

# Australian Maritime Issues 2008

SPC-A Annual

Edited by Gregory P Gilbert and  
Nick Stewart



SEA POWER CENTRE - AUSTRALIA



AUSTRALIAN  
MARITIME  
ISSUES 2008  
SPC-A ANNUAL

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# AUSTRALIAN MARITIME ISSUES 2008 SPC-A ANNUAL

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Edited by  
Gregory P Gilbert and Nick Stewart  
Sea Power Centre – Australia

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## Sea Power Centre – Australia

The Sea Power Centre – Australia (SPC-A), was established to undertake activities to promote the study, discussion and awareness of maritime issues and strategy within the RAN and the Defence and civil communities at large. The mission of the SPC-A is:

- to promote understanding of sea power and its application to the security of Australia's national interests
- to manage the development of RAN doctrine and facilitate its incorporation into ADF joint doctrine
- to contribute to regional engagement
- within the higher Defence organisation, contribute to the development of maritime strategic concepts and strategic and operational level doctrine, and facilitate informed force structure decisions
- to preserve, develop, and promote Australian naval history.

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# Papers in Australian Maritime Affairs

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The *Papers in Australian Maritime Affairs* series is a vehicle for the distribution of substantial work by members of the Royal Australian Navy as well as members of the Australian and international community undertaking original research into regional maritime issues. The series is designed to foster debate and discussion on maritime issues of relevance to the Royal Australian Navy, the Australian Defence Force, Australia and the region more generally.

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- No 24 *The Global Maritime Partnership Initiative: Implications for the Royal Australian Navy* by Chris Rahman
- No 25 *Missing Pieces : The Intelligence Jigsaw and RAN Operations 1939-71* by Ian Pfennigwerth
- No 26 *A Historical Appreciation of the Contribution of Naval Air Power* by Andrew T Ross and James M Sandison
- No 27 *Australian Maritime Issues 2008: SPC-Annual* edited by Gregory P Gilbert and Nick Stewart

## Foreword

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The Sea Power Centre - Australia (SPC-A) seeks to further our national knowledge and understanding of Australia's broader geographic and strategic situation as an island continent in an oceanic region, and the role of maritime forces in protecting our national interests.

This volume, *Australian Maritime Issues 2008: SPC-A Annual* is an important contribution to the maritime debate in Australia and includes papers written on naval and maritime issues between May 2007 and December 2008. Many of the papers come from our monthly *Semaphore* newsletters, which covered a wide range of issues, such as naval aviation, international engagement, sea lift, activities in the Arabian Gulf, submarine escape and rescue, warship survivability and the economic benefits of shipbuilding. The year was also made memorable by the discovery in March 2008 of HMAS *Sydney* (II) and the German raider *Kormoran*, followed by a series of memorial services. Members of the SPC-A were heavily involved in supporting the *Sydney* (II) events, none more so than John Perryman the Senior Naval Historical Officer. We celebrated the visit of the Great White Fleet in 1908 with a series of Synnot lectures by Professor James Rechner from the Texas Tech University, and we commemorated the 90th anniversary of the end of World War I at an international conference held at the Australian War Memorial.

We open this volume with the Prime Minister's speech to the RSL National Congress in September 2008 and the Prime Minister's press interview on the following day. Both emphasise the need for a strong Australian Defence Force and emphasize the special importance of sea communications and sea power to Australia's defence. The next paper by James Goldrick and David Stevens reminds us how sea power contributed to victory in 1918. The papers on naval administration, the introduction of the submarine service and Australian sea communications not only reflect upon the past but are very much relevant for the present and future navy. As usual, we have also published the winning entries from the 2008 Peter Mitchell Essay Competition and I thank all those that entered for their valuable contribution to the Australian maritime debate. Many papers in this volume were intended to contribute to the debates concerning the new Defence White Paper.

Collectively, these papers offer valuable contributions to the current maritime debate. I trust you will find *Australian Maritime Issues 2008: SPC-A Annual* informative, interesting and a valuable contribution to the maritime and naval debate in Australia.

**Captain Gordon A Andrew, RAN**

Director

Sea Power Centre - Australia

7 April 2009





## Editor's Note

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*Semaphore* issue 1 of 2008 has been omitted from this volume. The first issue of *Semaphore* published each year is used to promote the Sea Power Centre - Australia's publications, conferences and other activities coordinated by the centre. *Semaphore* issue 14 of 2008 has also been omitted as it was a condensed version of the larger paper by James Goldrick and David Stevens published towards the front of this volume.

All information contained in this volume was correct at the time of publication or, in the case of papers being republished, was correct at the time of initial publication. Some information, particularly related to operations in progress, may not be current.

We gratefully acknowledge the following organisations for permission to use the images that have been included within this publication: *Argus* Melbourne, Australian Defence Force, Australian War Memorial, Finding Sydney Foundation, German Ocean, Royal Australian Navy, Tenix Australia, US Naval Historical Centre, and the US Navy. Each image is acknowledged within its accompanying caption. All other are sourced from the Australian Defence Force and Royal Australian Navy.



## Contributors

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Ms Tamie Balaga was attached to the Sea Power Centre - Australia as an intern in 2008, while she was completing her Bachelor of Arts (Development Studies) / Bachelor of Asian Studies – Specialist (Indonesian, Asian Politics and International Relations) at the Australian National University. She spent one year studying in Indonesia at Gadjah Mada University in Yogyakarta and Muhammadiyah University in Malang, where she undertook research on contemporary expressions of Islam amongst Indonesian youth. She has recently completed a research scholarship at the University of South Australia.

### **Lieutenant Robert (Bob) Barb, RAN**

Lieutenant Barb joined the RAN in 1979 as a cook category sailor undertaking a range of sea and shore postings before joining the Directorate for Sailors' Career Management as a career manager in 1999. Promoted to Warrant Officer in September 2000, he served as Officer in Charge of Supply, Aviation and Submarine sailors' career management before taking up a position in the Directorate of Navy Professional Requirements as the Cook Category Manager in December 2001. He was a member of the Chief of Navy's Personnel Initiative Team in 2003 and served in the Navy Sea Change Implementation Team from 2004 to March 2006 when he was appointed as the Command Warrant Officer Career Management – responsible for the career management of Navy Warrant Officers. Appointed as a Commissioned Officer in January 2009 to a position in Navy Workforce Planning, Lieutenant Barb is a graduate of the 2007 Navy Single Service component of the Australian Command and Staff Course at the Australian Defence College. He gained a Masters in Maritime Studies from the University of Wollongong in 2008.

### **Lieutenant Commander Priya Chandra, RANR**

Lieutenant Commander Priya Chandra is currently Staff Officer to Chief Staff Officer (Reserves). She joined the Royal Australian Navy in 1991 and received a BA in Human Resources Management from the University of New South Wales, Australian Defence Force Academy campus. After completing initial Supply Officer training at HMAS *Cerberus* in 1994, she undertook postings at HMA Ships *Coonawarra* and *Stirling*, Defence Force Recruiting - Melbourne, and the Australian Submarine Corporation. Since transferring to the Royal Australian Navy Reserves in 1998 she has completed postings in a number of diverse areas including Capability Preparedness, Operational Human Resource Management, and Information Technology. The highlight of her career to date was her deployment to the Australian National HQ - Baghdad in 2005.

**Mr Andrew Forbes**

Mr Andrew Forbes is the Deputy Director Research in the Sea Power Centre – Australia, where he is responsible for the research and publication programs. He is a Visiting Senior Fellow at the Australian National Centre for Oceans Resources and Security at the University of Wollongong, and a Research Fellow at the Centre for Foreign Policy Studies, Dalhousie University, Halifax, Canada.

**Chief Petty Officer Holger van Geelen**

Chief Petty Officer Holger van Geelen commenced his career in the Royal Australian Navy in 1986. After completing initial entry training at HMAS *Cerberus*, Holger commenced category training as a Signalman. He has served on the destroyer escorts HMA Ships *Derwent* and *Stuart* and since then has served on guided missile frigates. He was promoted to Chief Petty Officer CIS in May 2005. Ashore he has worked in several communications facilities, and the Fleet Communications Operations Division. He is currently serving onboard HMAS *Melbourne* as the Chief CIS.

**Commander Shane Glasscock, RAN**

Commander Shane Glasscock is currently serving on exchange with the Royal Navy. He joined the Royal Australian Navy in 1989, graduating from the Australian Defence Force Academy in 1991. After training as a Supply Officer he has undertaken a range of postings including operational logistic support and information systems project management. He has served at sea onboard HMA Ships *Westralia* and *Melville*, and as the Supply Officer of HMAS *Melbourne* which included an operational deployment to the Persian Gulf in 2003-04. More recently he has served as the Deputy Fleet Supply Officer in Fleet Headquarters, and in support of the officer pay restructure project. He attended the Australian Command & Staff Course in 1996, and has completed a Master of Science (Information Technology) and Master of Maritime Studies.

**Dr Gregory P Gilbert**

Dr Gregory P Gilbert worked as a naval designer within the Australian Department of Defence (Navy) between 1985 and 1996. He was a Defence contractor until 2002. He has broad research interests including the archaeology and anthropology of warfare, Egyptology, international relations – the Middle East, maritime strategy and naval history. He is currently the Senior Research Officer in the Sea Power Centre – Australia.

**Girgis**

Girgis is a pseudonym used for policy reasons by the Australian Naval Institute instead of naming the individual author.

**Rear Admiral James Goldrick, AM, CSC, RAN**

Rear Admiral James Goldrick is Commander Joint Education and Warfare at the Australian Defence College at Weston. He joined the Royal Australian Navy in 1974 and is a Principal Warfare Officer and anti-submarine warfare specialist. He has served in a variety of Royal Navy and RAN ships, commanded HMA Ships *Cessnock* and *Sydney* (twice) and was the inaugural Commander Australian Surface Task Group, where in 2002 he commanded the Australian task group in the Persian Gulf and the multinational naval forces enforcing United Nations sanctions. Ashore he has been the Chief Staff Officer to the Chief of Navy, Director of the Sea Power Centre, Commandant of the Australian Defence Force Academy and Commander Border Protection Command. A naval historian and prolific author, he was awarded the degree of Doctor of Letters *honoris causa* by the University of New South Wales in 2006.

**Warrant Officer Simon Kelly, CSM**

Warrant Officer Simon Kelly enlisted in the Royal Australian Navy in 1984 as an Adult Entry Electronics Technician Systems specialist and enjoyed postings at sea and ashore in destroyer escort ships and Mine Countermeasures (MCM) community. In 1997 he joined the Royal Australian Navy Test Evaluation Acceptance Authority working initially in the MCM and Hydrographic section, and upon promotion to warrant officer in the Surface Warfare section. In 2003, he was selected as the inaugural Ships Warrant Officer (SWO) in the Royal Australian Navy, where he trialed the effectiveness of the SWO concept in HMAS *Success*. In 2006 he undertook studies in the Navy Single Service component at the Australian Command and Staff College, where he gained a Masters in Maritime Studies degree from the University of Wollongong. He assumed the position of the Command Warrant Officer - Fleet in September 2007 and he was awarded a Conspicuous Service Medal in the 2008 Australia Day honours list.

**Captain Peter Leavy, RAN**

Captain Peter Leavy is Commanding Officer of HMAS *Sydney* and Senior Officer FFG capability element. He joined the Royal Australian Navy in 1984 and after initial seaman officer postings he completed the RAN Principal Warfare Officer's course in 1993. He has served in several ships, culminating as Commanding Officer of HMAS *Stuart* in 2005-06. He also served in the North Arabian Gulf as Chief of Staff (COS) to Commander Task Group 633.1 during early 2003 and as COS to Commander Task Force 158 during 2008. Ashore he has served in electronic warfare and strategic policy postings as well as the Director of the Sea Power Centre - Australia in Canberra. He holds a Bachelor of Science (Hons) degree, Master of Arts (Maritime Policy) degree and a Master of Management (Defence Studies) degree.

**Mr Matt Linfoot**

Mr Matt Linfoot is an emerging defence analyst within the Department of Defence. He was awarded a Bachelor of Arts (Hons) degree from the University of Tasmania, in 2007, majoring in history and psychology and has a strong interest in military strategy and international affairs. He conducted research on maritime China while attached to the Sea Power Centre - Australia in 2008.

**Mr John Mortimer**

John Mortimer joined the Australia Public Service in 1969 and spent some 31 years in the Departments of Defence and Prime Minister and Cabinet. His principal positions included Chief Executive Officer Maritime Warfare in the Force Development and Analysis Division, Chief Policy Advisor to a Ministerial Consultant and as Director Strategic Policy in Navy Headquarters. His responsibilities within Navy Headquarters included strategy development, planning and international relations. Since retiring in 2001 John has been employed as a naval reservist by Defence and Border Protection Command to undertake a number of conceptual and analytical studies.

**Mr John Perryman, CSM**

Mr John Perryman joined the Royal Australian Navy in January 1980 as a junior recruit in HMAS *Leeuwin* in Western Australia. On completion of basic training he undertook category training as a signalman in HMAS *Cerberus*. His postings included service in HMA Ships and establishments *Leeuwin*, *Cerberus*, *Harman*, *Kuttabul*, *Stalwart*, *Hobart*, *Stuart*, *Tobruk* and *Success* as both a junior and senior sailor. Promoted to Warrant Officer Signals Yeoman in 1998 he served for three years as the Senior Instructor at the RAN Communications and Information Systems (CIS) School HMAS *Cerberus*, including a short notice secondment to HQ INTERFET in East Timor, where he served until INTERFET's withdrawal in February 2000. He was commissioned as a lieutenant in 2001, and remained at the CIS School until August 2002, at which time he was posted to Canberra to the Royal Australian Navy's C4 directorate. He transferred to the Naval Reserve in 2004 and took up the position as the Senior Naval Historical Officer at the Sea Power Centre - Australia. He was awarded a Conspicuous Service Medal in 2009.

**Professor James R Reckner**

Dr James R Reckner, Lieutenant Commander US Navy (Retired), holds a PhD from the University of Auckland in New Zealand, which he earned in 1985, after twenty years of distinguished naval service. He joined the navy when he was seventeen and first served as an enlisted man aboard the USS *Diamond Head* with the Sixth Fleet. He was commissioned in 1964 and served two tours of duty in Vietnam. Commander Reckner was awarded two Bronze Stars, two Navy Commendation Medals and a Meritorious Service Medal. From 1972 to 1978 he was an intelligence analyst with the Allied Forces

in Southern Europe. Dr Reckner's publications include several books including *Teddy Roosevelt's Great White Fleet*. He now teaches military history and is the Executive Director of the Institute of Modern Conflict, Diplomacy and Reconciliation at Texas Tech University in Lubbock, Texas, USA.

#### **Dr David Stevens**

Dr David Stevens has been the Director of Strategic and Historical Studies, Sea Power Centre - Australia, since retiring from full time naval service in 1994. He graduated from the Australian National University with a Master of Arts (Strategic Studies) degree in 1992, and in 2000 received his PhD in History from the University of New South Wales at the Australian Defence Force Academy.

#### **Mr Nick Stewart**

Mr Nick Stewart commenced work with the Department of Defence as a graduate in 2007. He joined the SPC-A as a research officer and editor in early 2008. He has a Bachelor of Communication (Journalism) degree from the University of Canberra and has had a lifelong interest in Australian politics and international affairs.





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# Abbreviations

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ABOT	Al Basrah Oil Terminal
ACPB	<i>Armidale</i> class patrol boat
AEW&C	Airborne Early Warning & Control
AFS	Average Funded Strength
ADF	Australian Defence Force
ADI	Australian Defence Industries Pty Ltd
ADFWC	Australian Defence Force Warfare Centre
AEF	American Expeditionary Force
AIF	Australian Imperial Force
AM	Member of the Order of Australia
AMC	Australian Marine Complex
ANAO	Australian National Audit Office
ANZUS	<i>Security Treaty Between Australia, New Zealand and the United States of America 1951</i>
APEC	Asia-Pacific Economic Cooperation
ASL	Archipelagic Sea Lane
ASA	Australian Shipowners Associations
ASW	Anti-Submarine Warfare
AWD	Air Warfare Destroyer
BITRE	Bureau of Infrastructure, Transport and Regional Economics
BTRE	Bureau of Transport and Regional Economics
C2	Command and Control
C4	Command, Control, Communications and Computers
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CAL	Computer Aided Logistics Support
CAS	Close Air Support
CCAF	Commodore Commanding HM Australian Fleet
CCAS	Commodore Commanding the Australian Squadron

CF	Canadian Forces
CFTS	Continuous Full Time Service
CG	Cruiser - Guided Missile
CIS	Communications and Information Systems
CIVMAR	Civilian Mariner
CNSAC	Chief of Naval Staff Advisory Committee
COS	Chief of Staff
CSC	Conspicuous Service Cross
CSM	Conspicuous Service Medal
CTF	Combined Task Force
DDG	Guided Missile Destroyer
DISSUB	disabled submarine
DMS	Defence Maritime Services
DoA	Defence of Australia
DRP	Defence Reform Program
DRP	Destroyer Replacement Program
DSEA	Davis Submarine Escape Apparatus
DSRV	Deep Submergence Rescue Vehicle
DSTO	Defence Science and Technology Organisation
DSWP	<i>Defence Strategic Workforce Plan</i>
EEZ	Exclusive Economic Zone
ESM	Electronic Surveillance Measures
ESP	Employer Support Payment
FAA	Fleet Air Arm
FFG	Frigate - Guided Missile
FIC	Fundamental Input to Capability
FPDA	Five Powers Defence Agreement
FSF	Finding Sydney Foundation
GAO	General Auditing Office
GDP	Gross Domestic Product
GOCO	Government Owned, Contractor Operated

GOPS	Graded Officer Pay Structure
GORPS	Graded Other Ranks Pay Structure
grt	gross registered tonnage
HQ	Headquarters
HMAS	Her/His Majesty's Australian Ship
HMS	Her/His Majesty's Ship
HSK	<i>Handelsstörkreuzer</i> (commerce disruption cruiser)
ICBM	Inter-continental Ballistic Missile
IMB	International Maritime Bureau
IMF	International Monetary Fund
IMO	International Maritime Organisation
IMPS	Initial Minimum Period of Service
INTERFET	Interntional Force in East Timor
ISMERLO	International Submarine Escape and Rescue Liaison Organisation
JP	Joint Project
KAAOT	Khawr Al Amayah Oil Terminal
LCS	Littoral Combat Ships
LHD	Large Amphibious Ship
LOSC	<i>1982 UN Law of the Sea Convention</i>
LPA	Amphibious Transport (Landing Platform Amphibious)
LPG	Liquefied Pretroleum Gas
LSE	Logistic Support Element
LSH	Landing Ship Heavy
MARPOL	International Convention for the Prevention of Pollution from Ships
MAS	<i>Motoscado aromato di siluri</i> (Italian fast attack boats)
MCM	Mine Counter Measures
MEAO	Middle East Area of Operations
MFU	Major Fleet Unit
MIS	Management Information Systems



MRAP	Mine Resistant Ambush Protected
MSC	Military Sealift Command (US)
MWV	Minor War Vessel
MIF	Maritime Interception Force
NAG	North Arabian Gulf
NAS	Naval Air Station
NATO	North Atlantic Treaty Organisation
NCW	Network Centric Warfare
NGO	Non-Government Organisation
NGS	Naval Gunfire Support
NR	Naval Reserve
NSW	New South Wales
NWC	Naval War College (US)
NZ	New Zealand
OBTS	Onboard Training Systems
PASSEX	Passage Exercise
PLA	People's Liberation Army
PLAN	People's Liberation Army Navy
PN	Permanant Navy
PQ	Primary Qualifications
PSC	Private Security Companies
PSI	Proliferation Security Initiative
RAAF	Royal Australian Air Force
RAMSI	Regional Assistance Mission to Solomon Islands
RAN	Royal Australian Navy
RANLO	RAN Liaison Officer
RANR	Royal Australian Naval Reserve
RFA	Royal Fleet Auxilliary
RFD	Radio Frequency Device
RG	Record Group
RIMPAC	The Rim of the Pacific Exercise

RN	Royal Navy
RNLN	Royal Netherlands Navy
RNZN	Royal New Zealand Navy
ROV	Remotely Operated Vehicle
RSL	Returned and Services League of Australia
SIEV	Suspected Illegal Entry Vessel
SLOC	Sea Lines of Communication
SOC	Schemes of Complement
SPAG	Submarine Parachute Assistance Group
SPC-A	Sea Power Centre - Australia
SRV	Submarine Rescue Vehicle
SSEP	Ship Survivability Enhancement Program
SWO	Ships Warrant Officer
TLS	Through Life Support
TUP	Transfer Under Pressure
UAV	Uninhabited Aerial Vehicle
USA	United States of America
USMC	United States Marine Corps
UN	United Nations
UK	United Kingdom
US	United States
USN	United States Navy
USS	United States Ship
WMD	Weapons of Mass Destruction
WPNS	Western Pacific Naval Symposium
WTO	World Trade Organisation
WWI	World War I
WWII	World War II



FROM THE  
PRIME MINISTER

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*The Prime Minister the Hon. Kevin Rudd, with crew members of HMAS Parramatta in the Arabian Gulf, December 2008*

# Address to the RSL National Congress Townsville, 9 September 2008

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The Honourable Kevin Rudd,  
Prime Minister of Australia

Tonight I would like to speak to you about the long-term defence of Australia. While I will focus on defence, the Government takes a broad view of what constitutes national security. We need to respond to our increasingly complex and interconnected security environment, where the lines between traditional notions of external and domestic threats are blurred. We need a new whole-of-government national security strategy of which our national defence policy is the core component. We need a new approach that brings together all the elements of traditional and non-traditional security capabilities that will ensure Australia responds to the full breadth of the threat spectrum that now confronts us:

- Responding to the increased militarisation of our own region;
- Dealing with the continuing threat of terrorism;
- Acting on the challenges to sovereignty facing the Pacific Island countries;
- Preparing for the new challenges of energy security; and
- Anticipating the impact of climate change on long-term food and water security.

As veterans you understand the breadth of the challenges we face in the defence of this nation. During this session of Parliament we will have Australia's first ever National Security Statement. That Statement will set out the way we will approach the full range of our national security challenges - from defence to domestic security. It will outline the institutional framework within which the Government will determine our national security policy settings for the future. Defence, of course, remains the single most critical component of national security. And getting long-term defence policy settings right will be done through the Defence White Paper due later this year.

The White Paper will set out in detail the strategic terrain we face. It will also set out the type of defence capabilities Australia will need. It will also dictate the type of force structure we will need - a structure which will in part need to last us until the middle decades of the century. The 21st century looms as the century of the Asia-Pacific. By 2030, and possibly even by 2020, the Asia-Pacific region will be home to the largest and most dynamic economies in the world. And these economies will all be closely tied to each other through trade and investment. This economic power means that the

Asia-Pacific region will also be the source of much, if not most of the world's income, investment, ideas, innovation and technology.

This will bring enormous economic opportunities for Australia. It will also bring some strategic risks. And the task of an effective national security policy is to maximise the opportunities and minimise the risks. Driving much of the change in our region will be the rise of China. China will be the most dynamic major economy in the first half of this century - followed by India. According to some estimates, by 2020 China will replace the United States as the world's largest economy. China's economic growth will change the way it sees its own role in the world. And it will change the way others see China - the Olympics are a great example of that. Over the long term it is clear that China will have more political influence in our region.

Our other major Asian trading partner, Japan, will remain a major world economy even if it is not recording the growth rates of China. An ageing population will have a major impact on Japan by 2050, with more than one-third of its population over 65. But given its stature in the region and its continuing strength, Japan remains a major global and regional power.

The United States is likely to remain the world's only superpower through to the mid-century. Over the coming decades, the United States may see its position decline relative to other economies, but it will remain a major economic influence and a powerful source of ideas, innovation and technology in the global economy. You only have to look at the US's unmatched capacity for transforming new ideas into new technology. The United States accounts for around one-third of all world patents. By contrast, Australia accounted for 1.6 per cent and China 1.8 per cent in 2004. The United States has shown time and time again that it can rise to any challenge and constantly evolve. So nobody should ever underestimate the ability of the US to maintain its global leadership role. The United States will also remain strategically dominant given the vast array of military capabilities available to future US administrations.

The Asia-Pacific region will become more prosperous and its population will continue to grow. Militarily, however, as it has already become economically and politically, the Asia-Pacific will become a much more contested region. The region's total population will exceed four billion by 2020, or 56 per cent of the world's total. Australia's population will only experience modest growth, growing to around 35 million by 2050. But China's population is expected to peak at around 1.5 billion in 2030. India will near the 1.8 billion mark by mid-century. Indonesia's population could be as high as 350 million. The demographic changes in our region will mean that by 2020 when we look to our north, we will see a very different region to the one we see now - one where population, food, water and energy resource pressures will be great.

We have to add one more element to this mix when we are looking at the future, and that is the existing military and political fault lines. We still have North and South

Korea technically at war. We have mainland China and Taiwan still unable to resolve basic questions of sovereignty – although recent developments might give rise to some optimism. We have unresolved border disputes between many countries including between China and India and between China and its maritime neighbours in the South China Sea – but it is reassuring to note that these disputes have been managed to this point. In short, we have a rapidly changing region, but one still characterised by a number of unresolved flash points arising from unsettled territorial disputes. As nations grow and become more affluent, they also update their military forces. We see this in our own region. We see a substantial arms build-up over time. We need to be aware of the changes taking place. And we must make sure that we have the right mix of capabilities to deal with any contingencies that might arise in the future. The growth in Asian and US military expenditures has dominated recent increases in global military spending. And, as a general observation, the modernisation of Asian military forces is being characterised by significant improvements in air combat capability, and naval forces – including greater numbers and more advanced submarines. We are also witnessing a gradually increasing ability to use military assets more powerfully through more advanced communications, joint command and intelligence systems.

