships, put it: “... within ten minutes of leaving the wharf for the first time I had forgiven all my previous CO’s for all their sins, real and imagined.”

“Every sailor in a ship wants his Captain to bear the most responsibility, to endure the most stress and set the finest example, to have the most wisdom, knowledge and skill, to be set apart from the other officers and to be spared as much as possible from the itchy and time consuming chores and restrictions endured by others in the ships company. If sailors were not so self-conscious they would possibly admit that they want almost to revere, and certainly to have affection for, the ‘old man’. Mind you, they do want him to be in touch with what’s going on, and in tune with the needs, aspirations, the pressures and problems of every man on board. They want to know he is human and has his interests. They don’t want him to be a larrikin, but they would like to think that he had knocked around a bit as a youngster – there is not much point in being ‘sober as a judge’ if one doesn’t know what a drink tastes like.

And why do sailors want their Captain to be special and remote? Because they demand of him that he be unbiased, even-handed and untainted.

I have absolutely no doubt that the ship’s community wants the Captain to be special and dignified, a bit remote ...”

Attributed to Rear Admiral Sir David Martin in ‘In the Navy’, D. R. Rickard p81.
The capacity for inspirational or highly effective leadership is independent of the motivations to which that leadership is applied. The Navy strives to produce commanders whose motives are essentially humanitarian and who are focussed on conducting themselves well in battle, i.e. “... men who are determined to make their guns crews the best gun crews in the world.”

Chief of Navy (CN) enjoys considerable flexibility in selecting officers for Command. Nevertheless there comes a time in an officer’s career when the chances of being appointed to Command, especially Sea Command, are irrecoverably low and processes are in place to codify when this occurs and to inform officers of their status.

Officers are entitled to receive direct and honest advice so that they can focus their career development efforts to productive pursuits. It is also to be expected that most officers have a realistic appreciation of their own performance and that such appreciation is grounded in reality.

THE PRESTIGE, PRIVILEGE AND THE BURDEN OF COMMAND. “Only a seaman realises to what extent an entire ship reflects the personality and ability of one individual, her Commanding Officer. To a landsman this is not understandable, and sometimes it is even difficult for us to comprehend - but it is so.

A ship at sea is a distant world in herself and in consideration of the protracted and distant operations of the fleet units the Navy must place great power, responsibility and trust in the hands of those leaders chosen for command.

In each ship there is one man who, in the hour of emergency or peril at sea, can turn to no other man. There is one who alone is ultimately responsible for the safe navigation, engineering performance, accurate gun firing and morale of his ship. He is the Commanding Officer. He is the ship.

This is the most difficult and demanding assignment in the Navy. There is not an instant during his tour of duty as Commanding Officer that he can escape the grasp of command responsibility. His privileges in view of his obligations are most ludicrously small; nevertheless command is the spur which has given the Navy its great leaders.

It is a duty which most richly deserves the highest, time-honored title of the seafaring world - “CAPTAIN”.”

Joseph Conrad
The Sea Charge Program

The Sea Charge Program is a key component of Navy’s officer development strategy in producing a large and suitably prepared cohort of officers from which CN can select the next round of Commanding Officers. The key element in Charge appointments is leadership. For full details on the Charge Program, readers are referred to Chapter 10 of ABR 6289.

Charge appointments represent important building blocks in a Warfare Officer’s career by requiring the officer to think and lead more broadly than is required at department or branch level afloat and to take a whole of ship perspective. These positions expose the officer to a broader range of responsibilities, including command related, than hitherto experienced. Performance in Charge appointments is seen as a key indicator of likely performance in higher rank and Major Fleet Unit (MFU) command and is therefore an important consideration on selection for promotion to Commander. At sea, Charge appointments comprise Executive Officers (XO) of MFUs and CO’s of Minor War Vessels (MWV).

Charge Program - Executive Officer

The nexus between the CO and XO is the core relationship in the ship. Loyalty of the one to the other is critically important. It follows that if as an XO, doubts arise about loyalty to the Command, or the XO’s ability to achieve the required degree of co-operation, then so too will doubts arise as to suitability to exercise Sea Command itself in due course.

Similarly, as Second in Command, the XO must be ready to take command at very short notice. An officer aspiring to be a CO should demonstrate that they wish to take command and always be informed and ready so that they can do so if necessary. That said, the XO is not the CO, and the focus should be directed at managing the ship for the CO and leading the Seaman Department.

Charge Program - Minor War Vessel Command

MWV command has proven over many decades to be an excellent breeding ground for future MFU COs and senior leaders. The degree of vested authority, accountability and responsibility is the same as for MFU COs, and to a great extent so is the degree of public profile and scrutiny. Only the size and technical complexity of the command is different. A number of today’s serving Admirals first experienced Sea Command in MWVs.

MWV Command Charge appointments include commands of MHC, LCH and Patrol Boats, which, like MFU XO positions, are available to Lieutenant Commanders. Senior Lieutenants are also considered for MWV command of Landing Craft Heavy (LCH), Survey Motor Launch (SML) and some Patrol Boats.

Selection criteria and seniority bands for the Sea Charge Program are contained in ABR 6289.
Professional Growth and Development

For the reasons described in an earlier chapter, officers should not count themselves out of running for key appointments like the Sea Charge Program too soon. There are detailed administrative processes to inform officers of their status for Charge selection and to counsel them on their qualities.

Individuals grow and develop at different rates, influenced by the appointments they experience and their personal characteristics. The attributes of each person may be suited to a greater or lesser degree in each appointment. For example, a brilliant and intuitive ship-handler might be a lesser staff officer. The critical issue is the capacity of an officer to use each experience to professionally improve themselves.

Many great leaders were not top of their class and some were assessed modestly when under training (Sir Winston Churchill at the Royal Military College Sandhurst, for example). Others had reached a career hiatus and were facing retirement before opportunity for greatness presented itself (Captain Johnny Walker RN and General Douglas MacArthur might be examples). Others have an unexpected opportunity in which deep inner resources of fortitude and skill might be exposed (Captain E. E. Johnson RAN, Naval Officer Commanding North Australia during Cyclone Tracy, or LCDR Kerans RN of the Amethyst might be examples here). Therefore do not conclude in a moment of discouragement that you cannot rise to the top of your profession or that you lack the aptitude for achieving great deeds under inimical conditions. The latent capacity may be there if given the opportunity to emerge.

What is important is that the opportunity to grow into one’s strengths is created and not left to arise by accident or not arise at all. For this reason Naval leaders should pursue opportunities for professional development and pro-actively seek appointments that will take them out of their comfort zone and allow them to determine the boundaries of their capabilities and qualities.

Fitness (Physical, Mental and Moral)

Physical and mental endurance and moral stamina are essential attributes for Sea Command. Each of these characteristics are required for military service anywhere but the requirement is amplified by the physical and mental demands on a CO at sea, and they will be tested no matter how routine the duty. The fact of being in a ship at sea will draw upon the CO’s reserves of endurance. When real world operations and combat are overlaid upon sea service, the physical and mental stress can approach breaking point and from time to time has been observed to exceed it.
Aspirants for the Sea Charge Program and subsequent MFU command therefore need to develop the physical and mental skills to prepare themselves for these pressures, above and beyond what may be considered necessary for other duties afloat or which represent the minimum standards of fitness in policy documents. To do so requires a plan and self-discipline and in some cases, self-sacrifice. The capacity to develop one’s physical and mental attributes is also an indication of dedication towards the goals being sought.

Recent Operational Record

The recent operational record of the RAN has been excellent, including both Gulf Wars, Bougainville, East Timor, Solomons, Southern Ocean, Command of multinational forces in the Persian Gulf and other real world operations. Although all operations exhibit leadership challenges and problems, the Navy’s recent experience gives cause for confidence in the preparation that officers receive for command. This experience also informs the preparation of those who come behind. The point here is that in entering the Sea Charge Program, officers may feel confident that the preparation they have received is appropriate and that therefore their subsequent career success or otherwise will depend largely on their own personal effort and qualities.
Suggested Reading – Sea Command and Charge Program

• Chief of Navy’s Command Guide, Notes to Commanding Officers Designate of the Royal Australian Navy, NHQ Canberra.


Chapter Ten

Career Planning and Management

“One of the most significant facts about us may finally be that we all begin with the natural equipment to live a thousand kinds of life but in the end having lived but one.”

And thus it is with naval careers – there are many paths available, each with its sidetrack and its slippery slopes. This book attempts to offer some clues as to which path an individual may choose to offer. In the end the choice is personal, as are the experiences, the challenges, the setbacks and, ultimately, the satisfaction. The following chapter describes some of the influences on career progress.

Officers are directed to ABR 6289 (RAN Officers Career Management Manual) as the primary source of advice on these matters and are encouraged to consult their Commanding Officer and career desk officer on all career related subjects.

The Role of the Individual

Self motivated career development is essential. Each individual has a responsibility to be aware of Navy’s policy and expectations of them in terms of career development and especially the choice of warfare specialisation. Officers must also proactively seek professional development opportunities consistent with their career goals. They should work towards a level of performance in their duties that allows them to be competitive for the training and appointments that they desire.

The Role of the Commanding Officer

Commanding Officers have a role as guide and mentor. They must ensure that trainees are given the maximum exposure possible to the various specialisations, including those not accessible in the ship. They should provide advice and guidance on career options and ensure that young officers address important career decisions at the appropriate time.

The Role of the Director of Naval Officers Postings

The provision of career advice to officers up to the rank of Commander is vested principally in the Director of Naval Officers Postings (DNOP). DNOP will match as far as is possible individual career aspirations with the workforce needs of the Navy. At the time of an officer submitting a specialisation preference, that individual’s career desk officer will compile a career plan leading up to placement on a specialist course. Some particularly driven and focussed officers, having reviewed relevant publications, will often include a 5-10 year career plan proposal in their submission to their career desk officer.

Objective and Accurate Advice

As in all things, the best decisions are those based on sound and accurate advice. Consideration should be paid to the knowledge and authority of any person providing career advice and the quality of the information upon which it is based. Due regard might also be paid to the ability of the adviser to deliver on and/or influence the outcome of the advice they are giving. Advice from DNOP comes from a source that is informed and can deliver and should always be sought.

Precision and clarity in providing promotion and appointment advice is essential to making informed decisions, that are vitally important to an individual’s career and progress through life. It is just as important for the officer to require such precision and clarity as it is for the career adviser to provide it.

It is also important to listen carefully and to pay attention to any caveats that are appended to such advice. We all, as humans, have a propensity to be selective in what we hear and comprehend, and to overlook shades of meaning and provisos.

Until appointments and/or promotions are issued under appropriate and delegated authority, any advice given by any other officer, regardless of rank, is just that: advice, albeit from an informed source. Many variables are attached to the events that shape a career and circumstances can change rapidly due to accidents, incidents and other factors. In short, it is prudent not to regard rumours of a promotion or a widely coveted posting as a confirmed fact, unless, and until, it appears on signal.

Access to Promotion & Command for Officers

Not every officer can be promoted to the rank to which they aspire. Many well reported and diligent officers may not achieve the rank or the Command they sought simply because there are insufficient places available. The reality is that a significant number of worthy officers will always miss out, usually because of the strength of the competition from their peers, rather than their own lack of effort or ability.

Stalled advancement up the hierarchy does not imply a completed career. Military history is well laced with the narratives of officers who achieved great deeds and advancement from unexpected circumstances and without the opportunities made possible by operational developments.

There is no single path to high rank or to Sea Command, otherwise we would all be on it! Career development is a diverse process and, as a generalization, each career is unique to that individual. Officers’ careers may exhibit similarity but they are rarely the same.
**Don’t Give Up on Your Career.** Captain F. J. Walker CB, DSO and three bars, RN, served with considerable distinction in the Battle of the Atlantic in command of the 36th Escort Group and, more prominently, the 2nd Support Group. The latter generally comprised five or six frigates and sloops, usually co-operating with escort carriers and Coastal Command.

He was an ASW specialist officer of outstanding skill in staff, training, planning and sea command appointments. As Group Commander afloat he sought out U-Boats with determination and hunted them tenaciously. The anti-submarine tactics that he developed became the standard method of hunting submarines with the ships and weapons then available.

His professional progress was not smooth, however, despite early promise. He pursued a career in ASW at a time when its potential was not fully understood and when Gunnery had reached its apotheosis. As a Lieutenant Commander he considered leaving the Navy for civilian life. He was promoted to Commander on the last promotion list before being “passed over”.

His reports as Commanding Officer of HMS *Falmouth* in the Far East Fleet expressed doubts about his suitability for further advancement. Similarly, he received adverse reports as Commander of HMS *Valiant*, one of which is reputed to have described him as: “lacking powers of leadership”. In 1938 he was passed over for promotion to Captain.

Early in WW II he was appointed as Staff Officer Operations, Dover Command. He lobbied constantly for sea command, drawing heavily on his status as an ASW specialist and the need for such people in the Atlantic battle. In March 1941 he was rewarded with command of HMS *Stork* and the 36th Escort Group based at Liverpool. He was awarded the first of four DSOs in December, 1941.

He was selected for promotion to Captain in July 1942, the citation noting ironically: “for leadership and skill in action against enemy submarines.” In January 1943 he was appointed in Command of HMS *Starling* and the six Black Swan Class frigates of the Second Support Group.