As we look at our own Australian defence needs for the decades ahead, we need to ensure we are at the forefront of military technology development and acquisition. Our armed forces must be equipped to deal with the emerging security environment. For that, we need to further develop key capabilities. We need a first rate and flexible land force – one capable of taking on challenges from contributing to high-end military engagements through to delivering post-conflict reconstruction support. We need an enhanced naval capability that can protect our sea lanes of communication and support our land forces as they deploy. And we need an air force that can fill support and combat roles and can deter, defeat and provide assistance to land and maritime forces. It is not easy to tailor a force to meet every possible contingency, so we need to choose our equipment and our people carefully.

Of course, technology itself does not win wars or ensure a nation's defence. To make the most out of technology you need the best trained, best commanded forces possible. Properly trained professional soldiers with the ability to think tactically and strategically are the decisive factor. And on this score, Australia has been richly blessed as evidenced by our soldiers' performance in the field. But all of this will come at a price. That is why the Government has already committed to making sure we stay ahead of the game by extending the real growth of the defence budget by 3 per cent per annum to 2017-18. That is why defence has been quarantined from the Government's efficiency dividend in the last budget. That is why we will continue to do so in the future – so that any savings realised in the defence portfolio are re-invested back in to the future of the ADF.



We also have to realise that our national security relies on more than a strong defence force. It relies also on careful management of the foreign relations we have with countries around us with our allies and friends around the world. The Government's strategic policy involves three components – what we call the three pillars of our international policy:

- a firm commitment to our alliance with the United States;
- comprehensive engagement with Asia and the Pacific; and
- comprehensive engagement with the United Nations and the multilateral order.

Our alliance with the United States is and will remain the bedrock of our strategic policy. It is an alliance with a long history. And the military cooperation between our two nations goes back even further – to the First World War. This year is the 90th anniversary of the Battle of Hamel when Australian and US troops first fought side-by-side under the command of Sir John Monash.

Under this Government the alliance will be strengthened through greater and closer operational cooperation. Under this Government, security policy cooperation will also be strengthened with a number of regional partners including Japan, the Republic of Korea, Indonesia, Malaysia and Singapore. When I visited Japan in June, the Prime Minister and I agreed to deepen our security cooperation even further. When I visited Korea at the start of August I agreed with President Lee Myung-bak that Australia and Korea would begin to look at how we could move in the same direction. We already have a strong history of military cooperation with South Korea – I think we need to use that base to build our cooperation for the decades ahead.

Across South East Asia I am also determined to strengthen our security cooperation. The strength of our ties with Malaysia and Singapore must be maintained and developed. The Five Powers Defence Arrangement has been an important part of our defence engagement since 1971. And it remains the only multilateral defence treaty in our region with an operational element, which helps in our shared fight against terrorism. With Indonesia I was pleased that President Yudhoyono and I agreed in June to strengthen our cooperation under the Lombok Treaty. The Lombok Treaty provides a framework for increased security cooperation to combat terrorism, and transnational crime and other security threats. It provides a framework for cooperation between our defence and domestic law enforcement agencies. We are committed to developing fully this security relationship. The Government also wishes to expand its security policy cooperation with India. Together with our security policy dialogue with China.

Our security and political relationships with our smaller neighbours are also critical. This Government has deliberately sought to put our relations with the Pacific island nations on a new footing. We recognise that Australia and the Pacific Island nations

share a common goal of stability and prosperity in our region and that the best way to achieve that is through closer cooperation – including in defence and security. As the Asia-Pacific region changes, we will need to think about how we want the region to look in 2020. We need to think about how we can ensure that our region is stable and prosperous in the decades ahead. To that end, we have started a regional conversation about how to shape the future of our region, rather than simply let it be shaped by events. We have started the discussion about how we can develop an Asia-Pacific Community. If we do not start to think now about where we want the region to go, we run the risk of competition and tension overriding cooperation.

Australia is well placed to begin this process of discussion. As a middle power, we can propose ideas that other larger powers might have trouble taking the lead on. Another example of this is the International Commission on Nuclear Non-Proliferation and Disarmament. The danger posed by nuclear weapons has not disappeared. In fact, some argue that the threat is as great as it has ever been because more states now have nuclear weapons and the threat of the technology spreading, including perhaps to terrorist groups, has grown. So we need to galvanise the international community behind efforts to prevent the spread of nuclear weapons and work towards the goal of their eventual elimination. I have appointed Gareth Evans to co-chair the Commission with former Japanese Foreign Minister Ms Yoriko Kawaguchi. Their task is to lead a group of experts to come up with some new thinking – based on hard-headed strategic analysis – about how we deal with nuclear weapons. And about how we re-energise the Nuclear Non-Proliferation Treaty.

Australia has the credibility and the drive to lead initiatives like this – in part because they are in our interest, but also because they make a positive contribution to the international community. As a middle power, Australia has much to gain from strong global institutions, particularly the United Nations. That is why we are seeking a non-permanent seat on the UN Security Council in 2013-14. Creative middle power diplomacy is once again hard at work in enhancing our security policy cooperation across East Asia; in strengthening our alliance with the United States; in reaching the regional and multilateral nuclear non-proliferation agenda; and in building the region's long-term cooperative architecture.

But diplomacy must always be reinforced by a credible national defence strategy. The changes in our region are, in reality, the major changes facing the world. I see two main strands to our response to the changing strategic terrain. First, we have a diplomatic strategy that is aimed at keeping our region peaceful and prosperous. Second, we need to make sure that we have an Australian Defence Force that can answer the call if it is needed.

The calls we make will be diverse – from responding to natural disasters to conducting offensive combat operations – and our forces need to be able to respond to a range of contingencies. And the truth is our defence has been overstretched for a long time.

The tempo of current operations has too often taken precedence over proper planning for personnel and equipment for the future. Getting this right will require much work. And that is what we are doing through the White Paper process.

The Government looks forward to a long-term constructive relationship with the RSL as we build Australia's defence force to meet the demands of the 21st century.

**A full-text version of the original speech is available at the Australian Prime Minister's website:**

**<[www.pm.org.gov.au/media/speech/2008/speech\\_0468.cfm](http://www.pm.org.gov.au/media/speech/2008/speech_0468.cfm)>**

# Prime Minister's Press Conference Townsville, 10 September 2008

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## Extracts from the Prime Minister of Australia's Interview

**PM:** National security is the first responsibility of government and defence, within that is the first responsibility of government. And part of planning for the future means planning for our future defence needs. What the Government is determined to do is to ensure that Australia meets our future defence challenges. Later this year we will be delivering our first national security statement to the Parliament - the first time Australia has had such a statement to the Parliament. And that will be followed by a Defence White Paper, which will outline Australia's future strategic scenario, Australia's future defence capability needs and our future recommended force structure. This is an important year because the decisions we take this year will shape very much what Australia's defence forces look like out to the middle decades of this century.

This 21st Century is the century of the Asia-Pacific. We see the rise of huge new powers in our own region. Economically strong, but on the back of economic growth comes also greater investment in military expenditure. And as a result of that we have therefore, huge increases in military spending here in our own region, our own neighbourhood, our own backyard. So Australia's response to that under the Government that I lead is that Australia must be prepared. And therefore it is important that we are in a position in the future to deal with any future challenges which might arise, both through our defence preparedness but also through our wider national security policy and foreign policy actions also to try and ensure that we have a peaceful and stable environment through this century.

One of the challenges we face is the fact that there is not just this increase in military expenditure across this region, but also that presents therefore [sic] challenges in terms of Australia's ability long term to defend its own sea-lines of communication. When we look at places like this where we have huge exports going to the rest of the world, we must be in a position in the future to defend Australia's own sea-lines of communication. That means having sufficient naval capability to do it. If we are going to defend our sea-lines of communication to the rest of the world, we have got to make sure that we have got the naval capability to underpin that. And Australia therefore must have necessary maritime power in the future in order to give that effect.

The challenge that we face is that as of when the Government took over, navy in particular was under severe stress. For example within navy there is something like 24 separate skills categories which are currently suffering considerable personnel shortfalls, 24 separate skills categories. That is the challenge that we inherited. Now across our naval personnel where we have something like 11,000 plus personnel, we must as a matter of

priority start to rebuild those skills deficits in our navy. So the challenge for us in the future is not just to re-equip navy with the necessary numbers of personnel, but to make sure that we have got enough naval assets out there to defend our sea-lines of communication.

So to conclude: first line of responsibility for government is defence. And part of defence is to make sure that we can defend our sea-lines of communication to make sure that our exports get to the rest of the world. And to do that Australia needs sufficient naval capability into the future, and we therefore need to close the skills gaps which currently exist within navy, the 24 sets of skills gaps that we inherited from the previous Government. That's going to take a lot of work, it's going to take a lot of planning, it's going to take a lot of finance. But this is the direction in which the Government's thinking heads as we move towards the completion of the Defence White Paper for later this year, and the national security statement as well. Over to you.

**Journalist:** So are you proposing a dramatic expansion of the Navy?

**PM:** Well, Australia is a maritime state. We have significant maritime interests, not just in terms of our own immediate interests in the south-west Pacific, but more broadly in the defence of our own sea-lines of communication. So as a nation you've got to be serious about defending your sea-lines of communication in the future. And that means having sufficient naval capability to do it, and it means planning ahead to the middle of the century to make sure that those ships, sub-surface and surface ships, are planned for, that they are invested in and the personnel necessary to keep them operating are there. And as I've said, as of when the Government took over, we've inherited a real problem on our hands. Navy at present, absent any expansion, is having difficulty providing personnel in all its critical skill categories. There's a major job of work to be done here.

**Journalist:** (Inaudible) on top of the spending that we already know about?

**PM:** The Defence White Paper will go to the detail of that. The Government has already indicated that for the next decade, we intend to provide three per cent real annual growth in defence outlays. That is to give our defence planners certainty for the future. The Defence White Paper will begin to outline the sorts of investments that the Government and the nation needs to make. What I am doing today, and following on from my address to the RSL National Conference here in Townsville last night, is to indicate very clearly that for the Government a major priority is to ensure that we have got enough naval capability in the future, enough naval assets, enough naval personnel, and therefore enough funding put aside to invest in that long term. We are either serious about Australia as a maritime power into the 21st Century or we're not. This Government is serious.

**Journalist:** Are we sending the right message to our foreign neighbours? Are we becoming paranoid of them?

**PM:** Well, we have got to deal with facts and reality. Australia is in a region where there is an explosion in defence expenditure, or arms expenditure, across large parts

of the Asia-Pacific region. So, you can either ignore that, or you can take practical steps in response to it at the defence level. But secondly, it's a question of what you also do through your diplomacy. Remember in the first nine months in this Government what I've advanced is a proposal for an Asia-Pacific community. That is a community involving all the states of the Asia-Pacific region, so that we can foster a common culture of security cooperation, not conflict. So what I'm saying is you need a strong diplomacy to encourage peace, stability and cooperation - at the same time being vigilant in the preparation of our national defence. Both of these are part of an integrated national security strategy. Not one, not the other, but both.

**Journalist:** It has often been said that there is potential at Townsville for a naval base. What do you think about that?

**PM:** Well, the Defence White Paper will examine the future of where all of our defence assets and defence installation should be. Townsville is critical to the defence, long term defence assets of Australia. The air force base here is extremely important. The army base is extremely important. These are core elements of Australia's overall defence posture. Future planning, however, on the detail of installations and the detailed deployment of assets, that's best left to the Defence Chiefs. What I am saying though, as the country's Prime Minister is we need to prepare for the future. There is an arms build-up across the Asia-Pacific region, and Australia therefore, must take appropriate preparations for the long term future itself, at the same time as advancing our diplomacy. Both these things are part of an integrated, rational approach to national security policy.

**Journalist:** (Inaudible) an arms race if we are building up our Navy in the region?

**PM:** Well can I say that there has been an arms race underway, or an arms build-up let me put it in those terms, across the Asia-Pacific region for the better part of the last decade. What I am saying is when I look at Navy, the Australian Navy, we need to make sure that we have enough capability there to deal with future challenges. And the Navy that we have inherited is one which has 24 major skills categories where we don't have enough personnel. That's right now before we talk about any enhanced naval capability. There is a huge job to be done here. What I am saying is the Government is up to the task because we believe it's important for the future. Strong defence, strong foreign policy, encouraging peace, cooperation and stability, at the same time making sure that Australia is always prepared. And in this part of Australia, Northern Australia, North Queensland knows very much what it's about to be prepared.

**Journalist:** Inevitably [it will] mean that we don't have to increase our defence budget quite significantly won't it?

**PM:** Well what we have allocated already is the only area of Government that we've quarantined from efficiency dividends in Canberra is the Defence budget. That's why we have indicated with absolute clarity three per cent real growth for our defence budget out for the next decade. That is a guarantee not given to any other arm of

Government, any other arm of Government. And the reason is our defence planners need that level of certainty. We will examine carefully what the Defence White Paper says on the detail, both for this decade and beyond. But I am saying quite clearly that if we are to be serious as a maritime power and defending our sea-lines of communication, Australia needs a naval capability which is able to do that. We need to plan for it, we need to provide the manpower for it and we need to provide the funding for it.

**Journalist:** (Inaudible)

**PM:** Let's see what the Defence White Paper has to say. As I said the Defence White Paper will take us not just to the next decade but the critical thing for all Australians to understand is that we are making defence decisions here which take us out to the middle of the century, the middle decades of this century. And we are looking at a time in the Asia-Pacific region and world history where for the first time in several hundred years we are going to have powers other than Anglo Saxon powers who will be dominant players in the world and therefore Australia must be prepared through its diplomacy, through its foreign policy and through its defence policy. And that's what I describe as an integrated national security policy and more of this will be developed in the national security statement which is made to the parliament soon.

**The original interview is available at the Australian Prime Minister's website:**

**<[www.pm.org.gov.au/media/interview/2008/interview\\_0470.cfm](http://www.pm.org.gov.au/media/interview/2008/interview_0470.cfm)>**

# 1918 YEAR OF VICTORY

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The following paper was presented at the Australian War Memorial's *International Conference 1918 Year of Victory* held in Canberra, 27-28 November 2009



*The battlecruiser HMAS Australia at the surrender of the German High Sea Fleet in the Firth of Forth, 21 November, by Arthur Burgess (AWM ART00192)*

# Victory at Sea - 1918

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Rear Admiral James Goldrick, RAN  
and Dr David Stevens

Ninety years after its ending there still remains little public understanding of the Great War at sea; a conflict, which, although less bloody than the land war, had its own unique impact on final Allied victory. Much that has been written rests upon assumptions which are fundamentally mistaken, or upon analysis which has long since been overtaken by discriminating research. Even the official histories can no longer be considered to present a credible narrative, let alone a comprehensive account. All too often, and even among many academics, victory in 1918 is still seen solely through the lens of the Western Front.

To begin with, any suggestion that the war at sea was of secondary significance by 1918 must be rejected outright. If Great Britain was 'the banker, the dockyard and the Arsenal of the Alliance', then the Royal Navy (RN) is rightly classified the 'indispensable foundation of victory'; the more so because 1918 was not a year of naval crisis for the Allies but rather one of progress.<sup>1</sup> The challenge of the U-boats had at last been met during 1917 by the progressive introduction of convoy and by the deployment of increasing numbers of escort vessels and aircraft.<sup>2</sup> For Britain's wartime Prime Minister, David Lloyd George, this marked the real decision point of the conflict.<sup>3</sup> Not only did it ensure the economic and logistic sustainment of the Allies at home and the supply and reinforcement of their forces ashore, but the failure of the U-Boats also precipitated the fatal German offensives of March-July 1918.<sup>4</sup>

Equally important, the presence of the United States as a belligerent meant that the maritime blockade of Germany and the Central Powers was now as complete as it could be, to the extent that the British auxiliary cruisers which had maintained the northern patrol across the passages to the Atlantic were largely withdrawn by the beginning of 1918.<sup>5</sup> The progressively improving situation of the Allies was confirmed by Sweden, so far generally pro-German in outlook, signing an import restriction agreement in May.<sup>6</sup> Even Norway, which had, to some degree, been protected by the reluctance of the Commander-in-Chief of the British Grand Fleet, Admiral Sir David Beatty, to breach its sovereignty,<sup>7</sup> finally agreed to the mining of its territorial waters in September.<sup>8</sup> On the eve of war Germany's economy had been one of the world's most advanced, second only to the United States in output and dependent on overseas trade for almost half its imports of raw materials and 30 per cent of its foodstuffs.<sup>9</sup> As Britain's most effective strategic weapon the blockade effectively limited Germany's survival to the duration of its supplies. It was no surprise that senior leaders on both sides afterwards declared that Germany had been defeated 'first of all economically...'.<sup>10</sup>

The guiding machinery of the Allied naval war was also in a much better state in 1918. The installation of a new First Sea Lord, Admiral Sir Rosslyn Wemyss, and the reorganisation of the British naval staff combined to ensure that management of both strategy and operations would be conducted much more effectively and with a much clearer separation of these activities from the routine of administration.<sup>11</sup> The presence of Vice Admiral William S Sims as the Force Commander of the United States (US) Navy in European Waters also ensured a very high level of local cooperation between the Americans and the Allies, even if Sims had his own troubles dealing with Washington.<sup>12</sup> The scale of the American contribution at sea, just as that on land, had been slow to build up but, as the year progressed, so too did the momentum of deployments across the Atlantic of ships and men.

Yet the picture of 1918 was never a simple one of victory on the world's oceans. The German high command had by no means turned away from the sea, and the war remained a global maritime conflict which required the continuing commitment of enormous resources to ensure ultimate success.

## The War in Northern European Waters

In northern waters, Germany's High Sea Fleet, more active from late 1917 than it had been in the previous year, represented a constant threat, while a new factor emerged in the uncertainty over the disposition of the Russian Baltic Fleet. The Grand Fleet had achieved significant improvements since the Jutland action of 1916, although the quality of the armour piercing shell was an abiding concern and would remain so until the shells could be exchanged for new patterns in the middle of 1918.<sup>13</sup> The greatest difficulty for the British was the possibility that the Germans could seek action at a time when the balance of strength was most favourable to them.

Improvements to German codes, the short distances and the lack of warning time for operations in the North Sea stressed even the Admiralty's sophisticated decryption and direction finding systems while the coordination of information, assessment and response was never easy.<sup>14</sup> The British were also hamstrung by a lack of credible intelligence in-country (despite German paranoia about the enemy within<sup>15</sup>) and consistently over-estimated the German capital ship strength. They were not aware that the demands of U-boat construction and the land war had forced the effective suspension of work on two battleships as well as the entire battle cruiser program of seven ships. Thus, the maximum actual High Sea Fleet strength of 19 battleships and 5 battle cruisers was consistently over-estimated as 21 and 7 - with the potential for addition to the latter.<sup>16</sup> On the other side, the Grand Fleet was now very much a combined force with 31 British and 5 American battleships, and 9 battle cruisers including HMAS *Australia*. These numbers appeared to provide a fair margin of superiority, however, Beatty not only assessed the German battle cruisers as being much more formidable than his own ships but also believed that circumstances could easily combine to force

the absence from his fleet of up to eight capital ships from his fleet for refit or for other detachments.<sup>17</sup>

There was cause for his concern. The difficult weather conditions and changing visibility of the North Sea,<sup>18</sup> together with the increasing dispersion of minefields by both sides, as well as the possibilities of coordination between surface ships and submarines - a favoured German tactic - meant that a local preponderance of strength could rapidly be nullified or even reversed.

The risk of defeat in detail was accentuated for the British by the need to protect the convoys run every few days to Norway and Scandinavia. In October 1917, a lightly escorted convoy had been attacked by two German light cruisers, with devastating results, and it had become necessary to assign a battle squadron to provide heavy cover. German operations in the Gulf of Riga in October 1917, involving large elements of the High Sea Fleet and a surface action which resulted in the destruction of the Russian battleship *Slava*,<sup>19</sup> suggested that the Germans were becoming more active and looking for an opportunity to use their heavy ships again. An isolated battle squadron was precisely the target the High Sea Fleet had sought since 1914. In February 1918, the British thought that the Germans 'might be going to make a dash on the northern convoy'<sup>20</sup> and sailed their forces in response.<sup>21</sup> The start of the German land offensive in March exacerbated British fears that the High Sea Fleet would move in support, and sorties by light craft along the Flanders coast heightened the impression of increased activity.

German preparations were indeed under way, but the mine situation in the North Sea had become so complex that several weeks of sweeping were required to provide clear paths for the German Fleet.<sup>22</sup> The High Sea Fleet finally sailed on 23 April, however, while their own security procedures had improved, German intelligence was faulty and there were no convoys within range. The sortie was dogged by maintenance problems, indicative of the declining material state of the heavy ships. The battle cruiser *Moltke* was disabled by the loss of a propeller, while poor coal quality reduced the operational speed of another battle cruiser, *Von der Tann*, by more than a third.<sup>23</sup> Strict wireless discipline delayed British detection of the sortie, and the Germans were on their way home before the Grand Fleet could reach the area.

Ironically, the German North Sea sortie coincided with a British amphibious assault on the U-boat bases of Zeebrugge and Ostend on the German occupied coast of Belgium. The attempt to block the entrances to the ports ended in failure, as did a second attack on Ostend. But it was represented to the press as a success and provided an enormous boost to Allied morale at a time when the situation on land remained uncertain and the RN had enjoyed few other spectacular victories. A third attempt on Ostend was planned, but eventually abandoned as being no longer worth the risk.<sup>24</sup> The wider threat of an amphibious attack along the Belgian coast nevertheless kept the German Marine Korps of three divisions tied down until the German retreat.<sup>25</sup>

The offensive spirit was certainly not dead within the RN and increasing priority was given to the emerging capabilities of the air arm. The creation of the Royal Air Force from the existing Royal Naval Air Service and Royal Flying Corps caused some complications in local command and control,<sup>26</sup> but did not interrupt the rapid evolution of naval aviation techniques.<sup>27</sup> Successful attacks were conducted on the German airship bases in July 1918 and, throughout the year, planning proceeded for an attack by torpedo bombers on the High Sea Fleet at its anchorages. Such an attack would not be truly feasible until an improved form of aircraft carrier could be introduced, since the initial attempts at flight deck conversions, notably the light battle cruiser HMS *Furious*, did not provide a practical capability for landing on. Only when the flat deck carrier HMS *Argus*, forerunner of the modern aircraft carrier, joined the Grand Fleet in October 1918 did such a raid become a real possibility – and even then *Argus* required substantial additional modifications.<sup>28</sup> Nevertheless, there were clear indications of the way ahead for air-sea warfare. During a sortie in August by the Harwich Force into the Heligoland Bight, British units launched a single seater fighter to engage and destroy a zeppelin and drove off repeated seaplane attacks with their high angle guns. During the same operation, however, six lightly armed coastal motor boats operating closer inshore and without air cover were set upon by German seaplanes. During a running engagement, three were sunk and three driven into Dutch waters and interned for the loss of only a single aircraft.<sup>29</sup>

More problems for the RN came with the first wave of the Spanish Influenza pandemic, which began to hit the Grand Fleet in July 1918. While its first effects were unpleasant, but manageable,<sup>30</sup> the situation soon deteriorated and the operational readiness of the Fleet was put in doubt. Among the battle cruisers, *Tiger* had over 200 cases, while *Princess Royal* ‘could not go to sea’.<sup>31</sup> Matters were no better in the battleships; *Revenge* had over 600 cases (well over half the crew) and, of 30 midshipmen and subordinate officers, only two escaped infection<sup>32</sup> – indicative of the fact that younger people were particularly vulnerable to the virus. However, the big ships of the Grand Fleet were fortunate by comparison with the patrol forces and escorts for the regular convoys. HMS *Terzagant*, a flotilla leader, at one stage had 26 men fit out of a total of 150.<sup>33</sup> One destroyer on patrol had so few people left to work her that another unit had to be sent to sea to bring her in. As far as the small ships were concerned, ‘if you had enough men on their feet you went to sea even if you could not properly fight the ship,’<sup>34</sup> but the stresses on the healthy were intense.

## The War in the Mediterranean and the Black Sea

The Mediterranean presented further challenges. The Austrian surface fleet was bottled up in the Adriatic, but operations there and throughout the Mediterranean theatre were restricted by a lack of coordination between the Allies. Substantial resources were expended upon the Otranto barrage, including the deployment of six

Australian destroyers,<sup>35</sup> in an effort to prevent the passage of enemy U-boats into the Mediterranean, but this was never fully effective and disjointed arrangements for the control and convoy of shipping meant that the loss rate of merchant ships in theatre remained twice that of the number in British waters well into 1918.<sup>36</sup> British efforts to install an Allied commander-in-chief foundered on French and Italian intransigence. Both nations, particularly the Italians, were preoccupied with the necessity to preserve their naval strength for after the war, when older rivalries were likely to re-emerge, and both countries' navies laboured under shortages of materiel and of fuel. Only towards the end of 1918 through a combination of successful land offensives, which threatened the Austrian naval bases, and the increasing strength of the American contribution was the threat presented by U-boats operating from Austrian ports brought under control. Despite their unwillingness to risk their major units, the Italians were by no means inactive as the motor torpedo boat *MAS 15* torpedoed and sank the heavily escorted Austro-Hungarian battleship *Szent Istvan* on 10 June off Premuda with the loss of 89 lives.<sup>37</sup>

In the Dardanelles a sortie in January by the German (but Turkish flagged) battle cruiser *Goeben* and the light cruiser *Breslau* achieved some success against the Allied units in the Aegean but also resulted in the sinking of *Breslau* and heavy damage to *Goeben* in a minefield. The latter went aground and was subject to protracted attacks by British naval aircraft. These proved largely ineffective as they were not capable of carrying bombs of sufficient size to penetrate the battle cruiser's armour and attempts to deploy torpedo carriers came too late as *Goeben* was able to free herself and retreat into the Bosphorus.<sup>38</sup>

*Goeben*, despite her damage, remained a threat-in-being for the remainder of 1918, and the Allies grew increasingly concerned after the Treaty of Brest-Litovsk that the Russian Black Sea dreadnoughts would pass into German hands. The Germans were indeed interested in the possibility, but the logistic and operational challenges proved too great, even after the naval port of Sebastopol was occupied in May and many ships came under their control, with more – including the dreadnought *Volya* – in June. By heroic efforts, *Volya* was actually German manned and largely repaired by mid-October but, by then, time had run out for the Central Powers.<sup>39</sup>

## The War of Supply

The war could not have been won if the Allied countries had not been supplied with adequate quantities of food for their people and raw material for their industries. Credit to pay for these materials also needed to be maintained. Neither could the Allied armies have been sustained in the field without adequate munitions, logistic supplies and regular reinforcements. Over the course of the war there were at least 22 million Allied troop movements by sea,<sup>40</sup> and hundreds of thousands of labour imports from the colonial empires.<sup>41</sup> As well, there were the massive movements of horses and

fodder that, together with imported motor transport, gave the Allied nations a decisive advantage in mobility when the fronts finally began to move.