After his early death from a cerebral hemorrhage in July 1944, he was described as: “a prime seaman and fighter and a brilliant leader, he was without doubt one of the outstanding and inspiring figures of the anti-submarine war.”
Career Diversity

All officers should improve their education and seek diversity of appointments to broaden their experience and professional knowledge. No particular qualification or appointment is a guarantee for ‘success’ but it will be an influence on future choices and options.

Mobility

A Warfare Officer’s role and acceptance of the desirability of advancement carries with it an obligation to accept postings that may necessitate relocation of family. The Navy understands the implications of relocation and considerable resources are devoted to ameliorating the less tasteful aspects. Nevertheless, geographic relocations are an unavoidable consequence of the effective professional development of naval officers as they progress to more senior and responsible positions.

Fairness in posting depends on all officers acknowledging and accepting their mobility obligation liability. There is a limit to the extent to which each officer’s location preferences can be accommodated by the Navy and a person’s willingness to adapt to the mobility requirement will be a determinant in achieving a consensus between that person’s aspirations and the Navy’s staffing requirement.

Professional Growth

Professional growth is fundamental to the success of an officer. The rate of change in tactical development, systems, technology research and organisation is such that maintaining currency requires a conscious effort beyond the formal training structure within which careers are managed. The RAN Course Program and that of the other Armed Forces and Defence agencies contains a very large number and variety of professional development training and education.

Professional growth is enhanced by going beyond the limits of the training already received and its application in the workplace. Initiative in seeking out and attending suitable training opportunities pays benefits in expanding one’s knowledge and understanding of naval and defence matters. This is not always easy to do because of competing work demands, deployments and superiors’ reluctance to release their subordinates.

Other opportunities exist through membership of professional bodies, subscription to journals and attending seminars. Much information may be obtained by taking the trouble to seek out unusual or unknown features of one’s own ship and discussing them with the relevant senior sailors. This approach helps in the discharge of one’s immediate duties and also would be reflected in the trust and confidence of the sailors thus consulted.
Time might also be profitably spent learning of potential adversaries and how they may operate. Large quantities of material are produced which may be accessed by the Warfare Officer afloat. The notion of knowing one’s enemy as oneself is no idle epithet.

There are established processes to assist naval personnel in undertaking external studies and many do so. This is not always easy to do because of one’s duties and it requires self-discipline and determination, but many officers have succeeded. Officers who are reluctant to develop their skills and knowledge and keep across developments in their specialist area will become progressively stale. Diligence in pursuing professional knowledge will be noticed, as will lethargy. In considering the many fora available to expand one’s knowledge base, Warfare Officers should also take the opportunity to research the professional and personal growth opportunities that are on offer through membership in professional associations such as the Australian Naval Institute, the Naval Warfare Officer’s Association and the Saint Barbara’s Association, to name but a few.

**Expect the Unexpected**

As said above, opportunities and challenges may arise during a career in unexpected ways. This may be in the form of an operational situation that was not anticipated but is of considerable importance. An aspect of professional behaviour therefore is to be ready and informed in expectation of tasks that may arise at short notice that are relevant to one’s specialist area. A Seaman Officer, for example, should have in prospect sea appointment and be professionally ready to take it up in unusual circumstances. ‘Pier head jumps’ are a known circumstance. All officers should be ready to assume at little or no notice any appointment that demands the range of skills in which they are trained.

**Warfare Career Specialist Options**

Even though the Navy is one community, there are within it, sub communities each with its own role models, occupational perceptions and career characteristics. The practitioners of each specialisation consider theirs unique.

The structure of warfare specialisations is intended to ensure that Navy has available sufficient trained officers to meet its capability demands. The precise structure of these specialisations has evolved over time and continues to change periodically. They currently include the PWO, Submarines, MGO and MCDO. Seaman PQ Officers should see specialisation as part of normal career progression. All Seamen Officers are required to nominate their specialisation preferences.

Junior Officers are encouraged to consult the extant policy and their career managers when forming their views on specialisation options and procedures for nominating preferences. They might
also undertake some informal ‘work experience’, where possible to do so, before resolving their preference decision. The selection of specialist preferences should be based on a strong knowledge of the career and personal implications of all the specialist options available, not on partial knowledge, whims or idle chat.

The Force Element Group Commanders and DNOP provide regular ‘road shows’ and briefing sessions in ships and establishments to facilitate consultation with officers who are facing important occupational decisions. This assistance is supplemented by a substantial quantity of printed and web-site material. Training Authorities also invite guest speakers to address courses, appropriate for the occupational decisions with which their students are faced.

The Warfare Specialisation Process

DNOP manages the warfare specialisation process in consultation with the officer concerned. Specialisation will be based on achieving a careful balance between the organisational demand for specialists and the desires of the officer. Individual preference for specialisation will be influenced by an officer’s performance record. Those with the strongest reporting and performance history will be best placed to obtain their preference.

All Seaman Officers will be invited to nominate their specialisation preferences when they are awarded their Bridge Warfare Certificate. Officers will submit their preferred career choice using the ‘Employment Preference’ section of the ‘ADF Employment and Restrictions’ form. Negotiation between DNOP and individual officers will follow to allow the development of an appropriate career plan. Subject to workforce requirements, officers should normally expect to complete at least one consolidation posting following the award of a Bridge Warfare Certificate and prior to specialisation training.

The structure and timing of training courses, the nature of specialisations and their status in career management terms change regularly. Readers are therefore urged to refer to current policy and to seek contemporary advice, including from DNOP for the latest information, when considering career decisions.

“The paths fork and divide. With each step you take through Destiny’s garden, you make a choice; and every choice determines future paths. However, at the end of a lifetime of walking you might look back, and see only one path stretching out behind you …”

2 Neil Gaiman, ‘Sandman’
Suggested Reading – Career Planning and Management

- ABR 6289 RAN Officers Career Management Manual
Chapter Eleven

Naval Values, Leadership and Ethics

“Know yourself, know your troops, know your job”

Major General W.H. Rice, USMC

Introduction

Sailors and officers are entitled and deserve to be led by informed and competent leaders. While effective leadership can take many forms applicable to many differing situations, the basis of naval leadership is the need to prevail over the enemy during naval combat. With the exercise of leadership in combat as the underlying principle, this chapter provides a summary of leadership and ethical issues pertinent to the Warfare Officer and acts as an aide-memoire.

The Royal Australian Naval College (RANC) provides a continuum of command, leadership and management training for all naval officers.

The initial phase of this training is delivered to new entry officers and seeks to provide basic leadership skills through exercises geared to the practical application of theoretical lessons. Through a series of increasingly complex assessments based upon real-world situations that the RAN has been involved in, trainees are scrutinized for their ability to develop their natural leadership skills to the degree required of the modern Warfare Officer.

The second phase of the continuum is delivered as part of the application training for each Warfare Officer PQ. The Junior Officer Leadership Course (JOLC) delivers the skills the junior Warfare Officer will need to draw upon to serve as a Divisional Officer to a group of junior sailors.

During the third phase of the continuum, PQ qualified Warfare Officers draw upon their experience and prior training to help gain an advanced level of understanding, strategic leadership and management skills. Completion of these three phases is a pre-requisite for promotion to LCDR.

Leadership is an essential part of our naval culture. It affects the productivity, readiness and performance of the navy. Leadership starts with personal ethics, common sense and a willingness and moral courage to hold oneself and others accountable. It involves placing one’s personal welfare aside and focussing on those issues that affect the majority and ensure the realisation of the mission.
Part 1 – Leadership

“Now, there may be “too much Nelson,” for the times have changed since then, But as long as Man is Human we shall have to count on men.” 1

Leadership

Leadership is the art of consistently influencing and directing personnel in such ways as to obtain their willing obedience, confidence, respect and loyal co-operation in the manner desired by the leader. Leadership, more than social exchange, is a trust sustained by the personal example of the leader. For subordinates to be committed to the goals and values of the service, the leader must be a living example of those same goals and values. When once the leader sermonizes, “do as I say, not as I do”, trust starts to deteriorate and along with trust is lost morale and military effectiveness

The Relationship Between Leadership and Management

Management is a process of establishing and maintaining objectives in the discharge of responsibility. It consists of planning, organising, directing, co-ordinating, controlling and evaluating the use of personnel, money, materials and facilities to accomplish assigned tasks.

Whereas management is concerned primarily with administration process, leadership is concerned chiefly with personnel.

Although leadership and management are quite different, good leadership demands robust management.

The naval leader, distinguished by efficient management, will build an environment in which personnel appreciate management and information systems, project management spreadsheets, cost benefit analyses and balanced scorecards as critical to the infrastructure of command.

The conduct of multi-Task Group engagements from the Flag Bridge with a small-scale chart is no longer an option, as it was for Task Force Commanders in WW II. Complex systems are required to manage the means to complete all tasks that contribute to today’s combat efficiency. Officers are expected to employ the systems available to them effectively to achieve an outcome that synergises the capability of each system.

The use of leadership skills and management techniques overlap in the discharge of a leader’s duties and both are required for successful mission accomplishment. The person who is too immersed in management and its theory tends to focus on mission and mission support rather than the people who will actually accomplish the mission.

Conversely, the leader whose mission fails because of inadequate management is of little use. The effective leader and manager maintains a balanced approach to both mission preparation and to the sailors.

The leader must heed the established principle “know your personnel and promote their welfare”. Managerialism that encourages an unconditional focus upon achievement at all costs preordains failure because its inherent lack of empathy erodes *morale* and *esprit*, which together are the engine of fighting will. That fighting will is essential to triumph is borne out by the exploits of Morsehead and the 9th Division at Tobruk. More than management, leadership is born of character and remains mindful of the welfare of personnel.

**Slim on Management:** “Indeed, there were not wanting senior visiting officers who urged me to ‘fling two divisions across the Chindwin’. ...somehow I have never had great confidence in Generals who talk of ‘flinging’ divisions about. ‘Fling’ is a term for amateurs, not professionals. Besides, I noticed that the farther back these Generals came from, the keener they were on my ‘flinging’ divisions across the Chindwin. ...

*An important consideration, too, in all my calculations, was that the enemy, if he was to avoid destruction, must win his battle before the monsoon set in. If he had failed by then to occupy the Imphal area he would be in an impossible supply position. Another factor was, of course, our supremacy in the air and the ability it gave me to use air supply. It should be remembered, however, that this would be dependent during the monsoon on the possession of all weather air fields.*”

Field Marshall Sir William Slim prior to the battle for Imphal in 1944 on the importance of good management as a component of good leadership.

**Duty and Service**

Naval leadership deals with a specific type of person: intelligent, educated and, by definition, with a commitment to serve the Nation. Naval leaders are, by the nature of their duties, also invited to accept responsibility for the efficiency and welfare of their subordinates, thereby adding to the ‘service’ obligation of the officer.

Effective naval leaders must know their jobs, must be willing to work hard, accept responsibility, radiate enthusiasm, communicate lucidly, insist on competent performance (ie set standards and insist on them) and be committed to serve the country and their shipmates above all else, including friendship and personal benefit.
Officers must also recognise that their career expectations and experience, and the attitudes that underpin them, will be different from those who have gone before and those who come after. Such is the nature of generational change, that creates different expectations of commitment and obligations.

Regardless of generational change, the obligation of service at sea is reduced ultimately to the discharge of responsibility in order to advance the needs of others. Subjugation of self to the needs of one’s ship and one’s shipmates is demanded by the unforgiving nature of the environment afloat, and the expectations imposed upon the Naval Service by the nation.

Leadership will demand occasionally difficult, perhaps unpopular decisions. Leadership however, is not beholden to popularity but is at all times committed to duty. Personal comfort, relationships and advantage must yield always to the interests of one’s ship and one’s nation; which it is our privilege to serve.

Understand Yourself

“Our doubts are traitors,
And make us lose the good we oft might win,
By fearing to attempt”

Shakespeare ‘Measure for Measure Act I Scene IV’

Conscious effort is required to understand one’s own strengths and weaknesses, with the aim of exploiting strengths and managing or diminishing weaknesses. Knowledge of one’s strengths improves self-confidence and allows an individual to maximize their value to the organisation and unit. Directing efforts where one knows they possess skills will, to some extent, occur naturally. Individuals will tend to graduate to those activities where they feel most comfortable and self-assured. We further benefit, however, by taking ourselves out of the ‘comfort zone’ to determine the limits of our capabilities.

Similarly, an understanding of our weaknesses assists each person to seek knowledge or skill to eliminate less satisfactory capabilities. Such self-knowledge aids us in seeking advice and knowing which advice to accept and reject. Understanding the limits of one’s capacity is as much a part of risk assessment as knowing the performance characteristics of one’s ship. We can not overcome a professional weakness if we don’t know it exists. In this context, introspection is an asset.

Know and Respect Your Sailors

Knowledge of the personnel for which one is responsible is essential if their welfare and professional development is to be attended to. To address people by name is equally courteous and professionally expedient. Particular professional benefit accrues from the sense of inclusion, identity and esprit, which derive from use of a name, as opposed to impersonal or discourteous forms of address.
Knowing the personal circumstances and pressures under which a subordinate suffers, both at home and afloat, is necessary if an officer is to discharge responsibility for the subordinate’s welfare. Make the effort to engage your people in conversation. Enquire as to their views about the ship and events. When confidence is established you will learn much about what is going on and about the individuals in the ship and be able to assist and counsel thereby.