Until the entry of the United States, Great Britain was the only nation which had the shipping tonnage available for the use and supply of the other Alliance partners. How to decide the allocation of this tonnage and assess the individual needs of the British Empire, as compared with France, Italy or Russia, was a matter of enduring and vital importance, particularly for the continental Allies as they became increasingly dependent on imports as the war progressed.<sup>42</sup> France, for example, had lost access to her best coal fields in 1914, and just to satisfy her 1918 needs required the convoying of more than 22,550 merchantmen to and from Wales; each convoy comprising up to 17 ships and requiring up to a dozen escorts.<sup>43</sup>

Complicating this picture, the U-boats continued to take a toll of Allied shipping to the very end.<sup>44</sup> Throughout 1917-18 attempts to locate and hold contact on a submerged submarine had absorbed the largest proportion of the scientific ability of the Allied powers. Ultimately, the British Isles alone hosted 29 anti-submarine research centres.<sup>45</sup> While the Allies had developed effective depth charges<sup>46</sup> and rudimentary hydrophones and were on the brink of achieving practical active sonar, the victory was not so much the result of better technology as the large scale implementation of convoy, better shipping control measures and the growing number of surface and air escorts available, especially after the United States' effort matured. By September 1918 just 148 U-boats, of which no more than 45 were usually at sea,<sup>47</sup> faced more than 5000 vessels employed on anti-submarine duties.<sup>48</sup> Also employed in the anti-submarine effort were aircraft, which proved particularly effective in coastal waters. As yet, they lacked the weaponry to give them a practical chance of destroying submarines, but their presence forced the U-boats to dive minimising opportunities to attack approaching surface vessels.<sup>49</sup>

High attrition rates ensured the U-boat arm increasingly suffered from a lack of experienced commanders, and it remained too slow to adapt its tactics to meet these new challenges. The 'wolf pack' technique of coordinated attacks, particularly at night, was trialled, but had to wait until the next war for its effective adoption.<sup>50</sup> Forced to the fringes by the difficulty of penetrating well defended convoys, U-boats concentrated on smaller vessels in the coasting trade and the average tonnage of each vessel sunk reduced accordingly, from 5084grt at the peak of the U-boat crisis to 2827grt by the end of the war.<sup>51</sup>

The Germans also looked at how they might best extend their U-boat campaign into distant and less well defended waters. To support prolonged operations in the Gulf of Mexico and off Brazil, and perhaps even into the Indian Ocean, the Naval Staff recommended enlarged U-cruisers of up to 3800 tons with a range of 20,000nm and armed with three or four 15 cm guns. A contract was awarded for a commerce raider of this type in February 1918 but it was not completed before the end of the war.<sup>52</sup> The

campaign which the Germans did manage to mount in the western Atlantic achieved some limited success, including the sinking of an armoured cruiser in a U-boat laid minefield, but there were too few units capable of trans-Atlantic deployments to mount operations on the scale required.<sup>53</sup>

Adding to German woes, the American merchant ship building program was coming on stream, while the British had finally begun to shift their shipbuilding and repair effort from warships to the merchant fleet. While little more than 540,000 tons of new merchant ships had been completed in 1916, the figures for 1917 were more than double that and, for 1918 until the Armistice, over 1,415,000 tons.<sup>54</sup> Nevertheless, even by the end of October 1918 the amount of new tonnage completed still did not exceed the total Allied and US tonnage lost to all causes, although that goal would have been achieved by mid-1919.<sup>55</sup> In the meantime the British War Cabinet 'put first the protection of shipping, shipbuilding and everything that helped to reduce our dependence on shipping'.<sup>56</sup> This did not, however, stop the Allies embarking upon the first stages of the Russian intervention. Operations in both north western Russia and in Siberia were soon tying up increasing numbers of naval units and transport shipping in the support of both Allied and White Russian forces.<sup>57</sup>

Despite such distractions, not only was new tonnage becoming available, but shipping authorities continued to make important innovations in stowage and troop carriage arrangements. Loss of shipping space due to convoy inefficiencies could be as much as 30 per cent, but packaging reform saved one million tons of cargo space in 1918, while the simple expedient of having soldiers occupy bunks in reliefs increased the carrying capacity of transports by 40 per cent.<sup>58</sup> These changes saw one million American Expeditionary Force (AEF) troops cross the Atlantic by 30 June 1918 and more than a quarter of a million the next month. Supply depots had been built up in tandem, designed to cater not for the two million men due in 1918, but the four million expected in 1919. The available shipping readily dealt with the increased logistic burden<sup>59</sup> and, as testament to the effectiveness of escort arrangements, no American soldier was lost to the U-boats. In fact, the rapidity and size of the deployment completely surprised the Germans, who had estimated that at best the AEF might have 300,000 soldiers in Europe by the end of 1918.<sup>60</sup> As the US Army's Chief of Staff, General March, declared:

No such troop movement as this had ever been accomplished in the history of the world, and no movement of any such number of persons by water for such a distance and in such time had ever previously occurred-civilian or military.<sup>61</sup>

The relative lack of German initiatives at sea and the failure of the major sortie of the High Sea Fleet in April reflected the restraints that the lack of resources was increasingly placing upon their freedom of action. The demands of the Army and the U-boats meant that other strategies could not be adopted on any substantial scale. Despite the success of the surface commerce raiders *Moewe* and *Wolf* and a later



acknowledgement that a systematic attempt to utilise surface raiders in distant seas in 1917-18 would have provided an important supplement to the undersea campaign, no raiders were dispatched after the successful return of *Wolf* in January 1918, with 112,398 tons of shipping to her credit, either by interception or mining.<sup>62</sup>

The challenge represented by the threat of raiders is highlighted by the fact that Australian patrols continued throughout South West Pacific and New Guinea waters after the return of *Wolf* had been publicised by the Germans, in case another raider appeared. For most of 1918, two cruisers and a variety of older warships and auxiliaries continued to patrol Australia's shipping lanes and anchorages as part of a campaign which the official history labelled as 'hopelessly unspectacular, and all the more valuable therefore'.<sup>63</sup> *Wolf*'s mines also required countermeasures in the form of shipping diversions, and minesweeping operations persisted until well after the end of the war. Such operations were replicated all over the world as defensive measures continued and they represented a significant call on Allied naval resources.

For their part, the Germans never lost faith in the U-boat's decisive potential. Continual attempts were made to accelerate U-boat construction, but skill shortages, together with strikes and absenteeism among shipyard workers due to inadequate diet, caused severe delays. Following the failure of the Army's spring offensive and its adoption of a completely defensive role, the newly reorganised German naval command saw its opportunity. The incoming Chief of the Naval Staff, Admiral Reinhard Scheer, who now possessed supreme authority within the German Navy, saw a mass production program and an enlarged U-boat campaign as the last hope for a successful outcome.<sup>64</sup> On 12 August 1918, Field Marshal Paul von Hindenburg and General Erich Ludendorff advised Scheer that they, too, were of the view that 'the hope for a favourable end of the war remains now chiefly in a successful U-boat offensive'.<sup>65</sup> The Navy immediately demanded 50,000 specialist workers, with another 70,000 required in 1919. By freeing up additional German yards for U-boat work and making use of other yards in Austria, the U-boat Office calculated it could deliver 238 boats by 1920, a 70 per cent increase in planned output. Even as defeat became certain, the German Navy saw these additional U-boats as important post-war bargaining chips, and only on 29 October did the Admiralty Staff order construction suspended of all vessels unable to be completed by July 1919.<sup>66</sup>

## The British Maritime Blockade

If the German counter-blockade of Britain failed to win the war, what then are we to conclude of the British maritime blockade? In one of the more poignant scenes from the war's close, on the evening of 15 November, Rear Admiral Hugo Meurer, acting as plenipotentiary for the German Navy, faced Beatty across the table in the fore cabin of HMS *Queen Elizabeth*. Responding to the Commander-in-Chief's presentation of

the Armistice conditions, Meurer retailed in 'dull, low, weary tones' the effect of the blockade on his fatherland:

It had brought Revolution in the North which had spread to the South then to East and finally to the West ... Anarchy was rampant, the seed was sown. It remained for the harvest of human lives to be reaped ... Men, women, and children were dying of starvation and dropping down in the streets ... Children under six were non-existent ... Germany was destroyed utterly.<sup>67</sup>

Such thoughts were echoed by many others in both the German leadership and Britain's supreme command.<sup>68</sup> Throughout the war the blockade was the principal manifestation of Allied sea power and there is evidence that its cumulative effects had reached their maximum by October 1918.<sup>69</sup> Its influence extended not only to the German populace but also to the Army, where it weakened operational performance and encouraged the break down of the formerly iron Prussian discipline. Notwithstanding the priority given to feeding them, German troops were in an increasingly poor state. They had been told that the U-Boats were causing equivalent suffering in the Anglo-French armies, but their advance into the Allied rear areas had proven this a lie. The extent of the subsequent looting slowed the advance and to manage its distribution required the appointment of a 'Spoils' officer and troop to each division.<sup>70</sup> The maritime blockade furthermore hampered Germany's ability to sustain tactical success through its direct linkage to chronic transport shortages,<sup>71</sup> inadequate logistics and failing fire power, eventually draining the Germany Army of the moral and materiel resources it needed to endure.<sup>72</sup>

Nevertheless, the relative importance of the blockade in the disruption of Germany's economy and its ability to wage war remains subject to debate. While Michael Howard asserts that it was the disintegration of the home front that caused the collapse of the Central Powers,<sup>73</sup> John Terraine, argues that it suited Lloyd George to take credit away from Haig and ignore the victory on the Western Front.<sup>74</sup> It is undeniable that much of the German dislocation, particularly in respect to food production, resulted from a failure of coordination and effective mobilization.<sup>75</sup> Yet the Central Powers were far from possessing self-sustaining economies.<sup>76</sup> The blockade cut them off from many of their sources of raw materials and placed them at a progressively greater situation of disadvantage as the Allied effort was increasingly supplemented by American industry and agriculture.<sup>77</sup> Up to early 1917, for example, the largest consumer of British copper was Germany, sourced through neutral powers.<sup>78</sup> Thereafter the increasing effectiveness of the blockade, particularly through the closing of the supply routes through the neutral powers and, in something of an own goal, the unrestricted U-boat campaign, cut the flow completely. The melting down of copper coinage and brass door knobs to feed a starving armaments industry were sure signs that German reserves were nearing exhaustion. The replacement with less effective substitutes of

everything from U-boat fittings to ammunition driving bands, increased corrosion, wear and unserviceabilities while reducing effectiveness and confidence, depriving the German armed forces of yet another foundation of morale.<sup>79</sup>

Yet it was on the home front that Germany first broke. By late 1918 Germany's domestic situation was acute. The blockade operated with varying effect against rich and poor, but waning morale 'intimately connected with the food situation', was apparent even to Ludendorff by the summer of 1917.<sup>80</sup> By the latter part of the year the average urban citizen survived on a daily diet of only 1000 calories.<sup>81</sup> The recommended daily intake for an adult male is something over 2200. Japan's population, surviving under a similar blockade in 1945 received an average 1680 calories per capita, with even this level of undernourishment producing a major increase in illness and 'an important effect on efficiency and morale'.<sup>82</sup> According to the German's own reckoning, deaths attributable to the blockade numbered more than 760,000.<sup>83</sup> By way of contrast this figure is more than twice the number of German civilians killed by the strategic bombing campaign in World War II and broadly comparable to the numbers killed during the parallel campaign conducted against Japan.<sup>84</sup> Little wonder that inter-war air-power theorists saw strategic bombing as simply a more efficient means to achieve a similar effect. In both Germany and Austria-Hungary there had been major food riots in January 1918 with 250,000 workers affected in Berlin alone.<sup>85</sup> Internal discord continued to spread gradually but surely, reaching its climax with the mutiny in the High Sea Fleet. There can be little argument that prolonged scarcity appreciably reduced the ability of the German people to endure wartime hardships, sapping their strength while magnifying every disaffection with their government.

During the early Armistice negotiations, commanders on both sides were of the strong belief that the German Army and Navy could hold out until at least the spring of 1919.<sup>86</sup> Up to within a week of the Armistice there remained no consensus in the British and French militaries that the German Army could not hold the shorter line to which it was retiring.<sup>87</sup> The ultimate result was beyond doubt, but, for the German high command, the greater the delay the greater the hopes of a negotiated peace.<sup>88</sup> Yet, as Clausewitz reminds us, waging war demands the support of a trinity of national forces: not only the Army, but also the people and the government. In November 1918 revolution was rife in Germany; the Government was in turmoil and the nation a riderless horse. With the German people unwilling to take part in the defence of their country, they could not long be protected.<sup>89</sup> US President Woodrow Wilson's decision to include 'absolute freedom of navigation upon the seas' in his Fourteen Points, was anathema to the British War Cabinet precisely because it would prohibit a weapon that had just proved so decisive.

## The Last Weeks

The end of the war came quickly and managing the naval situation placed great strains on both sides. Once the Germans entered upon serious efforts to sue for peace the days of the U-boat campaign were numbered. It had already been seriously affected by the evacuation from the Belgian ports in the face of the Allied advance.<sup>90</sup> On 21 October, after much debate, the unrestricted submarine campaign was ended and the U-boats recalled to fleet duties.<sup>91</sup> While the German overnment sought desperately for a way to end the war, the German naval high command's progressive divorce from reality culminated in a plan to force a final action in the North Sea by an attack on Channel traffic, covered by the main body of the High Sea Fleet, itself to be protected from the Grand Fleet by a combination of minefields and submarines. The primary strategic goal of this scheme remains unclear. Whether it was intended to improve Germany's negotiating position,<sup>92</sup> or its situation should the armistice talks break down, or to restore the credit of the Imperial Navy and create support for its reconstruction in a post-war and presumably resurgent Germany is not obvious. One of the motivations was almost certainly a concern that the German Army would use the inactivity of the surface fleet as an excuse for offering it up as a concession in the negotiations. Much of the language of justification was polemic,<sup>93</sup> but Admiral Karl von Müller provided the most succinct summary of the reaction of the lower deck, 'the mutineers refused to die to gratify the ambition of their officers'.<sup>94</sup>

Within days the bulk of the High Sea Fleet was in an open state of mutiny. All operations were cancelled and the ships dispersed to their home ports, where the rebellious sailors mingled with the inhabitants ashore and provided critical impetus to the collapse of the German Monarchy and Government. British Naval Intelligence even provided additional encouragement by circulating photographs of RN warships flying the red flag, suggesting that the mutineers were not alone and that the old order would soon be overthrown everywhere.<sup>95</sup>

The victors themselves were not well prepared for the end of the conflict. There remained fundamental differences between the USA – only ever an 'Associated Power' – and the Allies, particularly the British, over elements of the 'Fourteen Points', notably 'freedom of navigation upon the seas'. Given its judgement as to the importance of the blockade, the Admiralty was not prepared to surrender the principle and, in practice, it did not. The diplomatic skills of the First Sea Lord, Wemyss, were tested to the full in other ways as he worked to ensure that the armistice negotiations ensured that Allied naval mastery would be maintained. This entailed robust debate as to the severity of the conditions which were sought. The politicians and the soldiers feared, with some justification, but without understanding the desperate state of the Germans, that terms which were too severe would result in their fighting on. The British Foreign Secretary, Arthur Balfour noted:

Foch and the soldiers, naturally enough, care nothing about this. They want a Glorious Victory? – on land. No success by sea will redound to their credit – or to the credit of any country but Great Britain. They are therefore – most naturally – indisposed to take the smallest – even the most infinitesimal – risk of any contre-temps which would delay their successes even for a day.<sup>96</sup>

An intelligence report suggested that Germany might attempt to use the U-boats to destroy the Grand Fleet during peace negotiations<sup>97</sup> and, with some support from Lloyd George, Wemyss eventually got most (but by no means all) of his way. Effectively the entire U-Boat force was turned over to the Allies and the blockade was to be continued to help engender the eventual peace treaty. The fate of the major elements of the High Sea Fleet was more complicated, but the original intent for the big ships to be interned in a neutral port could not be achieved and they were passed to British control, as Wemyss had wanted from the start.<sup>98</sup> Internment rapidly translated itself into what was practically a surrender ceremony, expertly stage managed by Beatty to achieve the maximum effect for both internal and public purposes in emphasising the role that the RN and the Grand Fleet had played in the victory. Despite American concerns that Britain might be attempting to outmanoeuvre it in future arms limitation talks,<sup>99</sup> the global aspect was emphasised not only by the presence of Australian and United States' ships, but a French unit as well. After a sunset ceremony, Beatty addressed the ship's company of his flagship, 'I told you the German Fleet would have to come out'.<sup>100</sup>

In the Mediterranean, there was similar confusion. The Italian Navy acted swiftly to prevent the new Yugoslavia from becoming a naval power through a sabotage attack by underwater swimmers that resulted in the destruction of the battleship *Viribus Unitis* only a few hours after she had been handed over by the Austro-Hungarian authorities. British and French differences rapidly emerged in the management of the armistice with Turkey, the British effectively trumping French efforts to dominate the situation by despatching additional naval forces (including two dreadnoughts) to the Aegean and conducting negotiations with the Turks on a bilateral basis. Despite their intent to maintain and improve their sphere of influence within the region, the French were unable to match the British display and were left to play second fiddle. On 12 November an Allied naval force led by the British (including the Australian destroyers who made every effort to emphasise their national identity during the passage past Gallipoli and into the Sea of Marmora<sup>101</sup>) entered the Bosphorus and arrived off Constantinople the following day. It seemed that the intent of the Dardanelles campaign had finally been achieved.

## Conclusions

Unlike the situation ashore, the successful application of sea power does not simply equate with battles fought. More often sea power is about the less dramatic task of keeping the sea lanes open; allowing free use to friends and allies while denying this access to an enemy. Indeed it has been accurately said that 'the more correctly sea power is used the less spectacular are the means by which it attains its purpose'.<sup>102</sup> A key difference between the Allied and Central Powers between 1914 and 1918 was that Britain and its allies were able to retain access to the relatively limitless resources of a global empire. Germany's complex economy on the other hand was effectively isolated, subject to progressively worsening shortages, and forced into an ever more rigid self-sufficiency. Shorn of its Allies and collapsing at its core, by 1918 the strain on the German system had simply become too great. The RN's achievements may have been imperfect, but in many ways they were fundamental to the Allied cause.

Nevertheless, although the British were the fulcrum of the maritime effort, they had not done it alone and the extent to which the United States and other nations contributed to the result foreshadowed the slow relative decline of the RN in the decades ahead. The Royal Australian and Royal Canadian Navies had each made an important contribution; that of the US Navy was vital in 1917-18, while the other Allies, particularly Japan,<sup>103</sup> France and Italy played their part around the world in the protection of shipping from German attack. By the end of 1918, even Brazil had despatched anti-submarine forces to Europe.

It is true that the coalition effort could be ramshackle. One British officer noted 'my most fantastic convoy from Genoa to Gibraltar consisted of my sloop (14 knots!), a United States yacht, an Italian armed merchantman, a French trawler and a Portugese trawler.'<sup>104</sup> Yet the coalition worked and was working better in 1918 than it had before and would have gone on to work better still. The point was that the British needed their Dominions and the coalition to achieve and maintain naval supremacy, a fact recognised as early as 1902 in the first Anglo-Japanese treaty and reaffirmed by the presence of Japanese destroyers in the Mediterranean to help against the U-boats. The Pax Britannica was over and the age in which a Western maritime co-dominium was necessary had begun. Some, such as William S Sims, recognised this fact already, but for many it would take until 1941 for the reality to be comprehended.

## Notes

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- <sup>1</sup> Lord Hankey, *The Supreme Command 1914-1918*, Vol II, George Allen and Unwin, London, 1961, pp. 870-871.
- <sup>2</sup> During the war 90,000 vessels were convoyed under the British organisation of which 436 (0.5 per cent) were lost. See Earl Brassey (ed), *The Naval Annual*, William Clowes & Sons, London, 1919, p. 137.
- <sup>3</sup> Cited in John Terraine, *Business in Great Waters: The U-Boat Wars, 1916-1945*, Putnam, New York, 1989, p. 101.
- <sup>4</sup> See diary entry by General Wilhelm Groener, cited in Holger H Herwig, *'Luxury Fleet': The Imperial German Navy 1888-1918*, George Allen & Unwin, London, 1980, p. 243.
- <sup>5</sup> Message Admiralty to C-in-C Grand Fleet of 29 November 1917, John D Grainger (ed), *The Maritime Blockade of Germany in the Great War: The Northern Patrol, 1914-1918*, Navy Records Society & Ashgate, Aldershot, 2003, pp. 783-784.
- <sup>6</sup> BJC McKercher & Keith E Neilson, 'The Triumph of Unarmed Forces': Sweden and the Allied Blockade of Germany, 1914-1917', *The Journal of Strategic Studies*, Vol 7, No 2, p. 195.
- <sup>7</sup> Arthur Balfour to Lord Robert Cecil, letter of 22 August 1918, B McL Ranft, *The Beatty Papers*, Vol I, pp. 540-542. The waters were never actually mined as the war came to an end before the Norwegians initiated the operation.
- <sup>8</sup> Paul G Halpern, *A Naval History of World War I*, Naval Institute Press, Annapolis MD, 1994, p. 440.
- <sup>9</sup> Christopher Birrer, 'A Critical Analysis of the Allied Blockade of Germany, 1914-1918', *Journal of the Centre for First World War Studies*, <[www.js-ww1.bham.ac.uk/fetch.asp?article=issue2\\_birrer.pdf](http://www.js-ww1.bham.ac.uk/fetch.asp?article=issue2_birrer.pdf)> (1 October 2008).
- <sup>10</sup> Comment by Admiral Tirpitz, cited in Hankey, *The Supreme Command*, pp. 870-871. See also Admiral Scheer: 'It was England's privilege to extend the war to the economic sphere in an unheard-of manner. The fight for sea commerce was to lead to the strangling of the whole German people,' in Admiral Reinhard Scheer, *Germany's High Sea Fleet in the World War*, Cassell, London, 1920, p. 359.
- <sup>11</sup> NAM Rodger, *The Admiralty*, Terence Dalton, Lavenham, 1979, pp. 133-140; and James Goldrick 'Admiral Sir Rosslyn Wemyss', Malcolm H Murfett (ed), *The First Sea Lords: From Fisher to Mountbatten*, Praeger, Westport, 1995, pp. 113-116.
- <sup>12</sup> David F Trask, *Captains and Cabinets: Anglo-American Naval Relations*, University of Missouri Press, Columbia, 1972, pp. 82-84 & 197-198.
- <sup>13</sup> See Admiral Sir Frederick C Dreyer, *The Sea Heritage: A Study of Maritime Warfare*, Museum Press, London, 1955, p. 234, but even then it was not complete. By December 1918, only 30 per cent of the armour piercing shells of the 15-inch gun battleships were of the improved type. John Campbell, *Queen Elizabeth Class*, Conway Maritime Press, London, 1972, p. 8.
- <sup>14</sup> For the best modern explanation of the British system and its foundations see Nicholas A Lambert, 'Strategic Command and Control for Maneuver Warfare: Creation of the Royal Navy's "War Room" System, 1905-1915', *Journal of Military History*, Vol 69, April 2005, pp. 361-410.

- <sup>15</sup> See Hugo von Waldeyer-Hartz, *Admiral von Hipper*, Rich & Cowan, London, 1933, p. 237 for a diatribe against the 'lack of discretion in speech and also in correspondence'.
- <sup>16</sup> See for example 'Allied Naval Council Memorandum by the United States of America: The General Naval Situation at Present and Measures that should be taken to further successful War', in Michael Simpson (ed), *Anglo-American Naval Relations 1917-1919*, Navy Records Society & Scholar Press, Aldershot, 1991, pp. 151-153. This gives 'probable additions by 1 July' of 2 battleships and 2 battle cruisers, with the potential addition of the Russian Baltic Fleet.
- <sup>17</sup> Letter Beatty to Wemyss, 1 April 1918, *The Beatty Papers*, Vol I, p. 525.
- <sup>18</sup> In February, fog could be expected in the southern North Sea for 10 per cent of the time or 3-6 days a month, but the situation year-round was more practically described by the statement in *North Sea Pilot* that offshore, 'it has been estimated that the average visibility in the part of the North Sea covered by this Pilot is only from 3 to 8 miles'. *North Sea Pilot*, Part III, Hydrographic Department, Admiralty, 1950, p. 23. There has been some climatic change (towards improved visibility) in the North Sea in the last fifty years.
- <sup>19</sup> *Translation of Vice-Admiral Schmidt's Despatch: The Conquest of the Baltic Islands*, OU 6042, Intelligence Division of the Naval Staff, Admiralty, November 1919, pp. 9-10.
- <sup>20</sup> Letter Wemyss to Beatty, 20 February 1918, *The Beatty Papers*, Vol I, p. 516.
- <sup>21</sup> Captain Herbert Richmond Diary Entry of 18 February 1918, see Arthur J Marder, *Portrait of an Admiral: The Life and Papers of Sir Herbert Richmond*, Harvard University Press, Cambridge, 1952, p. 298.
- <sup>22</sup> Von Waldeyer-Hertz, *Admiral von Hipper*, p. 240. During 1918 the British laid 21,000 mines in the Heligoland Bight. See Patrick Beesly, *Room 40: British Naval Intelligence 1914-18*, Hamish Hamilton, London, 1982, p. 268.
- <sup>23</sup> Von Waldeyer-Hertz, *Admiral von Hipper*, pp. 240-246.
- <sup>24</sup> *The Naval Memoirs of Admiral of the Fleet Sir Roger Keyes: Scapa Flow to the Dover Straits, 1916-1918*, Thornton Butterworth, London, 1935, p. 339.
- <sup>25</sup> Email S Prince (Naval History Branch) to D Stevens, 30 October 2008.
- <sup>26</sup> Letter 1651/048AM of 1 May 1918, Vice Admiral Dover Patrol to Admiralty in SW Roskill (ed), *Documents Relating to the Naval Air Service*, Vol I, 1908-1918, Navy Records Society, London, 1969, p. 663 ff.
- <sup>27</sup> Terraine, *Business in Great Waters*, 1916-1945, pp. 124-126.
- <sup>28</sup> Norman Friedman, *British Carrier Aviation: The Evolution of the Ships and their Aircraft*, Naval Institute Press, Md, 1988, pp. 57-60 & 65-67.
- <sup>29</sup> The best account is A Temple Patterson, *Tyrwhitt of the Harwich Force*, MacDonald, London, 1973, pp. 201-205.
- <sup>30</sup> See Beatty to his Wife, letter of 2 July 1918, *The Beatty Papers*, Vol I, p. 533.
- <sup>31</sup> Victor Hayward, *HMS Tiger at Bay: A Sailor's Memoir 1914-1918*, William Kimber, London, 1977, p. 169.
- <sup>32</sup> Eric Wheeler Bush, *Bless our Ship*, Ruskin House/George Allen & Unwin, London, 1958, p. 82.