**Teamwork**

Ships are functionally organised into small teams that inter-relate in the delivery of operational services and tasks. Each team’s performance is a contributor to overall combat capability. There is a natural synergy due to the shared experience and focus on the task at hand rather than the chain of command. When things go well, they do so because of the contribution of the many.

Optimum team performance afloat requires a transformational leadership approach and the shaping of attitudes and values that support co-operative effort to achieve common ship-wide goals. Once achieved, teamwork improves speed of reaction and diminishes error in each sequence of an activity or operation. Teamwork is developed by training, practice and communication, among other things.

It starts with a shared and common understanding of the task at hand. Within each team there is a diversity of skills, experience and attributes. Officers influence this diversity by the way they go about training and developing combat capability.

In a team-oriented activity, members must interact effectively among themselves. The leader must direct the whole, while attending to the needs of the individual. The physical structure of the platform and the sustained nature of some operations, generate inter-personal issues and intimacy that impact on the dynamics of the team and the leadership tasks required of the officers. The weather exposes the Ship’s Company to mental and physical fatigue, which the leader must *personally* endure while simultaneously maintaining group direction and attending to individual sailors’ welfare.

In a ship, teams are formed formally by division, function or living area. Informal groups will also exist based on a common interest or goal. Such informal groups will have a natural leader. Knowledge of informal groups and those who lead them provides another avenue for influencing behaviour within the team by seeking to align, as far as is possible, the aims of both the informal group and the formal one.
Discipline

The Navy deploys in pursuit of the nation’s interests. It can do so because the Service maintains values and discipline in which the Nation has confidence. This is a resource to be valued. At a higher level, rules of engagement define bounds beyond which the support of the Nation is not conclusive. Unit discipline ensures adherence to constitutional restrictions defined by operational rules. Thus, the pivotal place of discipline is apparent. Discipline underpins the effective performance of a duty.

Sailor’s Welfare: The RAN’s Flagship HMAS *Australia* had been overseas for five years since mid 1914, attached to the RN’s Battle Cruiser Fleet. She had seen little action and had spent most of WWI on tedious patrol and escort duties in the North Sea or at anchor in the Orkney Is, often in appalling weather.

On 1 June 1919 *Australia* was due to sail from Fremantle on completion of a three day visit and her first home port call since returning from Britain. Hitherto the sailors had been subject to rigid discipline and very little shore leave. The ship was under strength and the material conditions were spartan. The motivation provided by possible combat was absent. The Armistice was signed many months previously and some sailors felt they had done their bit. The Fremantle waterfront was subject to serious industrial unrest and *Australia* was moored at a buoy. The residents of Fremantle had extended a warm welcome to the sailors.

At 1030 and with Special Sea Dutymen closed up, about 90 sailors gathered in disorder on the Quarterdeck, some still in liberty rig. They asked that the ship’s sailing be delayed to allow them to return hospitality to their new friends ashore. The request was denied and the sailors ordered to their duty stations. They did so with discontent and “ejaculations of an insubordinate nature”. Some of these sailors proceeded below and induced the stokers to abandon the boiler room thus preventing the ship from casting off. Lower deck was cleared and the Captain read the Naval Discipline Act and the Articles of War. Order was restored.

Seven sailors were summarily tried and sentenced to 90 days imprisonment and another five were court-martialled and convicted for being “joined in a mutiny not accompanied by violence”.

Initiative

Initiative is pursuing what must be done and doing it, even in the absence of orders. Sailors will respond well to a leader who meets new and unexpected challenges with prompt action. Inactivity or passive acceptance of an unsatisfactory situation because of a lack of the normal means to cope with it, is unjustified especially in war fighting.

Initiative. Captain Collins’ intuition and initiative caused him to depart from his orders while in the Aegean Sea. As CO of HMAS Sydney, he was under verbal instructions from the Commander-in-Chief to support a destroyer sweep in the Kaso Strait east of Crete and then to proceed north with the destroyer HMS Havock and conduct anti-contraband operations off Piraeus. The rest of the destroyer squadron was to sweep the north coast of Crete and return to Alexandria via the west end of the island.

Captain Collins considered that the absence of written instructions gave him discretion and he decided to steam west instead of north to provide support to the destroyer squadron until dawn. Obliged to maintain radio silence, Captain Collins was unable to seek approval for his departure from instructions. The destroyer squadron was also unaware that Sydney and Havock had stayed in the near area.

Shortly after 7 AM Captain Nicholson, commanding the destroyer squadron, reported contact with two cruisers who were later identified as Bartolomeo Colleoni and Banda Nere. Sydney maintained radio silence to avoid alerting the enemy to his presence. He closed Captain Nicholson who was still unaware Sydney and Havock were near Crete - he thought them 200 nm to the north.

Thus began the battle of Cape Spada and the sinking of Bartolomeo Colleoni by Sydney.

On return to Alexandria the Commander-in-Chief met Captain Collins with the inquiry: “Well done. I was very relieved when your enemy report showed you were on the spot, but how did you get there?” Side stepping his departure from orders, Captain Collins replied: “Providence guided me, Sir.” “Well in future you can continue to take your orders from Providence”, said the Admiral.

Establish Trust

Subordinates need to believe that they can trust their superiors. Be open and honest in informing people about the mission, their part in it, what is expected and why. Respect each and every sailor as a worthy, special and different human being who, like you, has strengths and weaknesses, character and idiosyncrasies.

Mutual expectations may take the form of agreements entered into voluntarily. They are an essential device for regulating disputes and defining boundaries of acceptable behaviour. Truth telling and the honouring of voluntary agreements are powerful moral weapons in the exercise of leadership.

Manage expectations and ensure they are realistic. Once committed – deliver. If you cannot, then make a conscious effort to manage and explain the let down.

Commodore, later Vice Admiral, Sir John Collins
Responsibility and Accountability

A clear understanding of where responsibility lies and an honest endeavour to discharge those responsibilities personally held, is a basic requirement for a successful leader. Such a person will also be accountable for their actions. Accountability is a crucial characteristic of good leadership. A professional naval officer will assume authority, fulfill responsibilities and account for their actions. Those who seek to blame others for their own deeds will be quickly distrusted by their subordinates and rendered ineffective by their own self deceit.

Leaders are accountable, that is, liable, for their actions and that of their subordinates. This accountability derives from the authority vested in, or delegated to, the officer.

Authority and responsibility obviously increase with rank and follow from the past performance, known skill and the experience of the officer.

Delegating Authority

“….. leadership must be based on goodwill. Goodwill does not mean posturing and, least of all, pandering to the mob. It means obvious and wholehearted commitment to helping followers. We are tired of leaders we fear, tired of leaders we love, and most tired of leaders who let us take liberties with them. What we need for leaders are men of the heart that are so helpful that they, in effect, do away with the need of their jobs. But leaders like that are never out of a job, never out of followers. Strange as it sounds, great leaders gain authority by giving it away …..”

Admiral James Stockdale 1987
Delegation is not as easy as it sounds, especially for the more fastidious and inflexible officers. Delegation involves setting a task clearly, defining the standards, considerations and timeline and providing the resources required. Standing by while others make mistakes on your behalf requires considerable self-discipline but with appropriate controls, this is a proven way for subordinates to learn and improve. There is a balance to be struck between assisting others to develop their skills, confidence and initiative while retaining control over standards and avoiding any undesirable outcomes.

The skill of delegating also prepares you for more senior duties in which you do not achieve results through your own personal work performance but, rather, by supervising and directing the tasks of others and, in due course, commanding them.

As the level of command rises in the hierarchy, delegation of authority to subordinates ensues. Power can be delegated but authority cannot. More importantly, when discharging the delegated duties, subordinates will draw upon the example of their commander for guidance. If the standard of performance is less than the commander would wish, it may be appropriate to start by examining the role model the subordinates have available to them.

Performance, Professionalism and Knowledge

Warfare practitioners are responsible to the Command for expert professional advice on the conduct of a ship’s operations. The Commanding Officer, not being omniscient, will make decisions based on that advice. This includes combat decisions and weapon exchange. Nothing inspires confidence and respect more than demonstrated professional knowledge and competence. Knowledge should not be limited to naval subjects but include broader defence aspects and those of international interest.

Courage and Resolution

‘Maintenance of the aim’ is the first principle of war and is a feature of leadership at every level exercised. Maintaining focus is relatively easy when circumstances are favourable. The challenge of leadership comes when conditions are less so.

Courage is a quality that recognizes the fear of danger or criticism but enables a person to face it calmly, with resolution and determination. In simple terms, courage is the control of fear that enables a person to act responsibly in a threatening situation. The effective leader must have moral as well as physical courage. This entails knowing and doing what is right in the face of personal disfavour.
Resolution, one of the most enduring features of leadership, defines firmness of purpose, determination, tenacity and perseverance. Resolution connotes fortitude in the face of trials and tribulation. Such resolution, founded upon belief in the task at hand, inspires courage and self-sacrifice. Such resolution involves not blinking when eye to eye with adversity. That is not to say that the resolute leader does not maintain a correct perspective and becomes fixated upon achieving unachievable aims at the reckless cost of personnel and materiel.

Courage: In March 1942 evacuation from the Netherlands East Indies was being undertaken in the presence of heavy enemy action. A number of Allied ships had concentrated on Padang and Tjilatjap in preparation for retreat to Colombo in the west or to Fremantle in the south.

On 4th March, the sloop HMAS Yarra was proceeding SSE at 8.5 kts with a convoy of two transports, Anking and Francol, and one small motor minesweeper MMS 51, attempting to escape from Sunda Strait to Australia. At about 0630, Yarra sighted a Japanese force astern comprising three heavy cruisers (IIs Atago, Takao and Maya) and two destroyers. Yarra was armed with three 4” guns. The cruisers had 30 x 8” guns between them.

Yarra’s Captain, Lieutenant Commander R. W. Rankin RAN, manoeuvred to lay smoke and ordered the convoy to scatter. He then put about and opened fire on the lead Japanese ship, they being in line ahead. One hit was observed. Yarra then followed back into the smoke and was readied for abandonment.

After ten minutes or so, Yarra emerged from the smoke and the gun battle resumed with the cruisers said to be at 4,000 yards or so. One by one the convoy was sunk. Rankin was killed when a shell hit the bridge but the ship continued to fight under the command of the First Lieutenant, Lieutenant Commander Smith. By 0700 Yarra was a floating wreck and ‘Abandon Ship!’ was ordered. The Captain of No 2 gun, Leading Seaman Taylor, disobeyed the order and remained at his gun with the aim of fighting on, until he too was killed and all guns were silent. A destroyer continued to bombard Yarra from close range until 0930. Yarra was the last of the convoy to go down, sinking at about 1000.

Show Respect for Others: Royal Oak Affair. In January 1928 HMS Royal Oak was moored in Malta harbour flying the flag of Rear Admiral B. St G. Collard CB DSO RN, Flag Officer Commanding First Battle Squadron, Mediterranean Fleet. Rear Admiral Collard was a Gunnery Officer by specialisation, as were the Flag Captain and Commander of Royal Oak.

The Flag Ship was hosting a dance that balmy evening. The ship’s Royal Marine Band provided incidental music under the control of Bandmaster Percy Barnacle RM. The Admiral is recorded as being of irascible demeanour at the time and had just finished dinner with the Commander-in-Chief and others. He took exception to the latest American airs being played by the band, which were noted as being “sleepy in tempo and unfamiliar to the ears of fox-trotting Mediterranean connoisseurs”. The Admiral scolded and berated Bandmaster Barnacle. He accused him of making “a bloody awful noise” and playing music “like a dirge”. He ordered the Marine band replaced by the ship’s volunteer jazz band. He publicly and audibly described Bandmaster Percy Barnacle RM as a “bugger”.

Bandmaster Barnacle was a proud man and, in any case, he also trained the jazz band. He was now indignant, a state of mind duly amplified by the epithet soon circulating on the lower deck: “Who called the bandmaster a bugger? Who called the bugger a bandmaster?” This public attack on a dignified senior NCO had left the Bandmaster humiliated and the Marine Band members seething.

Other incidents ensued, which derived from the Admiral’s predisposition for dictatorial and abusive treatment of his immediate subordinates, often conducted publicly. Thus it was that the discourtesy shown to Bandmaster Barnacle resurfaced three months later in the broader context of an investigation into the Admiral’s behaviour and representations about it. The investigation lead to the Admiral voluntarily lowering his Flag, never to be raised afloat again, and in due course he was placed on the retired list, publicly disgraced. The Flag Captain and Commander were dismissed their ship and later Court Martialed and found guilty because of the nature of their representations.

Apart from being a compelling instance of ‘Chaos Theory’ in practice, the case shows that pig headedness and tantrums may bring their own reward in due course.

Enthusiasm and Motivation

Enthusiasm is infectious and implies belief in the objective or endeavour. When present, it is a powerful factor in job performance and mission accomplishment.

Motivation is a quality that gives an officer the desire and determination to be successful in the tasks being undertaken. It is the capacity to give a task one’s full support and energy. Leadership is improved by the demonstration of keen interest, optimism and cheerfulness.

Creating Self Worth

Recognition of an individual is vitally important in developing self worth and self-confidence, which then underpins an individual’s capacity to contribute fully in the team environment.