- <sup>33</sup> Admiral of the Fleet Viscount Cunningham of Hyndhope, *A Sailor's Odyssey*, Hutchinson, London, 1951, p. 97.
- <sup>34</sup> Vice Admiral Sir Charles Hughes-Hallett (then a sub-lieutenant) cited in Peter H Liddle, *The Sailor's War 1914-18*, Blandford Press, Poole, 1985, p. 204.
- <sup>35</sup> Australia's full flotilla of six destroyers reached the Mediterranean in August 1917.
- <sup>36</sup> D Waters, 'The Science of Admiralty', *The Naval Review*, No 4 Vol LI, October 1963, p. 399.
- <sup>37</sup> The film of this ship sinking in the early morning is one of the best 'action' shots at sea of the First World War and has appeared in many documentaries, generally without attribution.
- <sup>38</sup> Henry Newbolt, *Naval Operations*, Vol V, Longmans Green & Co, London, 1931, pp. 90-92.
- <sup>39</sup> Paul Halpern, *The Naval War in the Mediterranean 1914-1918*, Naval Institute Press, Annapolis MD, 1987, pp. 542-553.
- <sup>40</sup> The Royal Navy's Historical Branch has calculated the safe delivery rate of troops at 99.98 per cent. Email Prince to Stevens, 30 October 2008.
- <sup>41</sup> For example, in 1917-18 the British imported around 95,000 Chinese. The French meanwhile had imported thousands of Indochinese. See David Stevenson, *1914-1918, The History of the First World War*, Allen Lane, London, 2004, p. 448.
- <sup>42</sup> Hankey, *The Supreme Command*, p. 801.
- <sup>43</sup> Newbolt, *Naval Operations*, Vol V, Appendix BIII, p. 408. Over the course of the war the French coal trade involved the delivery of 30 million tons of coal, the sailing of 38,000 vessels in convoy and suffered a loss rate of only 0.14 per cent. See Brassey, *The Naval Annual*, p. 136.
- <sup>44</sup> The old British battleship HMS *Britannia* was torpedoed and sunk off Cape Trafalgar on 8 November 1918.
- <sup>45</sup> Halpern, *A Naval History of World War I*, p. 343.
- <sup>46</sup> Chris Henry, *Depth Charge! Mines, Depth Charges and Underwater Weapons, 1914-1945*, Pen & Sword, Barnsley, 2005, pp. 49-58.
- <sup>47</sup> Marder, *From the Dreadnought to Scapa Flow*, Vol V, p. 118.
- <sup>48</sup> Paper, 'Brief outline of Asdic History', The National Archives (UK): ADM 186/444, 42747.
- <sup>49</sup> Terraine, *Business in Great Waters*, pp. 124-127.
- <sup>50</sup> Karl Donitz was to claim that he lost his command *UB 68* in October 1918 in an attempt to trial these tactics. See Karl Donitz, (RH Stevens & D Woodward translators), *Memoirs: Ten Years and Twenty Days*, Naval Institute Press, Annapolis MD, 1990, pp. 1-4.
- <sup>51</sup> 'The Convoy System in 1917-18', Brassey, *The Naval Annual 1919*, p. 152.
- <sup>52</sup> Eberhard Rössler, *The U-Boat: The Evolution and Technical History of German Submarines*, Arms & Armour Press, London, 1981, p. 75.
- <sup>53</sup> David F Trask, *Captains and Cabinets: Anglo-American Naval Relations*, University of Missouri Press, Columbia, 1972, p. 223.
- <sup>54</sup> Jon Tetsuro Sumida, 'Forging the Trident: British Naval Industrial Logistics, 1914-1918', in John A Lynn (ed), *Feeding Mars: Logistics in Western Warfare from the Middle Ages to the Present*, Westview Press, Boulder, 1993, p. 248.
- <sup>55</sup> Marder, *From the Dreadnought to Scapa Flow*, Vol V, p. 110.

- <sup>56</sup> Hankey, *The Supreme Command*, p. 801.
- <sup>57</sup> See Michael Head, *All at Sea: The Naval Intervention in Russia 1914-1922*, Privately published, 2007.
- <sup>58</sup> PE Coletta, *Allied and American Naval Operations in the European Theatre, World War I*, The Edward Mellen Press, New York, 1996, p. 257.
- <sup>59</sup> The US Army, for example, required an additional one million tons of coal which it purchased from British coal fields. See William Chaikin, 'Quartermaster Supply in the AEF, 1917-18', *Quartermaster Review*, May-June 1950, reproduced at <[www.qmfound.com/supply\\_aef.htm](http://www.qmfound.com/supply_aef.htm)> (16 October 2008).
- <sup>60</sup> Herwing, *Luxury Fleet*, p. 243.
- <sup>61</sup> Coletta, *Allied and American Naval Operations in the European Theatre*, p. 257.
- <sup>62</sup> *Review of German Cruiser Warfare 1914-1918*, OU 6337(40), Admiralty, 1940, pp. 2 & 18-20.
- <sup>63</sup> Arthur W Jose, *The Royal Australian Navy 1914-1918*, Vol XI, *The Official History of Australia in the War of 1914-1918*, Angus & Robertson, Sydney, 1928, p. 374.
- <sup>64</sup> Halpern, *A Naval History of World War I*, p. 422.
- <sup>65</sup> Rössler, *The U-Boat*, p. 81.
- <sup>66</sup> Rössler, *The U-Boat*, p. 87.
- <sup>67</sup> WS Chalmers, *The Life and Letters of David Beatty Admiral of the Fleet*, Hodder & Stoughton, London, 1951, pp. 344-345. More prosaic evidence of the situation came from the German delegation's treatment of the leg of mutton provided for their meal: 'They left nothing but the bone, Sir!', *The Autobiography of Admiral of the Fleet Lord Chatfield*, Vol I, *The Navy and Defence*, William Heinemann, London, 1942, p. 175.
- <sup>68</sup> Admiral Scheer blamed the revolution in the High Sea Fleet on 'the war-weariness of the whole nation, increased by hunger and all sorts of privations, [which] had become so widespread that even the fighting forces had lost faith in a happy end to the war.' Scheer, *Germany's High Sea Fleet in the World War*, p. 358.
- <sup>69</sup> Hankey, *The Supreme Command*, pp. 858-859.
- <sup>70</sup> See Ian Drury, *German Stormtrooper 1914-18*, Osprey, London, 1995, p. 28 and Martin Kitchen, *The German Offensives of 1918*, Tempus, Stroud, 2001, p. 151.
- <sup>71</sup> We are indebted to Stephen Prince for these insights.
- <sup>72</sup> Drury, *German Stormtrooper*, pp. 23 & 28.
- <sup>73</sup> M Howard, *Clausewitz*, Oxford University Press, Oxford, 1983, p. 68.
- <sup>74</sup> John Terraine, *To Win a War: 1918, The Year of Victory*, Sidgwick & Jackson, London, 1978, p. 13.
- <sup>75</sup> See A Offer, *The First World War: An Agrarian Interpretation*, Oxford University Press, Oxford, 1989.
- <sup>76</sup> For a useful summary of the decline in the economies of the Central Powers see Stevenson, *1914-1918*, pp. 372-375.
- <sup>77</sup> For an excellent discussion of the issues from a maritime perspective see Grainger, *The Maritime Blockade of Germany in the Great War*, pp. 16-22.
- <sup>78</sup> We are indebted to Nicholas Lambert for this insight.

- <sup>79</sup> In November 1918 British naval officers particularly noted the absence of brass and copper in surrendered German U-Boats and their replacement with brittle and less-effective substitutes. See letter, Tyrwhitt to Keyes, 23 November 1918, in P Halpern, *The Keyes Papers*, Vol I, 1914-1918, Navy Records Society, London, 1972, p. 516.
- <sup>80</sup> Ludendorff, *My War Memories*, p. 349, cited in HW Richmond, *National Policy and Naval Strength*, Longmans, Green & Co, London, 1937, p. 64.
- <sup>81</sup> AC Bell, *A History of the Blockade of Germany 1914-1918*, Historical Section, Committee of Imperial Defence, 1937, p. 671.
- <sup>82</sup> *The United States Strategic Bombing Survey, Summary Report (Pacific War)*, Washington, DC 1946 (Air University Reprint, Alabama, 1987), p. 94.
- <sup>83</sup> Bell, *A History of the Blockade of Germany*, p. 672.
- <sup>84</sup> German civilian deaths during World War II attributable to bombing are counted as 305,000. See the Morale Division's, 'The Effects of Bombing on German Morale', Vol I, *The United States Strategic Bombing Survey*, US Government Printing Office, Washington D.C. p. 7. Total civilian casualties in Japan, including those resulting from the two atomic bombs, amounted to 806,000. See *The United States Strategic Bombing Survey, Summary Report (Pacific War)*, p. 92.
- <sup>85</sup> Terraine, *To Win A War*, p. 32.
- <sup>86</sup> On 6 October General Ludendorff, made it clear in discussions with Admiral Scheer that Germany might make concessions to obtain the Armistice, but would not go so far as to make it impossible to resume the war in case of need. See Admiral Reinhard Scheer, *Germany's High Sea Fleet in the World War*, pp. 344-345; and Hankey, *The Supreme Command*, p. 849.
- <sup>87</sup> Hankey, *The Supreme Command*, p. 835.
- <sup>88</sup> Grand Admiral Von Tirpitz, *My Memoirs*, Vol II, Hurst & Blackett, London, 1920, p. 338.
- <sup>89</sup> Howard, *Clausewitz*, p. 73.
- <sup>90</sup> Robert M Grant *U-Boat Intelligence 1914-1918*, Archon, Hamden CT, 1969, p. 160.
- <sup>91</sup> Admiral von Müller diary entries of 21 and 22 October 1918, *The Kaiser and His Court*, pp. 409-410.
- <sup>92</sup> Scheer, *Germany's High Sea Fleet in the World War*, p. 353.
- <sup>93</sup> For one of the best summaries of the rationale for the sortie see CS Thomas, *The German Navy in the Nazi Era*, Unwin Hyman, London, 1990, pp. 10-12.
- <sup>94</sup> Admiral von Müller diary entry of 2 November 1918, *The Kaiser and His Court*, p. 418.; Herwig, *Luxury Fleet*, pp. 247-253; and Hugo von Waldeyer Hartz, *Admiral von Hipper*, pp. 252-255.
- <sup>95</sup> Beesly, *Room 40*, p. 299.
- <sup>96</sup> Arthur J Marder, *From the Dreadnought to Scapa Flow*, Vol V, *1918-1919: Victory and Aftermath*, Oxford University Press, London, 1970, p. 181
- <sup>97</sup> Beesly, *Room 40*, p. 296.
- <sup>98</sup> Wemyss to Beatty letter of 5 November 1918, B. McL Ranft, *The Beatty Papers*, Vol I, pp. 559-561. See also Marder, *From the Dreadnought to Scapa Flow*, Vol V, pp. 175-186 for a comprehensive account.

- <sup>99</sup> Britain knew that it could not outbuild the USA and the possibility that some of the German ships might further augment the Royal Navy was subtly exploited to encourage the Americans to agree to a reduction and stabilisation of armaments. See Harold & Margaret Sprout, *Toward a New Order of Sea Power: American Naval Policy and the World Scene, 1918-1922*, Greenwood Press, New York, 1976, pp. 63-64.
- <sup>100</sup> Commander Ralph Seymour (Beatty's Flag Lieutenant), letter to his mother, 26 November 1918, Lady Seymour (ed), *Commander Ralph Seymour, RN*, Privately Printed, Glasgow, 1926, p. 127.
- <sup>101</sup> See Footnote 85 in Jose, *The Royal Australian Navy 1914-1918*, p. 328.
- <sup>102</sup> Charles W Domville Fife, (ed), *The Evolution of Sea Power*, Rich & Cowan, London 1939, p. 14.
- <sup>103</sup> Japanese naval forces in the Mediterranean claimed to have safely escorted 800,000 troops from 1917 to the end of the war. See G Nakashima, 'The Japanese Navy', in Brassey, *The Naval Annual*, p. 67.
- <sup>104</sup> Halpern, *The Naval War in the Mediterranean, 1914-1918*, p. 252.



*A World War I postcard attests to German unwillingness to challenge the Royal Navy's supremacy in the North Sea (German Ocean)*

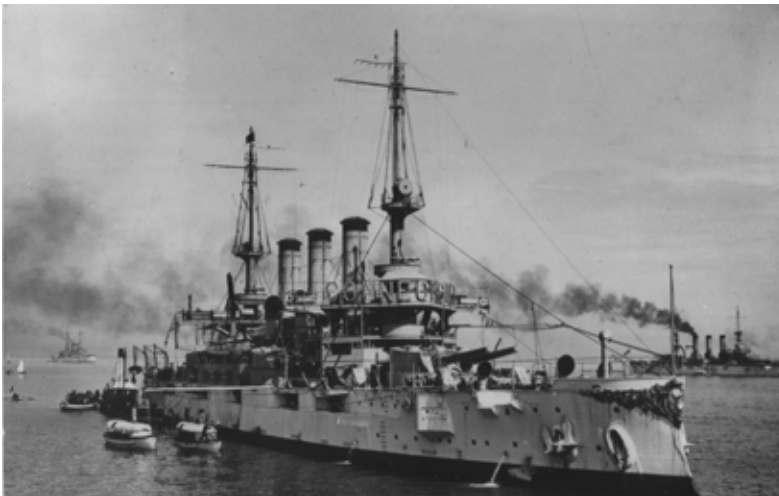
# SYNNOT LECTURE

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*A souvenir welcoming the American Fleet to Australia*



*USS Connecticut visits Melbourne, August 1908*

# Theodore Roosevelt and the Evolution of the Great White Fleet

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Professor James R Reckner

All too often overlooked in examinations of the famous world cruise of the Great White Fleet is the fact that the cruise itself was the culmination of a decade of most remarkable peace-time expansion of the United States (US) Navy. Prior to 1907, it would have been difficult for the US Navy to assemble such a fleet, and to dispatch it on a global mission. The purpose of this paper is to highlight the evolution of the fleet and its role during the decade after the war with Spain.

## Great Britain as Potential Enemy

The Naval War College (NWC)'s 1900 problem specifically dealt with a possible global war with Great Britain (RED), in a scenario in which the Royal Navy sent a fleet into the Pacific via the Strait of Magellan and a separate squadron into the Indian Ocean via the Suez Canal. The NWC students concluded that in this situation any attempt to hold Manila with the ships and resources available 'would in all probability result in the fall of Manila and the capture and destruction' of the US (BLUE) fleet.<sup>1</sup> As for Hawaii, the planners decried the vulnerability of the naval station at Honolulu, which could be subjected to direct bombardment from the sea. They noted that a 'good location [to store supplies] seems to be at Pearl City on the Pearl River lochs,' the future site of the great naval base, Pearl Harbor.<sup>2</sup>

Closer to home, the NWC officers considered the naval defence of the Atlantic coast during a RED-initiated war. The NWC rejected the option of going to sea 'because history has proved it to be an unbecoming role for the inferior Navy'. With the British in overwhelming control of the sea, 'such a policy would be fatal'. They also rejected dividing the fleet, thus reaffirming the Mahanian concept of concentration. Of necessity they settled upon the 'main plan of using Nantucket and Vineyard Sounds as a base of operations and port of sortie' for such operations.<sup>3</sup> These considerations formed the basis for the 1901 summer manoeuvres.<sup>4</sup> Admiral George Dewey, USN, expressed the General Board of the Navy's appreciation of the importance of the summer manoeuvres:

When it is remembered that [Long Island Sound], of such strategic value to the United States in the event of hostilities with any naval power, has been navigated by a battle fleet for the first time, the Board believes it is a matter of congratulations.<sup>5</sup>



That the US Navy might congratulate itself for conducting a defensive plan in its own coastal waters is a clear reflection of the state of the Navy, and of strategic thought at the beginning of the twentieth century.

## Germany and the Caribbean

The Caribbean Sea remained the focus of American naval activity throughout the Theodore Roosevelt years. Here, the principal threat was understood to be the possibility of a German naval base being established there as a preliminary to attaining a German foothold in the Western Hemisphere. One of the General Board's first considerations after its establishment in March 1900 was the problem of dealing with Germany (BLACK) in the West Indies.<sup>6</sup>

The NWC examined this problem in 1901, in a scenario in which the United States began construction of a Nicaraguan Canal. BLACK countered by taking over construction of the Panama Canal from the defunct French Canal Company. The United States protested this action as a violation of the Monroe Doctrine. Relations between the two countries became strained. An insurrection broke out in Colombia and the insurgents took Panama and interrupted work on the German canal project. Given this scenario, the NWC officers were asked to determine where and how BLACK would 'obtain and maintain an advanced base or advanced bases; taking into consideration all political conditions and BLACK's probable aspirations in the West Indies'.

The NWC concluded that St Thomas, Haiti and Margarita Island were 'open to attack,' but that St Thomas and Haiti were 'too near the US Navy's natural rendezvous' at Puerto Rico; therefore Margarita Island, off Venezuela, was considered most likely.<sup>7</sup> The NWC war gamed this problem a number of times during the summer course of 1901. In the three cases where BLACK had the choice of bases that it might seize, they were successful.<sup>8</sup> In one such case, BLACK captured Samana Bay, Haiti, while BLUE forces were fruitlessly searching for the BLACK fleet off Margarita Island. The NWC class concluded that the BLUE fleet's 'chance of meeting BLACK at sea [was] very slight indeed.' Given that conclusion, the NWC urged that 'BLUE should immediately follow and attempt to defeat him before he can have had time to erect fortifications, plant mines and make himself secure behind semi-permanent defences'.<sup>9</sup>

The practical testing of the results of the 1901 summer course at Newport was scheduled for the North Atlantic Squadron's winter cruise to the Caribbean at the end of 1902. The fleet manoeuvres, which were to be conducted under the direct command of Admiral Dewey, included a search phase designed to test the NWC's 1901 conclusions. Following the search phase, the combined fleet would conduct tactical exercises, break for Christmas port visits throughout the Caribbean 19-29 December,<sup>10</sup> then return to conduct fleet tactical exercises.<sup>11</sup>

## Germany, England and Venezuela

At this point NWC scenarios and ‘real life’ came together in events unfolding in Venezuela. There the actions of Venezuela’s ‘grasping dictator’, Cipriano Castro, resulted in a near constant state of civil war, mistreatment of foreign nationals, and most importantly the accumulation of considerable international debt that his government was unable to pay. In 1901, the German Government considered options to resolve these issues with Venezuela, and United States Secretary of State John Hay informed the German Foreign Office that ‘Germany could take forceful action against Castro, though only in the most extreme circumstances.’<sup>12</sup> In 1902 Germany and Britain began serious discussions and on 8 December 1902, they issued parallel ultimatums to the Castro regime.<sup>13</sup>

When Castro ignored the ultimatums, British and German boat crews seized the Venezuelan naval vessels in La Guaira and at other locations on 9 December. The German gunboat *Panther* towed two of them to sea and sank them. The British took the others to Trinidad and held them.<sup>14</sup> The European naval forces then established a blockade of Venezuelan ports that continued until 17 February 1903.<sup>15</sup>

These events have been the subject of extensive academic study, principally regarding President Roosevelt’s 1916 claim that he had used the US Navy presence in the Caribbean to force the Germans to arbitrate the dispute with Venezuela.<sup>16</sup> Those debates notwithstanding, the senior US Navy officers in the Caribbean at the time were aware of the serendipity of the timing of the US fleet manoeuvres. ‘It is a singular accident that all these things should come about just as we achieve this very powerful concentration in this corner of the ‘American Mediterranean’ as Admiral Dewey says it is now being called’, Rear Admiral Henry C Taylor, Chief of the Bureau of Navigation, recorded on 14 December.<sup>17</sup>

In the context of the evolution of the Great White Fleet, the assembly of the fleet from its widely dispersed stations into a single unit in the Caribbean was more important organisationally than it was diplomatically, for the Venezuela situation was resolved without US Navy intervention. Organisationally, this concentration of the various squadrons gave Taylor a practical illustration and justification for his maturing plans to reorganise the fleet.

## Fleet Reorganisation

On his way south to the Caribbean aboard Admiral Dewey’s flagship, USS *Mayflower*, Taylor had submitted a new plan to Secretary of the Navy William H Moody for the redistribution of vessels of the fleet.<sup>18</sup> Taylor planned to concentrate the battleships into two heavy squadrons, one in the North Atlantic, the other on the Asiatic Station.<sup>19</sup> Complicating this process was the fact that each station commander-in-chief particularly wished to have a battleship as his flagship. In November 1902, the South

Atlantic Squadron included the battleship USS *Iowa*; the European Station the battleship USS *Indiana*; Pacific Station, the battleship USS *Wisconsin*; and the Asiatic Station, the battleship USS *Kentucky*. While this distribution of battleships was understandable from the prestige point of view, the result was that the fleet's battleship strength was dispersed throughout the globe. Thus, when the squadrons were concentrated, as it was anticipated they would before a war, there was a general shuffling of ships to different squadrons as the battleships concentrated to form the line, and cruisers and other ships sharing similar tactical capabilities formed more specialised divisions. This is exactly what happened when the fleet assembled at Culebra in December 1902. In this instance, Rear Admiral Taylor reported:

The *Iowa*, from the South Atlantic Station, went into one division of the fleet, the [cruiser] *Atlanta*, from the same station, into another division, while their Commander-in-chief hoisted his flag as a squadron commander, transferring it for that purpose to the [cruiser] *Chicago*, a vessel not previously forming part of his command.

Of the European Station the [cruisers] *San Francisco* and *Chicago* were transferred to one division, the [cruiser] *Nashville* to another, while the Commander-in-chief retained his flag on the [battleship] *Illinois*, commanding a division in which three other vessels were associated with him for the first time.<sup>20</sup>

Rear Admiral Taylor concluded by saying 'it should never again occur that groups of vessels returning from foreign stations to concentrate with others' should have to be thus redistributed. Therefore he proposed a policy, which the Navy Department adopted, of assigning homogeneous or nearly homogeneous squadrons to each station, which would permit a joining squadron from a distant station to take its place as a division within the fleet without wholesale redistribution. Taylor admitted that this reorganisation would require some change in the 'old custom of selecting vessels for certain stations with regard to convenience in peace time'. The old traditions must change, he argued. 'The times have changed. Instant readiness for war has become indispensable, and all other questions must bow before it'.<sup>21</sup>

The new fleet organisation took effect on 1 January 1903, when 'US Naval Forces on North Atlantic Station' officially became the 'North Atlantic Fleet' with Rear Admiral Francis J Higginson commander-in-chief. Subordinate to him were the Battleship Squadron, Caribbean and Coastal Squadrons. Independent squadrons, comprised of cruisers and smaller ships, were assigned to the South Atlantic and the Mediterranean Stations.<sup>22</sup> A similar concentration occurred in Asiatic waters.

## Fleet Manoeuvres December 1902 - January 1903

As for the 1902 Caribbean exercises themselves, the ships of the South Atlantic and European Squadrons assembled in early December at Paria Bay, near Trinidad, from where they conducted sorties as the WHITE (simulated enemy) fleet in the search phase of the operation. Their goal was to reach Puerto Rico and occupy one of five ports on that island, establish defensive minefields and prepare an active defence before the BLUE fleet (North Atlantic Fleet) could locate them and assemble overwhelming force to oppose them. The WHITE fleet, under the command of Rear Admiral George W Sumner, sailed far to the east and north of Puerto Rico, then south through the Mona Passage between Puerto Rico and Hispaniola, and reached the Puerto Rican port of Mayaguez undetected. There they anchored, and within one hour established their defensive minefields.<sup>23</sup> The BLUE fleet, lacking a sufficient number of ships suitable for scouting purposes, failed to detect the 'enemy' fleet's movements, and ultimately conceded victory to the WHITE fleet. These events doubtless confirmed the conclusions of the NWC's 1901 problem, namely, that German naval forces might successfully establish a Caribbean base before the US Navy could intervene with overwhelming force.