Criticise only when necessary and do so in the form of constructive advice. Praise publicly. Criticise privately. In addition to being morally repugnant and manifestly illegal, constant exposure of subordinates to ridicule and denigration is demotivating and destroys self-confidence. Empower people by removing the barriers that interfere with their performance and their welfare.

The standards you set for yourself will be the one’s your subordinates will consider appropriate for themselves. Your professional competence will define the confidence your people have in your judgement and therefore their willingness to comply with alacrity and trust.

Encouraging Self Belief: “Then there were the Prothero brothers. ‘Prothero the Good’ passed through the Navy unnoticed. ‘Prothero the Bad’ passed nowhere unnoticed. A distinguished Admiral described him as “quite the most terrifying man I ever served with. Eyes like a hawk, a great hooked nose over a bristling black beard down to his waist, terrific shoulders, nearly as broad as he was long. If a midshipman got in his way on the bridge he would pick the lad up, one great fist grasping his collar, the other the seat of his trousers, and drop him over the bridge screen onto the deck below.””

Judgement

Judgement is the quality of logically weighing facts and possible solutions, and basing decisions upon these considerations. Judgement is a critical element in leadership decision making. It has two components. One is knowledge. A leader can not make a judgement if they are unfamiliar with the subject. The second element is common sense, which is an attribute gained through experience. It is also aided by understanding the process of risk analysis.

Communication

Communication must be a priority and is an intrinsic component of exercising leadership. Subordinates must know their leader’s expectations, standards and plans and be clear about these if they are to perform their duties. They will perform with greater enthusiasm and understanding if they know why they are doing what they are doing and its context. Clarity is essential and ambiguity must be avoided. Provide feedback – this is communication.

HMAS Yarra in 1938, later lost in action against Japanese forces 4 March 1942.
Communication is an important part of leadership: Rear Admiral V.A.T. Smith DSC, Flag Officer Commanding HMA Fleet, briefing his Commanding Officers in HMAS *Melbourne* prior to exercises in northern waters 1966. Later to become Admiral Sir Victor Smith, AC, KBE, CB, DSC RAN and Chairman Chiefs of Staff Committee.
Part 2 - Navy Values

The Boundaries of Leadership and Management in the RAN

All officers need to be effective leaders. Although the principles of leadership are universal, service afloat involves a unique leadership environment.

In the RAN, values have been defined and these set both the tone and the boundaries within which leadership and management are exercised. Navy’s value system (honour, honesty, courage, integrity, loyalty) are applicable to all Navy people, whether in leadership positions or not.

Our Navy values provide a basis for our personal and professional conduct and enable us to respond dynamically to new situations. They guide how we behave and how we treat each other. Navy’s values should be a source of strength and moral courage. Navy’s values are nothing but words unless each of us converts them into actions and the values are used to influence our decision making processes and the standards that we expect of others.

Follow the rules but when there is doubt, or rules don’t cover the situation, then apply values. Rules change because they cannot anticipate every situation. Values provide core beliefs, which guide decisions in the absence of other direction.

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<tr>
<th>Honour:</th>
<th>Honesty: Is always being truthful, knowing and doing what is right for the Navy and ourselves.</th>
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<td>Courage: Is the strength of character to do what is right in the face of personal adversity, danger and threat.</td>
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<tr>
<td>Loyalty: Is being committed to each other and to our duty of service to Australia.</td>
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<tr>
<td>Integrity: Is the display of truth, honesty and fairness that gains respect and trust from others.</td>
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Future leaders – 1949 Term Royal Australian Naval College in HMAS Cerberus. Term Officer Lieutenant Commander, later Rear Admiral, W. J. Dovers DSC RAN.
Part 3 - Ethics

Ethics a Contemporary Issue

Ethics is about choosing between different courses of action. It is a field of endeavour always present in naval service. This matter is important because individuals within the navy are empowered more than hitherto by quality education and access to information independent of the chain of command. This creates more decision options and less reliance on official channels. There is also within society a decline in trust in the professions and other traditional sources of social authority. The right to exercise authority may be questioned. For the armed forces these influences are particularly difficult because of the life and death decisions that are inherent in the conduct of military operations and the underlying dilemma of the end justifying the means.

For the purpose of this section, ‘ethics’ is deemed to be a set of moral principles. Morality relates to what is right and wrong in behaviour in the context of the value set in which one believes.

A sense of right and wrong is indispensable to the naval leader who benefits from being quite clear about these issues before being placed in the position of having to decide under stress.

Ethics in Decision Making

There is inevitably a tension between moral reasoning and society’s expectations, and those of rational self interest. The successful naval leader must put the former first in deciding their moral systems. A leader who does ‘the right thing’ irrespective of the possible consequences will be respected. An officer who develops the reputation of being morally weak or prone to expediency will be seen for what they are and their capacity to provide effective leadership will be reduced.

Unpopular decisions will be required of all officers in the course of their duties. If these occur against a background of self interest and moral lassitude, compliance by subordinates may be less than wholehearted. There is no such thing as a minor transgression when you are a leader. Each time we allow something to pass that should be addressed, we set the tone for others to follow.

Relative Morality

Morality is not absolute. Some would argue that there are no objective values. Some would argue that there are no objective values. Values vary with time and are relative to the society, culture and organisation.

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in which the value judgements are made and the philosophical environment of that society.

A moral assessment is also relative to the circumstances in which it is made.

Leadership, service and morality must be aligned. That is, good leadership, in the Australian Navy context requires as its starting point conformance with national expectations of morality.

**Ethics as a Benchmark**

Ethics are the principles by which our actions may be judged – good or bad, right or wrong. They include the way we make decisions when it is not completely clear what is right. And they are about doing the right thing. Ethics are not simply about acting according to the law or in compliance with consideration for values, perspective, judgement and consequences.

Morality is also pliant. All naval officers need to be aware of generational issues and how they affect perceptions of right and wrong. The prevailing morality in Australia 30 years ago (in as far as it can be measured) when the current senior leadership entered the Navy, is quite different in many ways to that which exists now. That, which at one time, might have been seen as disloyalty to the organisation, may now be interpreted as loyalty to society. Attitudes to sex, marriage and even the universality of western philosophy have all altered or at least been placed under considerable scrutiny.

**Consistency**

If we believe that a certain course of action is morally right or wrong, ought or ought not be done, then the same view must be taken about another similar action. Numerical differences don’t matter in moral judgements. If something ‘ought’ to be done then it follows that there is a reason for doing so.