The remainder of the exercises, carried out against the backdrop of the German-British intervention in Venezuela, concentrated on the development and practice of basic division, squadron and fleet tactical manoeuvres, steaming formations, signaling systems and gunnery practice. These were very elementary evolutions, as this was the first occasion when a full squadron of armoured ships and a full squadron of cruisers had assembled under a single command.<sup>24</sup> Hence, this was the first opportunity for actual fleet tactical manoeuvring. From 15 December, the fleet concentrated on manoeuvres by divisions, such as steaming in column, double column, change of course, countermarch, line of bearing and simultaneous changes of course in different formations. These are the basic evolutions of any formation of naval ships at sea, but to this point, rarely had they been practiced. As Admiral Henry A Wiley noted of his service on the battleship *Wisconsin* on the Pacific Station in 1901, there 'was no such thing as tactical exercises, and no other ships with which to have such exercises'.<sup>25</sup>

Of the exercises at Culebra, Commander Nathan Sargent observed that 'at first these exercises were poorly done and the formation both in line and column was ragged, distances and guide being badly kept, speed not well regulated and turns unskillfully executed'. However, 'a change was soon manifest and great improvement was shown'.<sup>26</sup> After this preliminary work-up, the fleet as a whole conducted tactical evolutions under the direction of the 'Admiral, commander-in-chief', from 31 December - 2 January 1903. Sargent reported that, 'all of the evolutions were very satisfactory and no serious mistakes nor misunderstandings occurred'.<sup>27</sup>

These manoeuvres ended rather suddenly when Admiral Dewey 'got restless and decided to return to the United States'. The suddenness of the manoeuvres end had a purpose:

One day at luncheon he astonished everyone by asking ... Captain [William] Swift how long it would take to 'close up and sail for home.'

Captain Swift said, 'By pushing everything and everybody, we should be ready in ten days.'

The Admiral exploded. 'Ten days! Hell! Get everything ready at once. I shall sail at eight.'<sup>28</sup>

Thus, on 6 January 1903, the various squadrons returned to their normal operating areas,<sup>29</sup> and the newly reorganised North Atlantic Fleet sailed for Pensacola to conduct annual target practice.

In a very real sense, the 1902-1903 combined fleet manoeuvres, followed by the first modern recorded target practice, marked the beginning of the modern North Atlantic Fleet (redesignated 'Atlantic Fleet' in 1906) and the beginning of the process of assembly of the battleships into a concentrated battlefleet in Atlantic waters. It was this battleship fleet, benefiting from the battleship authorisations of the immediate post-Spanish War years, that emerged during the Theodore Roosevelt presidency as the principal element of American naval power. So rapid had been the rate of expansion and replacement of older ships, that only three of the seven battleships that participated in the 1902-03 Caribbean exercises were still in the line in December 1907, just five years later. And all of the ships that participated in the world cruise of 1907-09 had entered service after the war with Spain in 1898, just ten years earlier.

## European Complications

The rapid emergence of the US Navy's modern fleet brought with it certain international complications. As it became a noteworthy force, observers began to attribute political significance to its movements: Which ports of which nations it visited was now viewed as a reflection of the status of relations between the United States and other nations, particularly in the years preceding World War I highlighted by the events in Europe in 1903.

In the spring of 1903, German Ambassador to the United States Speck von Sternburg tendered an invitation from the Emperor Wilhelm for the American fleet to visit Kiel during a regatta scheduled for June of that year. The US Government declined the invitation, as the fleet had a major exercise scheduled for New England waters at the same time, and no European cruise was planned. Some time later, Brigadier General Horace Porter, the American Ambassador to France, suggested the European Squadron should visit Marseilles to participate in a celebration there in honour of the

return of President Emile Loubet from Algiers. As the European Squadron was already scheduled at that time to be in nearby Villefranche, the Navy Department agreed to this request.<sup>30</sup>

In due course, the newly assigned commander-in-chief, Rear Admiral Charles S Cotton, hoisted his flag on Chicago and sailed with his squadron (the cruisers US Ships Albany and Cincinnati, and gunboat USS Machias) to Marseilles, arriving there a day before the French president. On the morning of 30 April, as the new French armoured cruiser Jeanne d'Arc sailed into port, the ships of the American squadron 'were 'full dressed', the rails manned'. The American ships fired a 21-gun salute immediately returned by the Jeanne d'Arc. As the President's ship 'passed the squadron, each of our ships gave four cheers, following the custom of the French service, the marine guards presented arms and our band played the Marsellaise. The cheers were returned by the Jeanne d'Arc, her band meantime playing the Star Spangled Banner.'<sup>31</sup> Admiral Cotton, his officers and men then participated in an extravagant round of ceremonies and celebrations in Marseilles, at the close of which President Loubet invited Cotton and his staff to Paris to participate in the welcome of King Edward VII of England to Paris, where the American Admiral played a relatively high-profile role in the King's visit.

These were scenes calculated to warm the hearts of any Frenchman. However, a visit of ceremony to one of the competing European powers easily could be viewed as a slight to another. In Germany, the American rejection of the Emperor's invitation for the squadron to visit still rankled. The situation was further complicated by British press reaction to the American visit to Marseilles. The Times of London, for example, noted that the refusal of the Emperor's invitation and 'this exchange of civilities [with France] results in a demonstration of close sympathies with France'.<sup>32</sup> Thus, when it became known that the Marseilles visit was to take place, 'a hue and cry went up from the ever hysterical German press' that the American squadron was to honour the French President even as it rejected an invitation from the Emperor.<sup>33</sup> Indeed, as William Still has pointed out, for the first time courtesy visits by an American squadron 'were considered to have important political considerations'.<sup>34</sup> The image of Americans honouring the French and then an American admiral playing a prominent role in the visit of King Edward VII to Paris doubtless conjured up negative images in Berlin.

Following the Marseilles visit, reports began to surface that the European Squadron would soon visit Kiel. The Navy Department denied such plans; however, the American Ambassador in Berlin indicated an 'extreme sensitiveness' on the issue, which he believed reflected the 'feelings of the Emperor himself.' Further, German Chancellor Count Bernhard von Bülow requested a visit by the squadron 'in the strongest language'.<sup>35</sup> In the situation, Hay recommended to the President that the squadron, reinforced by a modern battleship, be sent. Roosevelt acquiesced. The European Squadron would pay a visit to Kiel, and the battleship USS *Kearsarge* of the North

Atlantic Fleet, was ordered to Southampton, England, there to join the squadron and serve temporarily as flagship.

Acquiescing to German entreaties then triggered a British reaction. Although advised that the Squadron planned only to 'touch' at Southampton, this was insufficient. When the American Ambassador to the Court of Saint James indicated King Edward wanted to 'participate personally' in the reception of the squadron, Roosevelt agreed to permit the squadron to participate in the British naval review to be held in Portsmouth in July to mark the French President's return visit to England.<sup>36</sup>

Thus diplomatic pressures charted Admiral Cotton's course throughout June and July of 1903. Cotton shifted his flag to *Kearsarge* in Southampton and on 17 June, with the cruisers *San Francisco* and *Chicago* and the gunboat *Machias*, sailed for Kiel, where French effulgence was replaced with Prussian pomp and precision. The American squadron arrived at Kiel in the forenoon of 23 June 1903, in time for prepare for the arrival of the Emperor the following day.

On board *Kearsarge* the next day, the executive officer had just completed a final check for dirty spots and 'Irish pennants' when far down the line of German and American ships the men saw the first puff of smoke followed by the boom of the first gun of the royal salute. The organised chaos that ensued was recorded by Lieutenant Daniel Mannix:

Immediately there was frantic activity; the guard and the band were paraded, the rails manned and the saluting guns' crews called to quarters ... We could see the *Hohenzollern* now; a yacht as big as a small liner, painted white with the Imperial Standard of Germany at her mainmast truck. Her rails were manned, her band and a guard of sailors under arms paraded on her quarterdeck and her bridge crowded with officers ... glittering with decorations.<sup>37</sup>

Added to scene was the Emperor himself. Frederick Palmer, writing in *Collier's Magazine* most aptly described his performance:

Above the navigating bridge [of the *Hohenzollern*], on a little bridge of his own, in his admiral's uniform, stood the Emperor in heroic pose. The setting sun in this real spectacle was the ruler's limelight. He was silhouetted before the eyes of every man in the fleet and every person on the shore as a statue is on a hill ... And he saluted and saluted and saluted in a manner which was a model for the Prussian drill masters.<sup>38</sup>

Of the Emperor, Lieutenant Mannix observed, 'whatever else he might have been, the Kaiser was a wonderful showman.'<sup>39</sup>

From Kiel, the European Squadron sailed to Portsmouth to complete their tour of Northern Europe. By this point the officers and men of the squadron were already

tired from pomp and ceremonies. More would follow, as the English clearly competed with the Germans to leave the most positive and lasting impression. At every British-sponsored event there was much talk of common bonds of blood and culture, and of the hope that the two navies would work together for the peace of the world. At the end of the official visit, Admiral Cotton shifted his flag to *Chicago* and directed *Kearsarge* to sail for Frenchmen's Bay [Bar Harbor], Maine, in accordance with instructions from the Navy Department.

## Panama

The combined North Atlantic Fleet, European and South Atlantic Squadrons were scheduled to reassemble in the Caribbean for exercises that would occupy all of December 1903 and January 1904.<sup>40</sup> However, the Panama revolution in November and the hasty US recognition of the Republic of Panama resulted in the cancellation of the Caribbean Squadron's role in the manoeuvres.<sup>41</sup>

For several decades, Americans had contemplated construction of a trans-Isthmian canal. The completion of such a canal would facilitate trade between America's Atlantic and Pacific coasts. More importantly for the US Navy, it would resolve the vexing problem of strategic defence of both coasts by facilitating the rapid transfer of the battle fleet between the two oceans, thus creating a most welcome degree of strategic flexibility.

By January 1903, the Roosevelt administration had negotiated the Hay-Herrán Treaty with Colombia, which would grant the United States a one hundred year lease on a 10 kilometre-wide zone through Panama. While this leased zone would be under nominal Colombian sovereignty, the United States would have the right to intervene militarily without prior Colombian assent in situations that might threaten the canal's security. The United States Senate ratified the treaty in March 1903, but it encountered difficulties in Bogotá and was rejected by the Colombian legislature.<sup>42</sup>

President Roosevelt's reaction was predictable. When Secretary of State John Hay suggested reconsidering the Nicaragua route as the simplest approach, the President responded that he preferred the Panama Canal route because of engineering considerations. Further, he did not believe 'the Bogotá lot of jack rabbits should be allowed permanently to bar one of the future highways of civilization'.<sup>43</sup>

By mid-October of 1903, with increasing reports of a possible revolution forming in Panama, the Navy Department began strategic positioning of naval forces on both Panamanian coasts. On 15 October, Rear Admiral Henry Glass was ordered to proceed south with the Pacific Squadron by 22 October, 'on an exercise cruise to Acapulco'.<sup>44</sup> On 19 October USS *Dixie*, a cruiser of the North Atlantic Fleet, was ordered to Philadelphia to embark a Marine battalion of 400 troops in time to sail on 23 October.<sup>45</sup>



As the month wore on, a note of urgency entered the Navy Department's correspondence. On 21 October, The Secretary of the Navy ordered Admiral Glass to send the cruiser USS *Boston* ahead to San Juan del Sur, Nicaragua, to arrive there no later than 1 November, while stating publicly that she was en route to Acapulco.<sup>46</sup> Two days later, the Secretary chided Admiral Glass, 'do not delay sailing ... It is possible you may proceed with the remainder of the squadron south from Acapulco'.<sup>47</sup> At the same time, the commandant of the League Island Navy Yard in Philadelphia was ordered to expedite the transfer of the marine battalion to *Dixie* and direct her to sail to Guantánamo Bay, Cuba, without delay.<sup>48</sup>

On 30 October, still maintaining a cover of secrecy, the Navy Department sent a plain language cable to the cruiser USS *Nashville* at Kingston, Jamaica: 'Hold vessel in readiness to return to Guantánamo.' However, the enciphered portion of the message read: 'Secret and confidential. Proceed to Colón [Panama] ... Your destination is a secret.'<sup>49</sup>

On 2 November, with the revolution in Panama in progress, the navy cabled instructions to Admiral Glass, and *Marblehead*, *Boston*, *Nashville* and *Dixie* directing them to:

Maintain free and uninterrupted transit [of the trans-Panama railway]. If interruption is threatened by armed force occupy the line of [the] railroad. Prevent landing of any armed force, either Government or insurgent ... Government force reported approaching the Isthmus on vessels. Prevent their landing.<sup>50</sup>

Responding to these clear instructions, Commander John Hubbard of *Nashville* landed a force of 42 men to protect life and property. When the Colombian troop commander in Colón agreed to withdraw, the vastly outnumbered sailors returned to their ships. On 5 November, *Dixie* arrived with its embarked marines. On Commander Hubbard's advice, Commander Francis H Delano, *Dixie*'s commanding officer and the senior officer on the scene at Colón, landed two companies of marines under the command of Major John A Lejeune, USMC.

Thus, the US Navy, under the guise of neutrality and protection of the railway, prevented the Colombian Government from taking military action against an insurrection in one of its own provinces, Panama. In short order the United States recognised the Republic of Panama and signed the Hay-Bunau-Varilla Treaty, which granted to the United States the canal zone which had been denied it by the Colombian legislature. While the press and many others in America criticised the President's motives in supporting the Panamanian revolution, Roosevelt focused on 'making the dirt fly', by building the canal.

The events in Panama constituted a great stride forward in excluding Europe from the affairs of the Americas. Purchasing the holdings of the defunct French Canal Company, and the earlier signing of the Hay-Pauncefote Treaty with Great Britain removed the

prospect of any European country attempting to develop a competing canal. These developments, too, as Richard Collin has so clearly pointed out, gave notice to the European powers that the United States was now the principal driving power in the Central America and the Caribbean.<sup>51</sup> And the US Navy was, and would remain, the principal vehicle in exercising that power.

As the Panama situation developed, much further to the west, 'a bomb dropped' on Rear Admiral Robley 'Fighting Bob' D Evans, who received orders from the Secretary of the Navy to redeploy the three battleships and four cruisers of his Asiatic Fleet to Hawaii.<sup>52</sup> The cruisers departed Yokohama on 3 December, with an intermediate stop at Midway to coal; the battleships US Ships *Oregon*, *Kentucky* and *Wisconsin* left two days later and sailed directly to Hawaii via a great circle route, rendezvousing with the cruisers two days before entering Honolulu.<sup>53</sup>

This evolution highlighted the relative naval weakness of the West Coast of the United States, for a perceived threat on the West Coast triggered a sort or reverse 'surge deployment' of the Asiatic Fleet to cover events much closer to home. Admiral Evans claimed that he never knew the reason for the deployment until years later when President Roosevelt personally informed him, 'there was rumor that some of the South American republics would place obstacles in our way [in Panama]. The President wished to know, and it may be have others know, just how long it would take to have the Asiatic Fleet at Honolulu, ready for service in the South Pacific.'<sup>54</sup> No particular threat having developed in that quarter by the time of the fleet's arrival in Honolulu, Evans received orders to return to the Philippines, which he did, making stops at Wake Island and Guam. His fleet arrived off Manila after a trip of 7500 miles without any significant engineering difficulties, a noteworthy achievement for navy ships of the day.<sup>55</sup>

The Panama operation was a rather complex undertaking for the Navy at this time. It included the southward deployment of the Pacific Squadron, the rush deployment of a battalion of Marines from Philadelphia, redeployment of the Caribbean Squadron, and the eastward deployment of the heavy units of the Asiatic Fleet. The successful completion of these operations offers a strong indication of the US Navy's rapidly developing capabilities.

## Morocco, 1904

In the Atlantic, there was one major crisis response worth examining in this brief summary of fleet evolution: The Raisuli affair with Morocco. Here the situation involved an American citizen 'of large wealth', Ion Perdicaris, and his English stepson, Cromwell Oliver Varley, taken hostage by a dissident Berber chieftain named Mulai Ahmad ben Raisuli.<sup>56</sup> Conditions in Morocco at the time bordered on anarchy, and in this situation, individuals such as Raisuli had almost independent authority.<sup>57</sup>

When Raisuli made outrageous demands for his hostages, President Roosevelt ordered a concentration of the South Atlantic and European Squadrons at Tangier. The entire South Atlantic Squadron under the command of Rear Admiral French E Chadwick, had just departed Fayal in the Azores, in company with the North Atlantic Fleet's battleship squadron en route to a port visit in Lisbon when it was diverted to Morocco. The European Squadron, Rear Admiral Theodore F Jewel commanding, was already returning to the Mediterranean area. Chadwick's cruisers arrived on 30 May 1904 with Admiral Jewell's two days later. The North Atlantic Fleet's battleship division, under Rear Admiral Albert S Barker, conducted the scheduled port visit to Lisbon,<sup>58</sup> then sailed to Gibraltar, where it remained throughout the crisis, ready to sail to nearby Tangier should the situation require.<sup>59</sup>

The goal of the American presence was, quite simply, to impress upon the Moroccan leadership the American Government's 'sense of [the] gravity of the situation', and to urge the Moroccans to give in to Raisuli's demands.<sup>60</sup> Raisuli's actions, Admiral Chadwick pointed out, were 'wholly [directed] against the Sultan'. He concluded, 'There is but one outcome which can be insisted upon, which is a yielding by the Sultan to Raisuli's demands.'<sup>61</sup>

Chadwick assumed command of operations at Tangier, and contemplated a landing of two brigades, one from each of the warship squadrons. However, before the landing was carried out, President Roosevelt sent a telegram with the famous line 'Perdicaris alive or Raisuli dead'. Viewing the telegram as a whole reveals it not to be as hawkish as the line suggests, but rather more a cautious directive:

We want Perdicaris alive or Raisuli dead. Further than this we desire [the] least possible complications with Morocco or other powers. You will not arrange for landing marines or seizing [the] customs house without specific instructions.<sup>62</sup>

In due course the Moroccan Government gave in to all of Raisuli's demands, and the Berber chieftain released Perdicaris and Varley, thus removing any possible reason for an American landing.<sup>63</sup> In this crisis, the President actively deployed two squadrons to the point of contention to forcefully convey his interest in resolving the issue, and provided further backup with the North Atlantic Fleet's battleship squadron.

Contrary to public perceptions, Roosevelt sought a peaceful resolution to the hostage crisis, though at grave expense to the already weakened Moroccan Government. As Chadwick noted, 'the disaffected tribes now recognize that they can now lay their hands upon Christians apparently with immunity'. He concluded, correctly as it turned out, that the ultimate result of the concomitant reduction in Moroccan Government authority would be an eventual military government of Morocco, probably by the French.<sup>64</sup>

## Implications of Russo-Japanese War

By the time the Asiatic Fleet reached Manila in January 1904 after its cruise to Hawaii, growing concern about impending hostilities between Russia and Japan led the US Government to strengthen its commitment to maintain the current force level of three battleships on Asiatic Station. However, following the Russo-Japanese War of 1904-05 and the emergence of the Imperial Japanese Navy (IJN) as the principal threat in the Pacific, the battleships were redeployed to the Atlantic to join the main battlefleet. The logic for this decision was to avoid the possibility of sharing Imperial Russia's fate by suffering a defeat in detail in the event of a war in Asia.

To replace the battleships, the Navy deployed a division of new armoured cruisers to Asia, initially under the command of Rear Admiral Willard H Brownson. With the new Asiatic Fleet configuration, the Navy had in place a force sufficient in strength to conduct its mission, and fast enough to withdraw in the face of a superior force such as the IJN.

## The Battle Fleet Emerges

By the summer of 1906, the new battleships ordered after the war with Spain, whose construction had been delayed by internal Navy Department debates, principally concerning configuration of the new ships' secondary batteries, began joining the fleet. Ten new battleships, five *Virginia* class and five *Connecticut* class, entered service in 1906 and 1907. These ten units, augmented by some older ships, formed the main battle force of the US Navy .

Though the fleet grew rapidly, the process of establishing the battle fleet did not occur overnight. When President Roosevelt reviewed the fleet at Oyster Bay on Labor Day, 1906, the fleet present included four new battleships, US Ships *Louisiana*, *Rhode Island*, *New Jersey* and *Virginia*, which had not yet completed installation of their batteries. They had, The Navy later reported, 'no torpedoes, no shells, and no smokeless powder to fire the necessary salutes'.<sup>65</sup> Further, opponents of the fleet review argued, the review had disrupted the general plans of the fleet, delayed both the departure of the armoured cruiser squadron, consisting of US Ships *West Virginia*, *Pennsylvania*, *Colorado* and *Maryland*, for the Asiatic Fleet and the relief of ships on duty in the Caribbean, and disrupted the summer training of midshipmen.<sup>66</sup>

These complaints notwithstanding, the review was a success, and greatly pleased the Navy's greatest supporter; the President of the United States. It would have been out of character for President Roosevelt to pass up an opportunity to push for the continued growth of the navy. He had invited a Congressional delegation to attend, and at the end of the review said, 'any man who fails to be patriotically inspired by such a sight as this is a mighty poor American, and every American who has seen it ought to be a better American for it'. Focusing specifically on the Congressmen present, the President

generously congratulated them for their support: 'And you, Gentlemen, are responsible for it. It is your past handiwork, and it has all been done in the past ten years.'<sup>67</sup>

The President had much to be proud of. One absolutely inescapable aspect of the 1906 review was that it highlighted the rapid growth of the Navy. It was the first time a dozen modern American battleships had assembled at one time. These new battleships and the four new armoured cruisers at the review had been authorised since the Spanish War. Regarding battleships, many more would soon join the fleet, as four new battleships had already gone into commission in 1906, while USS *Georgia* would go into commission on 24 September, followed by USS *Connecticut*, the future fleet flagship, five days later. An additional four new battleships would enter service in 1907 in time to join the Great White Fleet's cruise. This was a remarkable increase in naval strength, particularly during a period of peace, when Congress traditionally had been fiscally conservative regarding naval appropriations.<sup>68</sup>

Date	Ship	Class
19 Feb 1906	<i>Rhode Island</i>	<i>Virginia</i>
7 May 1906	<i>Virginia</i>	<i>Virginia</i>
12 May 1906	<i>New Jersey</i>	<i>Virginia</i>
2 June 1906	<i>Louisiana</i>	<i>Connecticut</i>
24 Sept 1906	<i>Georgia</i>	<i>Virginia</i>
29 Sept 1906	<i>Connecticut</i>	<i>Connecticut</i>
4 Mar 1907	<i>Vermont</i>	<i>Connecticut</i>
9 Mar 1907	<i>Minnesota</i>	<i>Connecticut</i>
18 April 1907	<i>Kansas</i>	<i>Connecticut</i>
1 July 1907	<i>Nebraska</i>	<i>Virginia</i>

*Table 1 - United States Battleships Commissioned, 1906-1907*<sup>69</sup>

The continuing addition of new ships caused a gradual reorganisation of the Atlantic Fleet so that by mid-1907 it comprised sixteen first class battleships. They were organised in two squadrons of two divisions each, with *Kearsarge* and *Kentucky*, which had been the pride of the fleet just six years earlier, relegated to the last two positions in the line.

Despite the growth of the US Navy problems remained for the fleet. Politics resulted in the retention of an aged and ill officer as commander-in-chief in Admiral Evans. Known to be ill, Evans' condition was discussed at a Cabinet meeting, and the decision

was made to keep him in command rather than risk the possibility of a controversy if the exceedingly popular admiral was relieved.

Personnel problems also persisted. US Navy attempts to reach an authorised enlisted strength of 39,500 in 1907 and 44,500 in 1908 were thwarted by exceedingly high desertion rates of 15.5 per cent of the total force during each year with more than 11,500 men deserted in the two year period. Rear Admiral Charles S Sperry described the enlisted men as coming from 'the very pick and choice of the whole country.'<sup>70</sup> Yet far too many officers expected these same quality young men to submit willingly to a capricious and petty system of justice in which the seriousness of the punishments often far exceeded the infractions for which they were imposed. Curiously, most senior officers failed to see the problem as one of leadership. As was the case with Admiral Taylor, they incorrectly concluded that the 'largest element' of the problem was 'the restlessness of the average American young man, and the easy way in which he can get employment, and, therefore, the readiness with which he drops any position he may hold'.<sup>71</sup>

By the summer of 1907, the American people, including naval planners, were much preoccupied with 'the war scare of 1907,' which developed from growing racial tensions between Japan and the United States, largely stemming from Japanese immigration to the West Coast of the United States. At the height of this 'war scare', President Roosevelt asked for a briefing on the Army and Navy's plans in the event of war with Japan. The essence of the US Navy's plan was that in the event of war with Japan, in keeping with the doctrine of concentration, the principal American naval forces in Asiatic waters would withdraw to the Hawaiian Islands and remain there until the battleship fleet from the Atlantic could sail to the Pacific and join them. When the two fleets combined, they would then sail west to relieve Manila, after which they would seek out the Japanese fleet and engage in the decisive battle.<sup>72</sup>

It was this plan that the President was briefed on at his summer home at Oyster Bay, Long Island by Captain Richard Wainwright in June 1907. One can only imagine Captain Wainwright's reaction when the President, having accepted the plan, then told the naval officer to carry it out as soon as possible for practice. As in doing so the President had just ordered the largest naval exercise in American history. Toward the end of the meeting, the discussion turned to how many battleships were to be sent. 'The President stated that he wanted them all to go; if the Navy had fourteen ready, he wanted fourteen to go; if sixteen, eighteen, or twenty, he wanted them all to go.'<sup>73</sup>

Though many naval officers expressed disbelief regarding the President's orders, and Members of Congress objected, the President stood fast to his decision, and the Navy Department set about planning the cruise. One direct result of the drain of desertions discussed earlier was difficulty in finding crews for the new battleships. By the summer of 1907, as the Navy Department strained to prepare the Atlantic Fleet for the world cruise, Admiral Brownson, Chief of the Bureau of Navigation, frankly advised the Fleet

commander-in-chief, 'as you know, we are hard up against it for men. I see no way except to put the [battleships] *Iowa* and *Indiana* out of commission in order to give you *Vermont* and *Kansas* at an early day'.<sup>74</sup>

Yet other problems remained: Congress had been very reluctant to fund critical support ships for the fleet, particularly colliers. This lack of US flag ships to provide critical coal support was a major strategic weakness of the fleet. It was highlighted in virtually every port the fleet visited, as foreign - mainly British - colliers came alongside the battleships to provide the fuel that made the cruise possible. The cruise was, in essence, to exercise a war plan in the event of war with Japan. As Great Britain was allied with Japan in the Anglo-Japanese Alliance, it was likely neither British ships nor British ports would be available to assist the United States in a war involving Japan. This problem was not resolved before the fleet shifted from coal to oil.

Despite these concerns, during the first week of December, the battleships began assembling in Hampton Roads, and there, on the morning of 16 December 1907, they were reviewed by President Roosevelt on board USS *Mayflower*. After gun salutes and a final farewell, the flagship *Connecticut* and the ships of the First Squadron got underway, followed by the Second Squadron. They formed a three mile long formation of first-class battleships as they sailed out of Hampton Road, turned to starboard and sailed toward the mouth of Chesapeake Bay, passing a shoal area known as 'The Tail of the Horseshoe.' There the presidential yacht had anchored to enable the President to receive one final salute from the fleet he had done so much to shape.

Throughout the months before the cruise, the President referred to the cruise as nothing more than a practice cruise to take the fleet from one coast of the United States to the other. But the actual goal was transparent. Two weeks before the fleet departed from Hampton Roads, *Collier's Magazine* published a stunning full-color cover. Above the title, 'Westward Ho!' the magazine pictured the American fleet at sea, but with the sky painted as the Rising Sun flag of Japan. The irony that that magazine cover appeared on the 7 December edition of the magazine would not be appreciated for another 34 years.<sup>75</sup>

## Notes

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- <sup>1</sup> 'Problem of 1900,' *Naval War College (NWC) Problems and Solutions*, 1900. NWC Archives, Record Group (RG) 12, Appendix D, 'Defence Plans for the Philippines Islands [sic],' D-1.
- <sup>2</sup> 'Problem of 1900,' Appendix E, 'Defence of Honolulu,' E-1.
- <sup>3</sup> 'Naval Defence of the Atlantic Coast,' *NWC Problems and Solutions*, 1900, NWC RG 12, 7.
- <sup>4</sup> George Dewey to Secretary of the Navy John D Long, GB No 132, 22 May 1901, General Board Letterbook.
- <sup>5</sup> Dewey to Long, 22 Aug. 1901, GB No 132, General Board letterbook, 1900-1904, p. 285.
- <sup>6</sup> Charles D Sigsbee, 'Report to the General Board, Germany versus the United States - West Indies,' May 21, 1900.
- <sup>7</sup> *NWC Problems and Solutions*, 1901, p. 5. NWC, RG 12.
- <sup>8</sup> The NWC interpreted success in this context as the BLACK naval forces reaching their destination forty-eight hours before BLUE could concentrate superior forces. Summary of Strategic Situation No. 99, a BLUE - BLACK War in the West Indies. *NWC Problems and Solutions*, 1901, Vol. 3, NWC, RG 12. *NWC Problems and Solutions*, 1901, p. 5.
- <sup>9</sup> *NWC Problems and Solutions*, 1901, p. 14, NWC, RG 12.
- <sup>10</sup> Acting SecNav Charles H Darling to Radm Francis J Higginson, C-in-C North Atlantic Station, 3 Nov 1902. National Archive [NA], RG 45:463/A8-260.
- <sup>11</sup> *Army & Navy Journal*, Vol 40, 8 Nov 1902, p. 225.
- <sup>12</sup> Donald A Yerxa, *Admirals and Empire: The United States Navy and the Caribbean, 1898-1945*, University of South Carolina Press, Columbia 1991, pp. 16-17.
- <sup>13</sup> Yerxa, *Admirals and Empires*, p. 17.
- <sup>14</sup> Lieutenant Commander Samuel WB Diehl, (CO, USS *Marietta*) to SecNav William H. Moody, 14 December 1902. NA. RG 45:464/A8, microfilm reel 261.
- <sup>15</sup> Diehl to Moody, cipher telegram, 17 Feb. 1903 NA, RG 45:464/A8, microfilm reel 261. The German squadron included the cruisers *Vineta* (F), *Gazelle* and *Falke*, gunboat *Panther* and the school ships *Stosch* and *Charlotte*. Royal Navy ships in Venezuelan waters included the protected cruisers HM Ships *Ariadne*, *Retribution*, *Indefatigable*, *Tribune*, *Charybdis* and the destroyer HMS *Quail*. ONI No 4661, NA, RG 45:464/'OO', Box 472. Italian ships that participated included cruisers *Giovanni Bausan*, *Carlo Alberto*, and *Elba*. NA, RG 45:464/A8, microfilm reel 261. For detailed reports of European naval activity in Venezuelan waters, see series of reports by Diehl to Moody. NA, RG 45:464/A8, microfilm reel 261. All of the Venezuelan gunboats, except the two that were sunk on the day of their seizure, were returned to the Venezuelan Government after the blockade was lifted.

### Disposition of Venezuelan Naval Vessels

<i>General Crespo</i>	Sunk by <i>Panther</i>
<i>Totuma</i>	Sunk by <i>Panther</i>
<i>Margarita</i>	Machinery disabled; guns removed
<i>Restaurador</i>	Captured, used by German Navy
<i>Zambador, Bolivar</i>	Interned by British



- 23 *de Mayo, Zamora*, Interned by British Diehl to Moody, 3 Mar 1903, NA, RG 45:464/A8, microfilm reel 262.
- <sup>16</sup> For a good summary of the debate, see Yerxa, *Admirals and Empire*, pp. 16-19.
- <sup>17</sup> Taylor to Moody, 14 Dec 1902, William H Moody Papers, Library of Congress [LC]. For an account of these activities, see SWB Diehl to Secretary Long, 14 Dec 1902, NA, RG 45:464/A8, reel 261.
- <sup>18</sup> Taylor to Moody, 5 December 1902, William H. Moody Papers, LC.
- <sup>19</sup> *Army & Navy Register* 32, 15 Nov 1902, p. 2.
- <sup>20</sup> Taylor to Dewey, 15 Jan 1903, p. 26, encl. to Dewey to Moody, 13 Jan 1903, NA, RG 45/464/'OO', Box 472.
- <sup>21</sup> Taylor to Dewey, 15 Jan 1903, p. 27.
- <sup>22</sup> See, Francis J Higginson to Moody, 40-1903 and 41-1903, both 30 Jan. 1903, Higginson letter-books, Vol 3, Francis J Higginson Papers, NHF, LC.
- <sup>23</sup> Taylor to Dewey, 15 Jan. 1903; encl. to Dewey to Moody, 12 Jan. 1903, pp. 1-2, NA, RG 45:464/'OO', Box 472. For a personal account, see Rodger Welles Correspondence, 9 Dec 1902, Welles Papers, Navy Historical Foundation [NHF], LC. The rules for the search phase and Admiral Sumner's report of WHITE fleet operations were released to the press. See 'The Caribbean Manoeuvres,' *Army & Navy Journal*, Vol 40, 13 Dec. 1902, p. 359.
- <sup>24</sup> Actually, the squadron contained seven armored ships, with the protected cruiser Olympia added to fill out the remainder of the squadron. Additionally, one of the battleships of the squadron, *Texas*, sister-ship of the ill-fated *Maine*, was rated as a second class battleship.
- <sup>25</sup> Henry A Wiley, *An Admiral from Texas*, Doubleday, Doran & Co, New York, 1934, p. 96.
- <sup>26</sup> Commander Nathan Sargent, 'Memorandum for Chief of Staff-Tactical Evolutions Off Culebra', 12 Jan 1903. Sargent Papers, NHF, LC.
- <sup>27</sup> Sargent, 'Memorandum for Chief of Staff-tactical Evolutions Off Culebra', 1903. For Taylor's formal report on the manoeuvres, see Taylor to Dewey, 15 Jan 1903, encl. in Dewey to Moody, 12 Jan 1903, NA, RG 45:464/'OO', Box 472.
- <sup>28</sup> Albert Gleaves, *The Admiral: Memoirs of Albert Gleaves, US Navy*, Hope Publishing Co, Pasadena, 1985, p. 106.
- <sup>29</sup> For itineraries of North Atlantic Fleet and Caribbean Squadrons, see NA, RG 24:88/1754.
- <sup>30</sup> For a detailed account of Cotton's diplomacy and the activities of the European Squadron in 1903, see Seward W Livermore, 'The American Navy as a Factor in World Politics, 1903-1913', *American Historical Review*, Vol 63, No 4 (July 1958), pp. 863-879.
- <sup>31</sup> Cotton to SecNav, 19 May 1903, Cotton Papers, NHF, LC.
- <sup>32</sup> William N Still, Jr, *American Sea Power in the Old World: The United States Navy in European and New Eastern Waters, 1865-1917*, Greenwood Press, Westport, CT, 1980, p. 148, citing *Times*, 20 April 1903.
- <sup>33</sup> *Army & Navy Journal* 40, 25 Apr 1903, p. 843.
- <sup>34</sup> Still, *American Sea Power in the Old World*, p. 147.

- <sup>35</sup> Still, *American Sea Power in the Old World*, pp. 148-149, citing John Hay Papers, LC. Ambassador Tower's message is quoted in Livermore, 'The American Navy as a Factor in World Politics, 1903-1913,' pp. 866-867.
- <sup>36</sup> Still, *American Sea Power in the Old World*, p. 149.
- <sup>37</sup> Rear Admiral Daniel P Mannix, III, *The Old Navy*, Daniel P Mannix IV (ed), Macmillan, New York, 1983, p. 102.
- <sup>38</sup> Frederick Palmer quoted in 'Our Squadron at Kiel,' *Army & Navy Journal*, Vol 40, 25 July 1903, p. 1189.
- <sup>39</sup> Mannix, *The Old Navy*, p. 102.
- <sup>40</sup> SecNav Moody to Taylor, 14344-39, 29 June 1903, NA, RG 45:464/'OO'/Box 473 provided initial guidance.
- <sup>41</sup> *Army & Navy Register*, Vol 41, 21 Nov. 1903, p. 291.
- <sup>42</sup> Yerxa, *Admirals and Empire*, p. 21.
- <sup>43</sup> Lewis L Gould, *The Presidency of Theodore Roosevelt*, University Press of Kansas, Lawrence, 1991, p. 95, citing Roosevelt to Hay, 19 Aug. 1903, *Roosevelt Letters*, 3:567.
- <sup>44</sup> Darling to Glass, 15 Oct 1903, NA, RG 45: 304, Panamanian Correspondence, Vol 1.
- <sup>45</sup> Moody to Navy Yard Brooklyn and to Rear Admiral Albert S Barker, commander-in-chief North Atlantic Fleet, 19 Oct 1903, NA, RG 45:304, Panamanian Correspondence, Vol 1.
- <sup>46</sup> Moody to Glass, 21 Oct 1903, NA, RG 45:304, Panama Correspondence, Vol 1.
- <sup>47</sup> Moody to Glass, 23 Oct 1903, NA, RG 45:304, Panama Correspondence, Vol 1.
- <sup>48</sup> Darling to Commandant, League Island Navy Yard, 23 Oct 1903, NA, RG 45:304, Panama Correspondence, Vol 1.
- <sup>49</sup> Navy Dept. to CO *Nashville*, 30 Oct 1903, NA, RG 45:304, Panama Correspondence, Vol 1.
- <sup>50</sup> NA, RG 45:304, Panama Correspondence, Vol 1.
- <sup>51</sup> Richard H Collin, 'The Big Stick as *Weltpolitik*: Europe and Latin America in Theodore Roosevelt's Foreign Policy', in Natalie A Naylor, Douglas Brinkley, and John Allen Gable, *Theodore Roosevelt: Many-Sided American*, Heart of the Lakes Publishing, Interlaken, NY, 1992, pp. 295-316.
- <sup>52</sup> According to Evans, 'a bomb dropped on us in the shape of a cipher message from the Secretary of the Navy ... asking how soon I could sail for Honolulu with three battleships and four cruisers'. Robley D Evans, *An Admiral's Log: Being Continued Recollections of Naval Life*, Appleton & Co, New York, 1911, p. 281. For a summary of the official correspondence ordering the deployment and Evans's actions, see Evans to SecNav, 10 Dec 1903, NA, RG 80:14246-20.
- <sup>53</sup> *Army & Navy Journal*, Vol 41, 28 Nov. 1903, *Army & Navy Journal* Vol 41, 19 March 1904, p. 759; Evans, *Admiral's Log*, p. 286. The nation whose naval intervention was feared was Chile. For discussion of that, and an excellent examination of the US Navy in Asiatic waters in this period, see William R Braisted, *The US Navy in the Pacific, 1897-1909*, University of Texas Press, Austin, 1958.
- <sup>54</sup> Evans, *Admiral's Log*, p. 282.
- <sup>55</sup> In recording the completion of both legs of the trip, the service press called attention to the cruise as a vindication of the amalgamation of the engineers with the line officers of the

- Navy in the Navy Personnel Bill of 1899. *Army & Navy Journal*, Vol 41, 26 December 1903, p. 439.
- <sup>56</sup> Rear Admiral French E Chadwick to SecNav, 20 June 1904, NA, RG 24:88/1808-28.
- <sup>57</sup> George W Collins, 'Theodore Roosevelt and the Naval Plans for the Occupation of Tangier, Morocco, 1904,' in Natalie A Naylor, Douglas Brinkley & John Allen Gable, (eds), *Theodore Roosevelt: Many-Sided American*, Heart of the Lakes Publishing, Interlaken, NY, 1992, p. 341.
- <sup>58</sup> Albert S Barker, *Everyday Life in the Navy*, pp. 400-402 describe the Lisbon visit.
- <sup>59</sup> Barker, *Everyday Life in the Navy*, p. 403.
- <sup>60</sup> Chadwick to SecNav, 31 May 1904, NA, RG 24:88/1808-26.
- <sup>61</sup> Chadwick to SecNav, 20 June 1904, NA, RG 24:88/1808-28
- <sup>62</sup> Collins, 'Theodore Roosevelt and the Naval Plans for the Occupation of Tangier, Morocco,' p. 346.
- <sup>63</sup> Collins, 'Theodore Roosevelt and the Naval Plans for the Occupation of Tangier, Morocco,' p. 346.
- <sup>64</sup> Chadwick to SecNav, 20 June 1904, NA, RG 24:88/1808-28.
- <sup>65</sup> 'That Pacific Cruise,' *The Navy*, Vol 1, No 9, Sep, 1907, p. 11.
- <sup>66</sup> *Army & Navy Register* 40, 11 Aug 1906, p. 10. For armored cruiser squadron itinerary, see *Army & Navy Register* 40, 1 Sep 1906, p. 5. For official instructions regarding the review, see US Atlantic Fleet, Fleet Special Order No 53, 23 Aug 1906. Copy in NA, RG 24:88/1754-317. A copy of the Bureau of Navigation's anchorage chart for the review was published in *Army & Navy Register*, Vol 40, 1 Sep 1906, p. 14.
- <sup>67</sup> 'The Naval Review,' *Army & Navy Register*, Vol 40, 8 Sep 1906, p. 2; also reported in *New York World*, 4 Sep. 1906.
- <sup>68</sup> Pitman Pulsifer, comp. *Navy Yearbook: Compilation of Annual Naval Appropriations from 1883 to 1909, etc.*, GPO, Washington, 1909, p. 659.
- <sup>69</sup> K Jack Bauer & Stephen S Roberts, *Register of Ships of The US Navy, 1775-1990: Major Combatants*, Greenwood Press, New York, 1990, pp. 104-106.
- <sup>70</sup> Charles S Sperry, 'Cruise of the United States Atlantic Fleet', p. 13. Unpublished typescript, NHF, LC.
- <sup>71</sup> Taylor to SecNav Moody, 29 July 1902, Moody Papers, Vol2, NHF, LC. Rear Admiral J B Coughlan repeated this same rationalisation, almost verbatim, in an article, 'What the Navy Is and What It Needs', published in the Philadelphia *Public Ledger* and extracted in *Army & Navy Journal*, Vol 42, 1 April 1905, p. 826.
- <sup>72</sup> Louis A Morton, 'Military and Naval Preparations for the Defence of the Philippines during the War Scare of 1907', *Military Affairs*, Vol 13, No 2 1949, p. 95; Braisted, *United States Navy in the Pacific*, p. 206; Richard D. Challener, *Admirals, Generals and American Foreign Policy, 1898-1914*, Princeton University Press, Princeton, 1973, p. 253.
- <sup>73</sup> Morton, 'Military and Naval Preparations', p. 96.
- <sup>74</sup> Brownson to Robley D Evans, 11 June 1907, Brownson Papers, NHF, LC.
- <sup>75</sup> *Collier's Magazine*, 7 Dec 1907. Cover.

# NAVAL ADMINISTRATION

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# New Generation Navy: Personnel and Training - The Way Forward

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Lieutenant Robert Barb, RAN

The workforce challenge confronting Defence is significant. Factors likely to continue to impinge on Defence's ability to achieve a balanced and sustainable workforce include current poor recruiting and retention trends, national skills shortages, and changes to the composition of Australia's population.

Defence Strategic Workforce Plan 2007-2017 <sup>1</sup>

## Introduction

The Australian Defence Force (ADF) *Defence Strategic Workforce Plan* provides the direction to build a balanced and sustainable military and civilian workforce whilst recognising the workforce challenges confronting Defence. As one of the largest employers in Australia, the ADF has a diverse workforce of about 52,000, and includes more than 200 separate employment categories.<sup>2</sup> The Royal Australian Navy (RAN) has 57 categories, many of which require additional platform, equipment and specialist skills and qualifications that have long training and development times.<sup>3</sup> Many trade or professional skills used in the military are unique and cannot be recruited from the general community requiring the Navy to train and develop its workforce needs. Because of demographic changes and exacerbated by intense global competition for skills - the Global War for Talent,<sup>4</sup> the RAN is challenged to meet its current workforce demands, and the supply of young Australians for military service is expected to continue to decline by up to six per cent over the next 20 years.<sup>5</sup>

The personnel environment in Australia is changing considerably, and will continue to be influenced by changing trends in demography, education, technological advances, climate change, economic globalisation, international security and social forces.<sup>6</sup> With increased competition in the workforce, a shrinking pool of younger people on whom the ADF has traditionally relied to join the Services, an ageing population, buoyant employment opportunities and national skills shortages, the ADF is facing unprecedented challenges to recruit and retain the people it needs.<sup>7</sup>

With its current strength at 12,724, the RAN currently has a shortage of 2000 trained personnel, and more than 3200 personnel in the training pipeline.<sup>8</sup> Because of the high turnover of personnel, the RAN has more people to train than the training system can cope with, and not enough people to do the work that needs to be done. For the year

from May 2007, 1381 sailors and officers enlisted, but 1294 also separated.<sup>9</sup> Required to grow five per cent by 2017,<sup>10</sup> the RAN is constantly failing to achieve its recruiting targets.<sup>11</sup> The unemployment rate in Australia has been low for many years causing a disincentive for service in the military, and underachievement in recruiting targets combined with high separation rates, particularly in the first 12 months of service and on completion of the Initial Minimum Period of Service (IMPS), is causing an overall decline in military and trade professional skills across all ranks within the RAN.<sup>12</sup> Recruiting and retention is impacting on the sustainable recovery of critically short workforce numbers in many hard-to-fill warfare, technical, and engineering categories. With increased demand for employees across the Australian labour market, and competition likely to remain high, the quality and quantity of available supply of recruitable people is predicted to worsen from 2014.

Two major naval acquisition projects, the *Hobart* class Air Warfare Destroyer (AWD)<sup>13</sup> and the *Canberra* class amphibious Landing Helicopter Dock (LHD),<sup>14</sup> are currently underway and are planned to enter service between 2012 and 2017. These platforms will be highly complex, with state-of-the-art technology and some of the most sophisticated systems used anywhere in the world.<sup>15</sup> The two LHDs and three AWDs – with Schemes of Complement (SOC) of approximately 320 and 200 respectively, will have a slightly larger SOC than each of the ships being replaced.<sup>16</sup> The need to maintain current capability while bringing into service the new capability will require overlapping personnel demands which are already difficult to maintain. The change in technology, systems and operations will not only demand more officers and sailors in the most critically short employment categories, but will also require increased levels of training.

The RAN has significant trained manpower shortages and despite the implementation of a number of recruitment and retention initiatives in recent years,<sup>17</sup> Navy will not only be challenged to recruit, train and sustain the required workforce demands, but may not have a sustainable<sup>18</sup> workforce to support the introduction of such new capability. Some critics have questioned whether the RAN is risking building a force loaded with equipment and technology that it might lack the manpower to support and deploy.<sup>19</sup>

How the RAN will maintain its current capability while planning for the future will be a major challenge. Recruiting and retention is critical, but training to the required skill levels to operate the new platforms will be just as challenging. For the RAN, the introduction of new capability will require identifying new work practices and reprioritising old ones. The aim of this paper is to identify the personnel and training solutions necessary to ensure the quality and readiness of the RAN's future force.

## Personnel - The RAN's Greatest Challenge

The big, long-term issue that is critical to the ADF and the Defence Organisation is recruitment and retention. Our people provide our capability and our people enable our capability. We need to be able to compete effectively in a very competitive labour market. We need to be able to win our share of quality people.

Air Chief Marshal Angus Houston<sup>20</sup>

### Demographics

Australia faces major skills shortages, both in the immediate future and accelerating over the next two decades as baby-boomers retire and the number of young workers falls.<sup>21</sup> Australia's economic growth has been strong for 15 years, and looking to the future, the growth of India and China in particular will see the resources boom continue with high demand for workers in mining, transportation and communication.<sup>22</sup> The depletion of skills in some key occupations and the accelerating need for new skills, flowing from technological change will increase competitiveness within the employment market.<sup>23</sup> Demographic trends towards higher life expectancy and lower fertility rates are changing the age profile of the Australian population, with the average age steadily rising.<sup>24</sup> Analysis shows that Australia will experience a shortfall of approximately 195,000 skilled workers over the next five years.<sup>25</sup>

National skilled labour shortages are the result of current high employment levels and a 30-year trend towards down-skilling and de-skilling of the Australian workforce.<sup>26</sup> The ADF is particularly vulnerable to demographic changes and a shortage of highly skilled and capable military and civilian professionals is creating recruiting and retention challenges for Defence. Driven by the sustained high pace of operations; plans to grow the ADF, and the Government's strong investment in major capital acquisitions,<sup>27</sup> the RAN's demand for specialist and technical skills and experience is continuing to grow. External factors such as demographic change,<sup>28</sup> skills shortages, low unemployment and globalisation of the workforce are tightening the Australian labour market, which in turn is having a negative impact on the RAN's recruiting and retention efforts.<sup>29</sup>

### Recruiting and Retention

With a recruiting target of 10,700 recruits this financial year, Defence is the employer looking for the largest number of people in Australia.<sup>30</sup> The ADF has consistently failed to meet its recruiting targets and it is widely acknowledged 'people and skills shortages are the biggest challenge the ADF faces in the coming years'.<sup>31</sup> The 2006 *ADF Recruiting*



*and Retention Review* highlights that over the last 20 years employment enquiries to the ADF as a percentage of the Australian workforce have decreased from almost three per cent to about half a per cent. The ADF is generally a closed employment system with little scope for people without military experience to enter laterally,<sup>32</sup> although lateral transfers from allied or friendly services provide small numbers of recruits generally at the lower and middle rank levels.<sup>33</sup> Anecdotally, the retention of lateral recruits past their IMPS has not been overly successful and it is therefore questionable as a viable long-term personnel solution.<sup>34</sup> The current total Navy separation rate is 11.16 per cent,<sup>35</sup> while 36.5 per cent of all serving Permanent Navy (PN) Personnel are actively looking to leave the Navy.<sup>36</sup> Recent retention initiatives have reduced Officer separation rates to less than eight per cent,<sup>37</sup> however sailor separations remain at almost 13 per cent, well above the target range of 9-10 per cent. The current separation rate is not high by historical standards, however with the current challenges of recruiting, it is critical to retain people longer to gain an adequate return on investment and to the point where they become more effective in delivering capability. Interestingly, the ADF *Recruitment and Retention Review* revealed similarities between the length of time spent in a single job in the broader community and within the ADF,<sup>38</sup> reflecting a demographic trend away from employee commitment in the ADF and the community.

Results of ADF Exit Surveys show the main driving factors for leaving the RAN as being to break away from the rigours of military life, extended separations from family and lack of geographic stability.<sup>39</sup> The high operational workload in recent years, coupled with personnel shortfalls, has placed high demands on the Navy workforce both at sea and ashore. This workload has caused stress and fatigue and is a significant contributing factor to the relatively high separation rate. Many also leave to pursue more attractive and financially rewarding employment opportunities while still young enough.<sup>40</sup>

The ADF has 31 recognised critical employment categories,<sup>41</sup> of these the RAN accounts for 23.<sup>42</sup> Navy has put in place measures to stabilise and improve retention within those categories, however mostly without success. Short-term financial initiatives have been used to retain engineering, seaman and aviation officers, and technical, warfare and aviation sailors. However, such initiatives have been considered divisive,<sup>43</sup> largely reactive, and not addressing the core workforce issues.<sup>44</sup> A general perception is people who sign up to retention benefits were staying anyway.<sup>45</sup> While such schemes have been argued for on the basis of gaining sufficient time to put in place more enduring solutions to retention issues, rarely are such solutions reached and implemented. Stop gap measures such as retention bonuses invariably leave behind a complex mix of policies without addressing the underlying causes.

The 2007 *Defence Attitude Survey* shows that 56.4 per cent of RAN personnel consider civilian employment to be more financially attractive than Service employment – an increase from 38.6 per cent in 2004. Only 24.6 per cent are satisfied with their current salary compared with 42.4 per cent in 2004. With the range of allowances and non-

financial benefits available to uniformed personnel, and recognising that military employment functions in the main cannot be compared with civilian employment, it is difficult to draw comparisons with civilian salaries. Nevertheless, drawing a comparison between the rate of increase in ADF salaries, including service allowance, and the growth in Australian average weekly ordinary time earnings since 1985 shows an increase by 167 per cent, while ADF salaries including service allowance, have only grown by 130 per cent. Excluding service allowance, ADF salaries have only increased by 116 per cent.<sup>46</sup>

At the same time the technical levels of employment within the ADF have increased significantly and education standards for personnel recruited into the ADF have also grown. For the period 1991 to 2003, the percentage of ADF personnel with a certificate or diploma grew from 6 to 18 per cent, while those with a bachelor or higher degree grew from 9 to 17 per cent. The fact that many ADF personnel hold skills and qualifications that are highly valued in the broader community, and recognising the buoyant labour market, makes it little wonder that civilian employment is a preferred option.