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**Do the Right Thing in Command.** General Cosgrove as Chief of Defence Force said the following about his first platoon command:

> “I figured if they gave me the thumbs up that was the first and most important goal achieved. And after that, to keep that process – trying hard and trying to do the right thing each and every time by those people – you can directly touch them each and every time. And I find that if you do that, then by and large you are doing the job not just for those who you directly touch but for everybody who is influenced by the things you do.”
Moral Responsibility

Responsibility for one’s actions may be determined in both a legal and ethical way, and they may not be the same. Legal tradition has it that a guilty mind is a necessary precondition for criminal responsibility. That is, one can only be held responsible for intended actions. If one foresees the inimical results of an action or inaction and still goes ahead, then issues of responsibility arise.

Legal and moral responsibility are not synonymous. The Navy routinely holds Commanding Officers responsible for unintended actions. Ships’ Captains do not intend to run their ships aground or lose sailors overboard from a submerging submarine, but are nevertheless held responsible. There may also be conflicting and irreconcilable differences between legal and moral responsibility.

Ethics Digest

This section has not sought to provide a list of ethics or standards of conduct. A digest is contained in Appendix 1 for the consideration of readers, who are also invited to consult Defence Instructions General (Personnel), Defence Circular Memorandums and periodic publications by the Inspector General, in addition to the standard leadership texts.
Suggested Reading – Naval Leadership, Ethics & Values


- Proceedings of the Centre for Defence Command, Leadership and Management Studies, Australian Defence College, Canberra.


Navy’s Values

Navy’s values guide how we will behave, how we will treat each other, define what is important – they bind us together. Values are a source of strength and provide a moral system to guide our actions.

The importance of these values is such that if individual Navy people cannot accept them and consistently apply them, then they have no place serving Australia in the Navy. These values are:

**Honour**
Is the fundamental value on which the Navy and each person’s reputation depends. To demonstrate honour demands the application of the four prime values of the Navy and to consistently behave in a way that is becoming and worthwhile.

**Honesty**
Is always being truthful, knowing and doing what is right for the Navy and ourselves.

**Courage**
Is the strength of character to do what is right in the face of personal adversity, danger and threat.

**Integrity**
Is the display of truth, honesty and fairness that gains respect and trust from others.

**Loyalty**
Is being committed to each other and to our duty of service to Australia.
**Ethical Standards for Officers**

The following standards list is compiled to assist officers in considering their moral system and its application in the practice of naval service.

1. Put Australia, naval service and your people before self;
2. Direct professional efforts at the effective conduct of maritime operations in defence of Australia;
3. Have regard to the manner in which your actions will reflect on the Navy and on Australia;
4. Set an example for subordinates by applying the Royal Australian Navy’s values;
5. Avoid using rank, title, official position or office for personal gain;
6. Encourage subordinates to pursue conformance with Navy’s standards;
7. Diligently attend to the welfare of subordinates;
8. Actively sponsor and recognise ethical behaviour;
9. Expose unethical actions, recommendations and advice and counsel against them;
10. Support the provision of correct information, challenge incorrect information and do not allow unstated information to remain so;
11. Neither conceal nor ignore our weaknesses and work to diminish them;
12. Commit to actions that one is comfortable reporting to superiors and exposed to scrutiny thereby; and,
13. Seek informed advice when in doubt as to the ethics of a proposed action.
Professional Conduct –
A Check List

The following is a selective list that provides some practical ways in which the above ethical standards and values may be applied:

1. Work for efficiency, timeliness and economy in the performance of one’s duties afloat;

2. Respect and value the equipment and material provided for the performance of naval duties;

3. Pursue and advocate the means to improve the professional performance of the ship;

4. Strive for professional and personal improvement, both as a naval officer and also for subordinates;

5. Avoid any action that might give the appearance of using public office for private gain;

6. Avoid giving preferential treatment – maintain impartial judgement in the conduct of naval affairs;

7. Never discriminate unfairly by the dispensing or withholding of special favours in a way that influences the performance of duties afloat;

8. Make official decisions within official channels;

9. Shun actions that would diminish public confidence in the Navy’s integrity;

10. Use defence information for defence purposes;

11. Reject using one’s position as an officer in the Royal Australian Navy to influence a person to supply a private benefit;

12. Use naval and government property for officially approved purposes;

13. Avoid gift giving where inappropriate and politely decline offers of gifts;

14. Eschew excessive or repeated offers of free hospitality and reject such offers that involve free travel;

15. Conduct official business and engage in naval operations in accordance with laws, regulations and lawful commands;

16. Make no private promises that are binding upon the official appointment that one holds;

17. Expose corruption, negligence, incompetence and lassitude; and,

18. Give honest endeavour.
Specialist Skills
- Principal Warfare Officer
- Submarines
- Maritime Geospatial Officer
- Mine Warfare & Clearance Diving Officer
- Pilot
- Observer

General & Functional Qualifications, Sub-Specialist and Other Skills
- Intelligence
- Above Water Warfare
- Surface Warfare
- Mine Warfare
- Clearance Diving
- Submarine Warfare
- Navigation
- Communications
- Helicopter Warfare Instructor
- Observer Instructor
- Aero Systems
- Flying Instructor
- Helicopter Instructor
- Test Pilot
- Hydrography
- Meteorology & Oceanography
- Amphibious Operations

Maritime Functions
- Command and Control
- Intelligence collection
- Surveillance & Reconnaissance
- Information operations

- Hydrographic and Oceanographic survey
- Naval support to diplomacy
- Naval presence, patrol and response
- Sovereignty patrols
- Exclusion zone enforcement
- Trade and movement embargo patrols
- Naval control and protection of shipping
- Maritime intervention
- Interdiction of shipping
- Mine warfare
- Air defence
- Explosive ordnance disposal
- Surface warfare
- Strike operations
- Underwater warfare
- Special operations support
- Rescue at sea
- Amphibious operations and heavy sea lift

Defence Assistance to the Civil Community & Defence Force Aid to the Civil Power
- Search and rescue
- Disaster and humanitarian relief
- Evacuation
- Peace operations
- Anti-piracy operations
- Counter terrorism
- Hydrographic and Oceanographic surveys and production of nautical charts and publications
- Civil enforcement: customs, immigration, quarantine, fishery and resource enforcement in the Exclusive Economic Zone, protection of the marine environment.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<td>Defence Intelligence Training Centre</td>
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<td>Australian Defence Force</td>
<td>DIO</td>
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<td>Command, Control, Computers and Intelligence</td>
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<td>Organisation</td>
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<td>LADS</td>
<td>Laser Airborne Depth Sounder</td>
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<td>LPA</td>
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<td>MF</td>
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<td>WEEO</td>
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<td>XO</td>
<td>Executive Officer</td>
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Warfare Officer Badges

Pilot

Observer

Mine Warfare and Clearance Diving Officer

Principal Warfare Officer

Maritime Geospatial Officer

Submariner
Warfare Community Associations

Australian Defence Association
http://www.ada.asn.au/links.htm

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History


Biography


Other Navies