The persistent failure to meet recruiting targets reinforces the need for Navy to take a more strategic approach to shaping its future workforce. The Navy has not come to terms with the challenges associated with its personnel structures, and the notion that people are simply replaceable is no longer viable. Focussing on recruitment and retention is not enough and new manpower policy and implementation plans must be developed. Drawing on the experience of Australia's allies shows similar recruitment and retention problems.<sup>47</sup> While there may be similarity in the challenges, it is important to consider the social, economic and cultural circumstances relevant to each particular country, therefore whatever measures are put in place must be specific to Australia's circumstances.<sup>48</sup>

To address current workforce challenges and risks, new strategies and actions are required that provide the direction needed to effect change at all working levels. These also need to include how the nexus between workforce and capability will be managed in order to recover critical short-falls. In order for planners to identify a sustainable approach to meeting the people element of capability, personnel policies and processes must be adapted. No longer can a traditional bottom-up approach to recruiting be taken.<sup>49</sup>

## The Impact of Industry

Competition with industry is currently placing a strain on Navy, particularly with many technical employment category sailors leaving the service in pursuit of lucrative employment opportunities. While advances in technology are continually expanding the capability edge which countries like Australia seek for their defence, the introduction of complex equipment and systems, whose operation and support require different levels of expertise will continue to pose significant personnel challenges to the RAN

and supporting Australian industries. Since the end of the Cold War, the demand for warships has declined considerably.<sup>50</sup> Naval shipbuilders are vulnerable to the scale and variability of demand, and because the overall scale and profitability of the sector has declined internationally, production in most countries has been rationalised. With falling demand, escalating costs of construction and of keeping pace with advances in technology, attracting and retaining skilled workers is a growing challenge in maintaining up-to-date naval shipbuilding capability. As a nation with an established naval shipbuilding industry, Australia confronts similar challenges in sustaining its shipbuilding industry, more so due to limited demand and lower economies of scale.<sup>51</sup>

'Australia's naval shipbuilding base is well-established and in recent years has become more efficient ... and highly skilled,'<sup>52</sup> producing a number of outstanding world-class vessels that showcase Australia's naval shipbuilding capability.<sup>53</sup> While Australia has a quality skilled labour base with the required skills, there are concerns that skilled labour shortages in a number of occupations are so significant as to adversely affect the successful delivery of the upcoming AWD and LHD build programs. While many commentators are confident that the workforce can be expanded to meet the challenges, others are less confident.

Mobilising labour for naval shipbuilding is also certain to sacrifice the capacity for repair, maintenance and upgrade of the current fleet. Australian Submarine Corporation (now ASC),<sup>54</sup> selected as the shipbuilder for Australia's \$6 billion AWD program in May 2005, acknowledges that the distribution of workload for producing the AWDs and the LHDs in parallel will not only make the retention of quality labour difficult, but will also require numbers in some categories of skilled personnel that are simply not available in Australia.<sup>55</sup> Australia's tight labour market, national skills shortages and historically low unemployment rates may not only impact on industry's ability to complete the projects, but on Navy's ability to meet the crewing requirements.

The Naval shipbuilding industry provides a catalyst for skills development and workforce growth but Navy needs to partner better with industry in order to retain access to key people and skill areas. Current skills shortages provide a significant but not insurmountable challenge for the local construction of both the AWD and LHD platforms, however, the ADF must consider making better use of working with stakeholders, particularly in industry.

## **Demand for Skilled Trades**

Recruitment and retention of military personnel is not a problem unique to Australia. Just as military establishments around the world are experiencing challenges in attaining and maintaining required workforce numbers, the commercial sector is experiencing similar problems and is competing locally and internationally to attract the required skilled labour force.

A 2003 Australian Defence Industry survey found that 40 per cent of businesses had been significantly constrained by a shortage of senior managers, 58 per cent by a shortage of professional staff, 48 per cent by a shortage of associate professionals and 67 per cent by a shortage of trades people. Defence estimates a workforce demand to support the construction, upgrade and in-service support for the AWD and LHD projects to increase by around 57 per cent, with a peak in 2012.<sup>56</sup> Despite the offer of high wages, many skilled workers with established homes and families will be reluctant to relocate from around the country to take up what is considered a spike in construction work, placing increased pressure on the skilled workforce demands for both projects.

Competition for many of the skills required by Defence industry is also particularly strong with the mining and resource sectors also competing for these skill sets. As Defence industry has moved further into private ownership, commercial pressures limit the willingness of firms to absorb the training costs to develop their own workforce.<sup>57</sup> Navy is being challenged to recruit, train and sustain the required workforce and industry is competing with Navy for skilled labour.

The resource and mining industry is booming, but in many areas growth is being hampered by shortages of skills and numbers – not just in individual companies, but also across the industry as a whole. The Mining Industry Skills Centre<sup>58</sup> is helping some of the world's leading mining companies to work together on industry-wide Strategic Workforce Planning to create a sustainable workforce for the industry's future. There are many characteristics that set the ADF apart from industry but there are also just as many shared traits for the ADF to learn from industry. Without quality people, or enough of them, organisations simply cannot survive in a competitive market without accepting that similarities in workforce issues exist. It is critically important for the ADF to understand the market forces that impact on recruiting and retention across the whole market spectrum.

## The Operating Environment

As we move into the 21st Century, the materiel challenges facing small and medium navies are not insignificant. In an environment of reduced budgets and manpower, new technologies with increasing levels of complexity, and new operational challenges, small and medium navies have a difficult task in ensuring they achieve the right materiel choices.

Sir Robert Walmsley<sup>59</sup>

## The Scope of Responsibility

Strategically, the Asia-Pacific region, due to its proximity, affects all aspects of Australia's security policy.<sup>60</sup> Australia is highly dependent on maritime trade, with more than 99.9 per cent by volume and 71.7 per cent by value, carried on the sea. Australia is the world's fifth largest user of shipping and its marine industries continue to grow, accounting for about eight per cent of gross domestic product.<sup>61</sup> Australia's geographic isolation from major trading partners requires uninterrupted and secure sea lines of communication (SLOC), in order to ensure economic prosperity and security.<sup>62</sup> The Asia-Pacific region has shown rapid change and growth in military capabilities deriving from growing economies, political maturity, generational change and environmental and demographic shifts. The maturing and shifting of international relationships between the major powers of China, India, Russia and the US will dominate security in the region and as maritime nations in the Asia-Pacific region continue to improve their capability, some may become more assertive in protecting maritime resources and SLOCs. Located in one of the most complex open ocean, littoral and archipelagic regions in the world, Australia's strategic environment is complex and rapidly changing, and as such the RAN's role in national security is likely to broaden considerably.<sup>63</sup>

## Doing Business

The RAN plays a major role in offshore sovereignty enforcement and is being required to operate increasingly in a constabulary role in Australia's littoral waters.<sup>64</sup> The RAN makes significant contributions to Defence assistance in the Civil Community and Defence Force aid to the civil power<sup>65</sup> while also participating in peace operations, economic blockades and Maritime Interdiction Operations. Further, a growing trend for the RAN is sanctions enforcement under diplomatic auspices. The rise of non-state actors and trans-national crime, such as the trafficking of people and weapons will add to the operational unpredictability.<sup>66</sup> The operational tempo of the RAN has steadily increased since the 1990-91 Gulf War, and as the RAN contributes to operations globally,<sup>67</sup> there is significant evidence to suggest that the trend will continue, and possibly expand. The RAN will continue to participate in a wide range of operations simultaneously around the globe which include operations in the Middle East, securing our own maritime borders, exercising with regional friends, and helping to maintain law and order in the region.<sup>68</sup>

The role of the future fleet will require operating for longer periods at potentially great distances from Australia and increasingly as part of a coalition force. Situations that arise are likely to be unexpected and complex, and the RAN and its enabling organisations must be structured to provide rapid and flexible logistics, training, personnel and administrative support to deployed fleet units operating at a high tempo in different parts of the world. The focus on expeditionary warfare is a global trend, and if Australia is to achieve an expeditionary warfare capability, fundamental

organisational changes will be required. Whether the RAN has the capacity and the capability to continue to achieve the demands placed on it by government will be dependent on future threat levels and the Navy's force structure.

## Personnel Tempo

Striving to do more with less has its limits. When your team is dwindling at the same time your demands are mounting, pressure is rising and the pace of work accelerating, there comes a point when doing any more with the little you have is no longer possible.<sup>69</sup>

Navy's workforce has been at a high operational tempo and under increasing workforce pressure for more almost two decades. With high trained workforce shortages and even higher training force numbers, increasing operational requirements and developments in technology that increase availability will continue to drive personnel tempo to even higher levels. The planned introduction into service of the LHDs and AWDs is increasing pressure on Navy planners to identify solutions for future personnel demands. There are currently a large number of categories where manning is already well below required levels of sustainability and the situation will be made even worse should current trends continue.<sup>70</sup>

At any given time, about 40 per cent of Navy personnel, with a larger proportion being from junior ranks, are posted to sea-going positions.<sup>71</sup> Sea postings are characterised by lengthy periods away from home, and traditionally, the demands have been offset, to some extent, by periods of respite in shore positions. Personnel shortages mean that personnel are not only spending more time at sea, but with fewer people available, are operating under equally demanding pressures when posted ashore. Insufficient numbers of suitably qualified and experienced personnel results in a downward spiral, as understaffing increases posting turbulence and causes more disenchantment with service life.<sup>72</sup>

As previously discussed, many are leaving the Navy to escape the rigours and frustrations of military life and as a consequence of extended and often unpredictable separations and geographic relocations.<sup>73</sup> The *2007 Defence Attitude Survey* results showed that 72.8 per cent of Navy people believed there are insufficient personnel in units to do the work, while 38.6 per cent believe their workload is excessive.<sup>74</sup> Perceived high remuneration and benefits of employment in the civilian sector along with social changes, including emphasis on geographic stability and certainty, dual incomes, spouse careers and children's education influence many to leave the RAN. Submariners in particular have been heavily targeted by the mining sector in Western Australia, offering improved work/life balance and large salaries to fill vacancies created by the commodities boom.

In civilian maritime employment, such as the Merchant Marine and Customs, employees are afforded more flexible employment conditions to compensate for the rigours of sea service and separation from their family. If the RAN aims to be an employer of choice in today's competitive employment market,<sup>75</sup> it must not only develop a comprehensive suite of recruitment and retention measures, it must also improve the employment conditions of service under which its people serve.

## Changing Technology – Forcing Change

An enduring challenge for Navy is the complexity of maritime warfare, combined with increased sophistication of platforms and weapons systems. Like many of its coalition partners, Australia faces a range of challenges including the changing maritime environment, absorbing new technologies for Network Centric Warfare (NCW)<sup>76</sup> and maritime coalition interoperability, and future force structure.

Since the 1990-91 Gulf War, the transformation of military technology has focused on the ability of new weapons, sensors, and networks to work together to strike targets with greater precision. Developments in computer power have dramatically improved the performance of ship weapons and sensors. Ships' systems are becoming increasingly automated allowing for the reduction in crew sizes. This transformation is being accomplished with smaller, more agile, and more dispersed forces linked together to form a network, rather than with a larger concentrated force.<sup>77</sup> With reduced budgets and manpower, the RAN is planning for the introduction of new platforms with new combat capabilities that feature significant advancements in technology with increased levels of complexity that will require increased levels of technical skills and competence.

The three AWDs planned to enter service from 2014 will be capable of providing the RAN and deployed ADF units with an air defence capability, either operating independently or as part of a joint force.

The Aegis combat system is the heart of the AWDs and is used in 86 ships from five other countries around the globe.<sup>78</sup> Designed to integrate the combined management of a task group's combat assets for air, surface and underwater operations, the AWD will be a key component for operations in Australia's immediate neighbourhood or for coalition operations. These highly capable ships will provide continuous, effective area air defence of a maritime force or land force operating in Australia's maritime approaches or deployed away from Australia, in both open-ocean and littoral environments.<sup>79</sup>

The Amphibious Deployment and Sustainment<sup>80</sup> project (JP 2048) will see two LHDs, the largest Navy ships ever built by Australian Industry,<sup>81</sup> enter service from 2012. The commissioning of the LHDs will see a quantum leap in amphibious capability, featuring the ability to operate four watercraft and up to 12 helicopters from one platform, and will be able to undertake a wide range of military, diplomatic and constabulary operations.

They will be able to transport and support approximately 1000 embarked troops, and provide command, aviation, medical and logistical support. The LHDs and AWDs will have a NCW capability to enhance command and control throughout assigned ADF assets and to properly integrate in high-end coalition operations. They will have a communications system capable of communicating with all ADF, allied, coalition and civil systems throughout the security classification spectrum.

The ADF's new MRH-90 maritime support helicopters<sup>82</sup> will be introduced into service from 2010 along with a new helicopter Aircrew Training facility at HMAS *Albatross*. The replacement of the Seahawk helicopter capability will ensure the RAN maintains anti-submarine warfare/anti-surface warfare helicopter capability to complement the AWDs. Development of the combat system, improved communications, and sonar integration will enhance the capability of the *Collins* class submarines, and the introduction of more capable sensor and weapon systems into the current fleet of *Anzac* and *Adelaide* class frigates will enhance air warfare effectiveness and complement the air defence capabilities of the AWD.

The ongoing naval technical revolution is moving to form part of what will become a truly Joint ADF capability, however, a major risk to introducing such capability will be meeting the workforce and training demands. In this time of major technological change, failing to reorganise the Navy and operate in new ways will risk the operational effectiveness of the future fleet. The introduction of the AWDs and LHDs may exacerbate current personnel problems; however, they will also present an opportunity to resolve them.

## Looking Ahead - A Seamless and Transformed Force

No matter how large or small your navy ... we all face similar internal constraints like shrinking budgets, ageing equipment, and populations that may not be attracted to military service. Our level of cooperation and coordination must intensify in order to adapt to our shared challenges and constraints. We have no choice in this matter, because I am convinced that nobody - no nation today - can go it alone, especially in the maritime domain.

Admiral Mike Mullen, USN<sup>83</sup>



## Integration and Interoperability<sup>84</sup>

With a backdrop of rising costs for ship construction, tightening funding and personnel constraints, Western navies have recognised the need to reduce their fleet size,<sup>85</sup> and to cooperate more closely with other militaries, coast guards and commercial shipping companies to manage threats and illegal activities.<sup>86</sup> A growing number of bilateral and multilateral maritime arrangements around the world are building relations and strengthening professional skills at every level. Integration and interoperability provide opportunities for personnel at all levels from navies around the world to interact, exchange ideas and professional expertise, and to gain an understanding of each other's cultures. They provide an opportunity for smaller nations to provide niche capabilities and to gain exposure by operating with more capable navies, in turn providing them with an opportunity to develop and become more capable themselves.<sup>87</sup>

Long years of training together, standardised doctrine, familiarity with each other's ways and habits, and the operating of compatible equipment ensures that coalition navies achieve and sustain the required levels of interoperability. This competence, and the ability of personnel to carry out a range of disparate activities simultaneously, ensures the RAN is able to call on its coalition partners to help fill gaps in its own capability when needed. This important aspect of coalition operations has long been the hallmark of the RAN and has been enhanced both regionally and internationally during the past two decades.<sup>88</sup>

## Operating Jointly

The Chief of Defence Force's vision for the ADF is for a 'balanced, networked and deployable force, staffed by dedicated and professional people, that operates within a culture of adaptability and excels at joint and coalition operations'.<sup>89</sup> The collocation of the Maritime, Air and Land environmental commands under a new Chief of Joint Operations Command in January 2009 to a purpose built Joint Operations Command Headquarters near *Canberra* represents a move to a truly integrated joint force.<sup>90</sup> AWDs working closely with the amphibious, hydrographic and mine warfare forces, Army land and aviation forces, with Airborne Early Warning and Control (AEW&C) aircraft, Over the Horizon Radar, tactical and wide-area unmanned aerial surveillance vehicles, ground-based air defense systems, the planned Joint Strike Fighters, and air-to-air refueling aircraft represent major steps towards a joint capability. However, the transition will bring with it significant structural and cultural challenges, far-reaching across service boundaries.

The experience gained in joint operations in the Middle East, East Timor and from ADF joint and international exercises, will assist the RAN to integrate with the other services, and to transition into a force that is interoperable with other agencies of the government and its coalition partners and allies. However, involving personnel from all three services, across a wider range of posting localities and employment

categories, employment principles and service cultures, will test all aspects of personnel management. The personnel transition for the future joint environment will be challenging and will require new training and systems to be established. Collective and individual training will play an essential role in force generation and if the intent of this concept is to be realised, single service, joint and joint-enabled training will need to be aligned to ensure a fully integrated and capable force. The challenge will be to integrate and operate across the spectrum of partners, operations and technology. While a viable and timely solution for the recovery of some critically undermanned employment categories may lie beyond the capacity of Navy, a solution exists in the Navy's commitment to joint operations.

### Enhanced – Alternative Crewing Arrangements

The Australian Government expects to be able to task Navy to the full extent of its materiel capability. Enhancements in technology, innovative maintenance regimes and logistics support arrangements have significantly increased the availability of fleet units for sea – a trend that will continue. With increasing operational workload coupled with personnel shortfalls, human endurance is becoming the limiting factor in providing capability. At a time when the lifestyle expectations of the broader Australian community is moving towards more worker friendly environments, Navy must adopt more people-friendly working regimes if it is to attract and retain a viable workforce. Without an effective and sustainable workforce, Navy will not be able to maintain its required levels of operational capability.

Warships should be manned such that the crew does not become the limiting factor in delivering capability. It has been long recognised that conventional manning of ships is no longer effective in providing the work-life balance, geographic stability and certainty that people have come to expect.<sup>91</sup> As change in technology results in less operator intensive machinery and systems, increased automation, change in ships' warfare capabilities, multi-skilling and minimum crewing, developments in crew functions, integration with the other services, and alternative crewing concepts need to be adopted.<sup>92</sup> Increasing personnel tempo is being driven by workforce shortages in key areas and developments in platform technology that increase platform operational availability. Alternative and flexible crewing strategies have been considered by navies around the world in order to improve the employment conditions of personnel at sea and to improve the work/life balance and the resultant negative effect on workforce retention without impacting adversely on platform capability.

The Royal Navy (RN) Squad Manning concept of manning Major Fleet Units (MFU) to 130 per cent – for Junior Sailors only, in theory provides the ability for warships to deploy 100 per cent manned whilst providing rest, respite and training to the remaining 30 per cent.<sup>93</sup> In June 2005 under the Sea Change program,<sup>94</sup> the RAN commenced a two-year trial of a similar concept called flexi-crewing in two *Anzac* class frigates. Also

only using Junior Sailors, the RAN was unable to find the extra *Anzac* class qualified Electronic and Marine Technical category sailors required, so HMAS *Warramunga* was withdrawn from the trial. HMAS *Arunta*'s trial was continued. However while the concept enhanced respite for Junior Sailors, it proved an administrative burden for managers and because it was not equitable across all ranks, proved counter productive in terms of retention.<sup>95</sup>

The United States (US) Navy employs a number of crewing strategies to achieve similar outcomes.<sup>96</sup> Already in use in smaller ships, the US Navy will shortly introduce multi-crewing in their much larger Littoral Combat Ships (LCS) as they come into service – operating in four crew/three ship squadrons. Similarly, the US Coast Guard intends to multi-crew their new National Security cutters (NSC) in the same ratio. The RAN's two hydrographic ships and 14 *Armidale* class Patrol Boats (ACPB) are multi-crewed,<sup>97</sup> anecdotally more successfully than flexi-crewing. Fly in/fly out operations are also used increasingly within the RAN to rotate crews, predominately from smaller ships, away from homeport.

Alternative means of meeting capability requirements through personnel and platform leasing arrangements should be considered as a viable option for varying demands. Leasing of the fast catamaran ferry HMAS *Jervis Bay* in May 1999 for two years during Operation STABILISE provides the option of ramping up for specific operations, then on completion releasing personnel back into the workforce.<sup>98</sup> Increasing interoperability with Australia's allies provides the opportunity for personnel leasing such as the recent use of eight US submariners, which has allowed RAN submarines to remain operational. Civilian crewing arrangements in the British Royal Fleet Auxiliary (RFA) Service and the US Military Sealift Command (MSC), a combination of military and civilian crews, or simply using commercially supported labour in a caretaker capacity for ships only when alongside are all options to be considered. The creation of an Australian Coastguard to help absorb coastal surveillance functions may need to be reconsidered,<sup>99</sup> although the impact of such an initiative would surely result in a further drain on the RAN's skilled workforce.

A range of alternative crewing methods is being employed in different forms within the RAN, allied navies and in other maritime organisations around the world with the aim of managing personnel tempo, improving individual work/life balance, and enabling and enhancing the maintenance of operational requirements.<sup>100</sup> Alternative crewing methods require the use of extra personnel above that required for a standard SOC. The Navy is constrained by an Average Funded Strength (AFS)<sup>101</sup> therefore offsets for alternative crewing concepts must be identified from within authorised workforce structures, invariably resulting in a further reduction of shore positions and shore posting opportunities. Already civilianisation and outsourcing of shore positions has impacted heavily on shore respite opportunities and training, which is discussed later in this paper. Alternative crewing options have the potential to improve the management

of personnel tempo and provide the employment conditions expected in today's competitive employment environment however determining whether alternative crewing solves problems or creates them may be the subject of another paper.

## An Integrated Workforce

Looking ahead, the RAN must transition from coordination of its many disparate workforce structures, activities and processes to total integration across the whole workforce spectrum. There is not only a need for the consideration of innovative crewing strategies and increased interdependence on allies and the other services. However if the RAN is to meet its strategic workforce demands, an answer surely lies in a more flexible workforce drawn from the PN, Naval Reserve (NR), Australian Public Service and civilian contractors. There has to be a higher level of integration among the services, but there must also be increased ability to draw upon reserves supported by industry to fill ongoing capability gaps. The Navy needs to have a workforce model with policies that provide and support opportunities for people to move freely between these groups.

With the current skills shortages facing the ADF and the broader community, the reserve forces provide an essential capability that operational and support planners are looking to make better use of. In recent years given the particularly high operational tempo environment, and the decrease in PN numbers, reservists have been - and will continue to be - an essential capability element.<sup>102</sup> In 2007, NR contributed to more than 2300 personnel deficiency days in the ACPB alone. As about 27 per cent of Defence civilian employees and 73 per cent of active NR personnel have previous permanent military experience,<sup>103</sup> the opportunity exists to take advantage of their skills and experience. With increasing use of reserves however, there is potential risk that as industry responds to the decreasing availability of employees in the marketplace, there will also be increased reluctance to release employees for reserve service. Legislation already exists to authorise the release of employees for reserve service so employees do not have to be permanently lured away from their civilian employer. Recent Government initiatives such as the Employer Support Payment (ESP) Scheme<sup>104</sup> have also made a difference to improve the attractiveness of Reserve service and the availability of reservists. The issue however remains that competition for skilled people remains high. Defence and industry need to continue working closely to cultivate and share scarce human resources and to improve employment flexibility between the sectors.

The demand for a limited supply of potential recruits and the introduction of emerging capability requires transformation of the RAN workforce to include personnel from the three services, Defence civilians, industry, and where necessary Australia's allies and coalition partners to form a seamless force. If the RAN is to meet current capability requirements and retain the flexibility to address future needs, it must adopt a totally

integrated workforce concept. Enhanced crewing arrangements must continue to be considered as an option to improve work/life balance expectations and retention, but Navy workforce planning and management must also be geared to deal with the ever-changing complex employment environment.

## Closing the Gap

The challenge is to shape, build and maintain a military capability that is versatile, adaptable and links easily with other arms of the Australian Government, allies and potential coalition partners – a capability that can meet and sustain the demands of diverse operations and partnerships.

*Defence Personnel Environment Scan 2025*

## Workforce Renewal

RAN capability is developed, managed and reported on by Fundamental Inputs to Capability (FIC) and 'personnel' must be considered the key input.<sup>105</sup> Without an appropriately trained, led and motivated workforce the RAN's ability to crew its ships and undertake its raise, train and sustain functions in turn inhibits Navy's ability to meet capability requirements. Developing and maintaining an appropriately trained workforce is the key to maintaining current and future Navy capability. When considering the delivery of new capability in the past, the RAN has anecdotally concentrated on the delivery of hardware. Inevitably, if a decision was required to trade cost and capability the decision was driven predominantly by the hardware, while personnel FICs were compromised. Personnel requirements, Human-Machine Interface considerations and workforce factors were all considered but when it came to the difficult decisions the provision of hardware more often than not was given higher priority. There are reasons for seeking modern, high-tech equipment, however, it provides a high degree of risk if personnel are not considered the primary FIC.

The RAN has undergone significant change since the Defence Reform Program (DRP) in 1996,<sup>106</sup> the impact of which on workloads should not be underestimated. Workloads are already perceived as being too high<sup>107</sup> and it is inevitable that implementation of further change will involve extra activity which will initiate a resistance to any more change, irrespective of the long-term benefits. The cultural reluctance to change within the RAN is also arguably a manifestation of an aversion to incurring and managing risk. Re-structuring in the past is considered to have impeded efficient work practices and while many believe change has been managed poorly, with unrealistic timeframes and often implemented prematurely, the need for change and continuous improvement is widely recognised.<sup>108</sup> Affecting the level of change required throughout Navy will

require personnel at all levels to be engaged in the process. With pressure mounting, strong leadership, communication and engagement will be required more than ever.

## Workforce Planning and Management

Workforce planning refers to the processes of determining the requirements for people in the organisation, and then seeking to ensure that the number of people and mix of skills is as close as possible within budget to the requirement.<sup>109</sup> Within the AFS constraints, the RAN's workforce demands are driven by the requirement to man its operational units and essential train, maintain and sustain activities – activities that are core functions.<sup>110</sup> Identifying and prioritising the RAN's core functions enables the development of an appropriately skilled workforce to carry out the required functions.<sup>111</sup> Where AFS is exceeded due to unexpected or sudden improvements in recruiting or a reduction in the rate of separation, usually due to downturns in employment within the civilian employment sector, the AFS surplus should be accommodated without markedly reducing recruiting or training targets. The AFS should be averaged over a number of years to preserve stability in workforce supply and if a reduction in AFS is required, reduced gradually over a period of time to dampen the effects to recruiting or training, and optimising the flow of personnel.<sup>112</sup>

While the Navy is experiencing significant pressure to develop and maintain the workforce it needs to deliver current capability, Workforce Planners are being challenged by the difficulties in determining the scheme of complement for platforms that introduce new equipment, require different skill sets and provide new operational outcomes. It is accepted that modelling needs to be developed largely from a platform and equipment based perspective but there is also a critical need to ensure that there is integration and synthesis between a strategic workforce model and the introduction of new platforms and capabilities into service. The forecast demand for future ships will continue to strain already critically manned categories, and the importance of timely and effective workforce planning to match force structure and tasking to the workforce, particularly as new capabilities are introduced into service, is clear. Yet, with the first of the AWD due into service in six years, the scheme of complement and full workforce implications, let alone training needs are still not understood.<sup>113</sup>

Traditionally, the RAN has sought to establish a workforce structure where capability generation at sea and personnel respite is brought into balance by a sea/shore posting ratio. With shortages in most Navy categories, the sea/shore posting cycle is no longer viable or credible for managing personnel tempo. Almost 41 per cent of Navy employment categories are assessed as critical, all of them sea-going.<sup>114</sup> Growing shortages pose significant risk for the sustainability of a number of categories and Navy capability. Major change has occurred in the way many workgroups are employed and consideration has to be given to the viability of current employment structures and philosophy.<sup>115</sup> Categories need to be flexible to respond to rapidly changing conditions,

both in the wider labour market and in the workplace. A move towards a competency based approach for meeting Navy workforce demands rather than relying on the outdated rank based models may provide a solution.

A key consideration in developing the SOC of a ship is the need to understand the mix of trade specific and whole ship duties carried out by any particular employment category. The Directorate of Strategic Personnel Planning and Research conducted an Occupational Analysis of all categories represented in surface ships and submarines in July 2006 to determine the percentage of a day spent undertaking trade specific functions in comparison to whole Ship duties. The report concluded that personnel, on average spend more than half of their work time performing whole of ship duties – or non-category specific duties. While such analysis is useful for validating and addressing current workforce structures and needs, applying Human Factors Integration principles<sup>116</sup> early in the design of future ships and systems would help determine manpower requirements in terms of personnel functions, tasks, skills and competencies for system users, operators and maintenance and support personnel.

Human Resource Management functions within Navy are complicated in that the key functions of Workforce Modelling, Workforce Planning, Workforce Management and Career Management are responsive to different authorities within the Navy command structure and appear to lack a coordinated strategic approach.<sup>117</sup> Workforce planning is particularly complicated by the large number of employment categories and qualifications, the large number and wide spread of Navy employment locations, the vast number of interested stakeholders with competing priorities, and the essentially closed nature of the military workforce. The challenges, in common with the management of any workforce, are the need to balance wastage, recruiting and overall strength while responding to changing needs and a changing environment. Navy's workforce challenges are likely to continue and will compromise Navy's capability if organisational and employment workforce structures are not rationalised.

## Training

The RAN is responsible for most of the training and development of its personnel to meet their specialised employment and career advancement requirements,<sup>118</sup> and 'there is perhaps no greater factor influencing the Navy's ability to fight and win at sea than the training and education of its personnel'.<sup>119</sup> The RAN has long been recognised as one of the largest and best training organisations in Australia, and its highly trained and well-educated workforce makes a valuable contribution to the nation's skilled workforce.<sup>120</sup> Currently the RAN is operating with a depleted workforce, with demand outstripping supply in many categories, in turn increasing the demands on serving personnel. The high turnover rate of some categories has resulted in a greater training demand and a reduction in average experience levels across the Navy, with a consequent adverse affect on proficiency. High levels of shortages exist particularly across the mechanical

and electronic engineering streams and it will take at least 10 consecutive years of improvements in recruiting, separation rates and training throughput, in order to achieve a sustainable recovery of some categories.<sup>121</sup> Competition for skilled labour is likely to continue well into the future and Navy's highly trained workforce will continue to be targeted by industry, challenging the RAN to meet the training demands for the introduction of the LHDs and AWDs into service.<sup>122</sup>

The operational and maintenance philosophy of warships is continually changing. Outsourcing of large amounts of maintenance work is impacting on many technical category sailors by limiting their professional employment satisfaction and restricting their ability to consolidate or enhance their competencies.<sup>123</sup> With outsourcing of maintenance and fewer positions at sea through minimum manning of ships, there are fewer opportunities to gain operator or maintainer competencies. Many who join the Navy to acquire, employ and develop their trade skills, ultimately become disillusioned and separate. Embedding with allied nations, other services and industry should be considered to remove some of the current training backlog,<sup>124</sup> and to help maintain and develop skills.

Main propulsion systems for the current fleet require gas turbine and diesel qualifications, and the high power electric propulsion systems in the LHDs will place even higher training demands on the Marine Technical and engineering sailor and officer workforce. With both these workgroups in critical demand, even if sufficient numbers are recruited, with current training constraints, it is unlikely that sufficient time has been allowed to train to the required skill levels to operate these new ships. Six years from introducing the AWDs, training support elements to provide individual and collective training on the highly technical Aegis combat system are also yet to be developed. Training needs for the introduction of new capability must be established much earlier in the project development stage.

Individual and collective training is particularly important for amphibious operations, which will require the alignment of single service and joint training. Operating the LHDs will require synchronised and integrated forces conducting collective and individual personnel Position Pre-Requisite training, and Whole Ship Position Pre-Requisite training. With crewing of the LHDs from all three services involving postings from a wider range of localities and varying categories, trades and skill levels, the personnel transition for the joint capability will be challenging, yet will also provide an opportunity to address current personnel and training constraints. Since DRP, trade or category training for some categories common amongst the three services is undertaken either totally or partially in a joint training environment.<sup>125</sup> Expansion of Joint training in some critical categories provides an opportunity to not only consolidate or rationalise training, but to also increase the use of appropriately qualified personnel from the other services.



Simulation and computer-based training must increasingly be considered as an alternative to traditional training methods in order to reduce the training impost on the fleet and trainees. Traditionally, classroom training and underway-training exercises have been used to establish and maintain operational command and control (C2) readiness in warships. Onboard Training Systems (OBTS)<sup>126</sup> are being fielded in warships around the world<sup>127</sup> to stimulate the C2 Systems in a synthetic training environment using real equipment. The RAN is introducing OBTS in its warships, synchronised with other navies, to link with the Maritime Warfare Training System at HMAS *Watson*, allowing high intensity C2 training and certification to be conducted while alongside in homeport. Eventually, OBTS will also link with a Joint Combined Training Capability.<sup>128</sup>

As Navy improves its integration with the other services, allied partners and industry, and movement between the different employment sectors increases, the RAN must ensure the efficiency and effectiveness of its Recognition of Prior Learning and Recognition of Current Competencies processes. While Australia's 'maritime forces are sensitive to technological change and quick to exploit the opportunities it offers,'<sup>129</sup> the introduction of future capability requires a greater investment in time, effort and cost in all aspects of the RAN's personnel and training.

## Solving the Problem

The range of personnel issues facing the RAN is extensive and complex, and there is no single solution to resolving the challenges. Navy is facing significant pressure to develop and maintain the workforce it needs to deliver capability, and with supply less than the demand, maintaining the required level of capability in the current high operational tempo environment will continue to place upward pressure on personnel demands within the Navy. The current global economic climate is providing people with employment options that afford them improved work/life balance and competitive remuneration packages. Because of the skills shortage, the private sector offers higher salaries to attract and retain skilled people, but the current processes for remuneration in Defence are too slow to respond and to compete with market forces.<sup>130</sup> The recent move to competency and experience based pay improves alignment with the private sector,<sup>131</sup> however, the ADF remuneration system must be further simplified to deal flexibly and responsively with market forces and workforce challenges.<sup>132</sup> Short-term financial incentives such as bonuses for different employment categories with critical skills shortages have arguably not been successful in stemming the flow of separations, showing that money is only part of the solution - the ADF cannot compete with industry on remuneration alone. The RAN must become more attractive to both potential recruits and those already serving, but people must be motivated to serve in the Navy - the RAN must be recognised as an employer of choice.

Establishing the right level of demand is a priority if the RAN is to manage the present and plan for the future. Establishing a credible SOC, and the necessary shore support for future platforms is critically important, however decisions need to be made much earlier in project development stages. Rationalisation of the personnel functions will ensure a coordinated strategic approach for the maintenance and delivery of the personnel capability. Adjusting structures and processes to include the other services, civilian and reserve workforce planning will ensure alignment with wider defence planning cycle.

While there is no single solution to the personnel problems faced by the RAN, increasing the use of RAN Reserve personnel has the potential to close the gap at least in the short term.<sup>133</sup> Navy must however ensure that management information systems are able to quantify the full capacity of the available NR workforce to provide increased surge and sustainment capability. Existing workforce structures may not be relevant for future platforms and the traditional filling of positions based on rank and qualification must be reviewed so competency – not just rank, is a considered option to meet demand. Establishing new personnel structures based on projected capability requirements may also provide a basis to rationalise the number of trades and qualifications, which will in turn reduce high training demands.<sup>134</sup> A restructured workforce management framework will also assist in determining achievable levels of capability delivery through relevant forms of crewing strategies. Several alternative crewing strategies have been explored, but they need to also consider broader issues such as crew rotation and reconstitution,<sup>135</sup> command and control, logistic support, information system requirements and integration with the broader Navy workforce. The RAN's geographic spread entails an unavoidable and increasing number of relocations for employment and training, particularly as personnel numbers decrease. The RAN has seven geographic employment locations,<sup>136</sup> including two major and two minor fleet bases.<sup>137</sup> Consideration should be given to reducing shore infrastructure and consolidating resources in the major fleet locations reducing posting turbulence and increasing the level of administrative support that has reduced since DRP.<sup>138</sup> ageing ships may need to be decommissioned or placed in reduced activity, so personnel can be released to commence training for the introduction into service of the LHDS and AWDs.

The operational demand upon Navy personnel and their families has steadily increased for almost two decades and it is not likely to abate any time in the near future; nor is the shortfall in the strength of the Navy's trained workforce. While reduced employment opportunities and increased uncertainty in the private sector as a result of a downturn in the global economy might improve recruiting and retention, the RAN's workforce planners must refine the shape and skill-mix of the force to provide the necessary skills to respond to new technology and missions of the future. The RAN will need to adapt to different operating environments, develop new skills and rebalance its capabilities and people if it is to remain prepared for the challenges of an uncertain future.

## Conclusion

There are many implications for an evolving Navy, particularly given emerging and unpredictable workforce trends. The global war for talent, Australia's ageing population and declining labour force is adversely impacting on the RAN's ability to meet its workforce demands, and is likely to continue for many years. Technology is driving social and organisational change, and changing demographics, economics, and the motivation to serve in the military are also influencing the RAN's ability to recruit and retain quality personnel. Recruitment and retention are as important to Industry as they are to Defence, so understanding the market place and the changing demographics is paramount for the RAN to be competitive. To account for the emerging workforce trends, the RAN must make significant policy changes in how it recruits, develops, and sustains its workforce; however 'the scale of the people challenges facing the [Navy] is beyond the scope of mere fine-tuning of process and policy'.<sup>139</sup>

Australia's strategic environment is extensive and complex and the RAN's role in maritime security will continue to place high demands on its people. The Navy will need to become more efficient and effective within personnel and funding constraints - 'working smarter, not harder'<sup>140</sup> to generate the Navy's workforce requirements. Australia's maritime strategy is a Joint strategy and while the RAN will adopt a range of new capabilities to cater for the wide spectrum of circumstances that might confront the ADF, the RAN must look closer to the other services, military allies, industry and the RANR to meet its workforce demands. A new generation Navy will see the introduction of increasingly capable and converging technologies, and the growing sophistication of systems that will demand people with higher professional skills across a wider range of disciplines. The RAN will continue to compete with industry for the recruitment and retention of skilled personnel, and while Navy recruitment rates must improve, new and innovative workforce planning, management, employment and training strategies must also be established to convert the high training force into high trained force numbers. Determining relevant new workforce structures and the optimal manning level for ships that provide the right mix of fully trained sailors and officers is critical if the RAN is to remain capable of meeting the demands placed on it by Government and within the workforce constraints.

The need to maintain both conventional capabilities while having to adapt, train and operate the new capabilities will continue to place a strain on personnel and training - and ultimately retention - if operational tempo is not reduced. The RAN needs to focus on its training to reduce the training backlog, and to grow its trained force for the future. Increased use of simulator and onboard training, and flexible learning packages need to be employed to grow the trained force.

The RAN will face many challenges in attracting and retaining the right people to deliver capability into the future, and while the LHDs and AWDs represent a significant level of improvement in maritime capability, their introduction also brings a significant

opportunity to introduce new personnel and workforce management and employment strategies. Major internal organisational re-structuring must also be undertaken, and Navy shore infrastructure rationalised to reduce the movement of personnel between the large number of training and employment locations. Alternative crewing arrangements, increased levels of integration with the other Services and industry, and interoperability and sharing with our Allies and coalition partners and greater use of the RANR will ensure Navy is able to continue to fight and win at sea well into the future.

Developing and maintaining an appropriately trained workforce is key to maintaining current and future Navy capability – personnel must be recognised as the key FIC. Planning for the future will require Navy to consider every aspect of its business in order to meet the personnel and training requirements for a future generation Navy. The level of structural change required will be significant and will challenge Navy culturally across all levels. Integral to any major organisational change is strong leadership and effective communication, and given the RAN's cultural aversion to change, implementing and managing the broad spectrum of change that is required over the coming years will require particularly strong leadership and support across all levels within Navy. In doing so, people – internal and external to the Navy, will need to recognise the RAN as an employer of choice – a place where people want to belong.

To facilitate publication of this important work the editors have removed a number of the original footnotes which referred to Department of Defence internal documents.

## Notes

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- <sup>1</sup> Department of Defence, *Defence Strategic Workforce Plan (DSWP) 2007 – 2017*, Canberra, 2007, p. 13.
- <sup>2</sup> The ADF needs to grow to a strength of 57,000 by 2016; up from 51,000 in 2006. Department of Defence, *2006 Defence Attitude Survey Summary of Results*, Canberra, 2007, p. 8. The *Defence Attitude Survey* is a voluntary survey conducted annually to canvass attitudes from a 30 per cent sample of the Defence organisation to obtain demographic and workplace data.
- <sup>3</sup> There are 30 separate sailor categories (3 of which are Naval Reserve) and 27 officer primary qualifications. Subspecialisations include technical qualifications, class of ship and ship

specific qualifications. Workforce management in the commercial sector has moved to multi-skilling to reduce the number of separate occupational groupings.

- <sup>4</sup> The importance of place in the global war for talent; <[www.humanresourcesmagazine.com.au/articles/07/0C044F07.asp?Type=61&Category=1564](http://www.humanresourcesmagazine.com.au/articles/07/0C044F07.asp?Type=61&Category=1564)> (17 October 2008).
- <sup>5</sup> Department of Defence, *Report of the Strategic Workforce Planning Review* (SWPR), Canberra, 2003, pp. 70-76; <[www.defence.gov.au/DPE/dpe\\_site/publications/SWPR\\_Report.pdf](http://www.defence.gov.au/DPE/dpe_site/publications/SWPR_Report.pdf)> (17 October 2008).
- <sup>6</sup> *Defence Personnel Environment Scan 2025* provides an in-depth study of the pressures facing the ADF over the next 20 years and beyond. J Reich, et al, *Defence Personnel Environment Scan 2025*, Department of Defence, Canberra, 2006; <[www.defence.gov.au/dpe/dpe\\_site/publications/DPES2025/index.htm](http://www.defence.gov.au/dpe/dpe_site/publications/DPES2025/index.htm)> (17 October 2008).
- <sup>7</sup> Young people make up the majority of new entrants in the ADF. The proportion of the population aged 65 and over, in 2006 was about 13 per cent, and is projected to rise to 18.7 per cent by 2021 and 26.9 per cent by 2051. *Defence Personnel Environment Scan 2025*, p. 283.
- <sup>8</sup> In May 2008, the Permanent Force includes a Trained Force of 9515, and Training Force of 3209.
- <sup>9</sup> Figures as of May 2008.
- <sup>10</sup> *DSWP 2007-2017*, p. 56.
- <sup>11</sup> The RAN only achieved 61.2 per cent of its recruiting target for the 2007-2008 period.
- <sup>12</sup> IMPS differ across occupations and are designed to ensure the ADF recovers a reasonable return of investment in individual recruitment, initial training and development. IMPS is determined by the duration and cost of individual initial training and 'on-the-job training' needed to attain a reasonable level of competency. IMPS for categories: less than 26 weeks training is 3 years; longer than 26 weeks is 6 years; all Officer Primary Qualifications (PO) is 9 years, (Pilot and Observer are 13 and 11 years respectively). Lateral transfers have been amended from 3 to 6 years.
- <sup>13</sup> For Project SEA 4000 - the Air Warfare Destroyer Program see <[www.defence.gov.au/dmo/awd/sea4000/sea4000.cfm](http://www.defence.gov.au/dmo/awd/sea4000/sea4000.cfm)> (20 September 2008).
- <sup>14</sup> For Joint Project (JP) 2048 - Amphibious Deployment and Sustainment Capability: Program see <[www.defence.gov.au/dmo/msd/jp2048/jp2048ph4.cfm](http://www.defence.gov.au/dmo/msd/jp2048/jp2048ph4.cfm)> (20 September 2008).
- <sup>15</sup> The AWD combat system, with the Aegis system at its core, is amongst the most advanced maritime air warfare capabilities available and ensures the Australian Navy will have unprecedented levels of interoperability with Australia's coalition partners and allies; see <<http://www.defence.gov.au/dmo/msd/jp2048/jp2048ph4.cfm>> (20 September 2008).
- <sup>16</sup> One LHD will replace HMAS *Tobruk*, an LSH which has a SOC of 150; the other LHD will replace one LPA which has a SOC of 241. A Strategic Sealift capability (yet to be formally approved) should replace the remaining LPA by around 2016. The three AWDs will use the crews of the existing four FFGs, which each have a SOC of 220, as an offset.
- <sup>17</sup> Includes commitment to invest \$3.1 billion on ADF recruitment initiatives over the next 10 years. *2006 Defence Attitude Survey Summary of Results*, p. 8.
- <sup>18</sup> The ability for an organisation to continue or maintain its workforce at a certain level or rate of throughput into the future. The challenge of attracting and retaining skilled labour is a significant challenge for all organisations regardless of size, type and sector.

- <sup>19</sup> The decision to procure the two LHDs, significantly larger than the 2000 Defence White Paper proposed, attracted criticism about their size. H White, 'Our Defence Chiefs are Thinking Big - Too Big', *The Age*, 13 July 2004; but see also B McLennan and GP Gilbert, 'Amphibious Ships - Bigger is Better,' *Quadrant*, September 2006, p. 57.
- <sup>20</sup> Air Chief Marshal Angus Houston, Chief of Defence Force, in *Defence Personnel Executive Magazine*, Nov/Dec 2005.
- <sup>21</sup> The Australian Bureau of Statistics (ABS) projects that, between 2005 and 2020 the number of persons aged 55 and over will increase by more than 50 per cent. <[www.abs.gov.au/Ausstats/abs@.nsf/mf/3222.0](http://www.abs.gov.au/Ausstats/abs@.nsf/mf/3222.0)> (10 July 2008).
- <sup>22</sup> P McDonald and G Withers, *Population and Australia's Future Labour Force*, Occasional Paper 1/2008, The Academy of Social Sciences in Australia, Canberra, 2008, p. 3.
- <sup>23</sup> Senate Employment, Workplace Relations and Education References Committee, *Bridging the Skills Divide*, Commonwealth of Australia, November 2003, pp. 3-4.
- <sup>24</sup> *Defence Personnel Environment Scan 2025*, p. 14.
- <sup>25</sup> *Defence Personnel Environment Scan 2025*, p. 28.
- <sup>26</sup> A change in school curricula, the move away from of apprenticeships and traineeships, outsourcing, the rise of generalists, and increased employment interest in clerical and sales positions in the service sector, until recent years, have led to de-skilling and down-skilling of the Australian labour market. *DSWP 2007-2017*, p. 67.
- <sup>27</sup> Including, but not limited to: AWDs, LHDs, MRH-90 Helicopters, New Air Combat Capability, Wedgetail Airborne Early Warning and Control (AEW&C), and Strategic Lift Ship capability. Department of Defence, *Defence Capability Plan, 2006-2016*, Canberra, 2006.
- <sup>28</sup> Some 78 per cent of new entrants recruited in the FY02/03 period were younger than 25, whereas only 1.7 per cent were older than 40. The 17-24 year-old group is forecast to peak around 2014, after which it is forecast to decline due to falling birth rates.
- <sup>29</sup> The October 2009 global economic downturn resulted in small numbers of sailors immediately withdrawing their applications to separate from the Navy, due to growing uncertainty within the public employment sector.
- <sup>30</sup> A Dickerson, 'Recruiting Now and in the Future', *Defence*, Issue 7, 2007/08, p. 10.
- <sup>31</sup> The Honourable Joel Fitzgibbon, Minister for Defence, Speech to the National Press Club of Australia, Wednesday 30 July 2008.
- <sup>32</sup> Direct entry recruitment into the Services is available for some selected employment categories for civilians with recognized qualifications in professional and specialist technical vocations. For example, Dental, Legal and Medical Officers.
- <sup>33</sup> In addition to recruiting from the Australian civilian population, Permanent Navy (PN) members are drawn from civilians with previous PN/ADF service, Naval reserves seeking transfer to the PN, in-service transfers of permanent and reserve members of the Army and RAAF, and lateral transfers from foreign forces. The majority of lateral recruits from foreign forces join from the Royal Navy (101 of the 126 that have joined since 2005, joined from the RN).
- <sup>34</sup> Approximately 126 officers and sailors have laterally transferred to the RAN since 2005, and approximately only 71 are still serving. Career managers comment that it is common for lateral transfers to only serve their IMPS, then discharge to join the wider Australian

Workforce. The recent move to applying 6 years IMPS instead of 3 will ensure a greater return of investment in transfer and training costs.

- 35 The PN 12 month rolling separation rate at 31 May 2008, was Officers 6.02 per cent, Sailors 12.73 per cent, and total Navy 11.16 per cent (as of May 2008).
- 36 Department of Defence, *2007 Defence Attitude Survey Summary of Results*, Canberra, 2008, p. 5, see <[www.defence.gov.au/DPE/DPE\\_SITE/publications/2007\\_Defence\\_Attitude\\_Survey\\_Summary\\_of\\_Results.pdf](http://www.defence.gov.au/DPE/DPE_SITE/publications/2007_Defence_Attitude_Survey_Summary_of_Results.pdf)>. (18 October 2008).
- 37 Officer separation rates have historically been lower than sailors, however the current rate which is lower than usual is likely as a result of the introduction of the Graded Officer Pay Structure (GOPS) in 2007. The Graded Other Ranks Pay Structure (GORPS) for Sailors, which commenced in 2007 is yet to be finalised (as of December 2008).
- 38 *Review of ADF Recruitment and Retention*, p. 45.
- 39 Geographic instability results from movements or postings to ships and bases around Australia and overseas, often at short notice. A lack of stability and certainty, and the short duration of postings invariably impacts on family life and lifestyle of the individual.
- 40 *Review of ADF Recruitment and Retention*, p. 46.
- 41 A category is classified as 'critical' when the supply of personnel in terms of numbers, competencies and experience will not meet the organisational demand in a 10-year period, and the shortage is such that it could severely limit the range of strategic or operational options available to achieve the mission. Critical categories are often in specialised fields that are also in short supply in the broader Australian labour market. See the *Defence Strategic Workforce Plan 2007 – 2017*.
- 42 Some 15 of the RAN's 23 critical categories (including Communication Information Systems, Aviation Technical, Acoustic Warfare Analysis, and Naval Police coxswain) have more than 20 per cent shortfalls across all ranks. Three of the categories are submarine specific (Marine Technical, Electronic Technical and Cryptologic Systems) and have more than 50 per cent shortfall across all ranks. (as of May 2008).
- 43 Such initiatives have also resulted in resentment amongst the workforce because some personnel are offered a retention bonus while others either in a different category or in a different rank do not qualify. This has resulted in a situation whereby some personnel at lower ranks are paid more than their Leaders – many feel less valued as a result.
- 44 In December 2006, the Government committed \$226 million for bonuses and allowances for ADF personnel in positions or areas of employment with skill set and retention problems. Bonuses of up to \$25,000 (\$60,000 for submariners) was paid to attract personnel to serve for an additional two years. *2006 Defence Attitude Survey Summary of Results*, p. 10.
- 45 Only 53.6 per cent of personnel who accepted a retention bonus believe it influenced their decision to stay in the Navy. *2007 Defence Attitude Survey Summary of Results*, p. 13.
- 46 *Review of ADF Recruitment and Retention*, pp. 46-47.
- 47 The US Department of the Navy recognises the need for a 'Full Human Capital Strategy' to deal with new threats, emerging technologies, and changing concepts of operations, which are all combining to place new demands on sailors. National Academy of Sciences, *Manpower and Personnel Needs for a Transformed Naval Force*, National Academies Press, Washington DC, 2008.
- 48 *Review of ADF Recruitment and Retention*, p. 17.

- <sup>49</sup> *Review of ADF Recruitment and Retention*, p. vii.
- <sup>50</sup> ASC submission to Senate Foreign Affairs, Defence and Trade References Committee of the Australian Parliament, *Improving the Cost-effectiveness of Naval Shipbuilding in Australia*, March 2006, p. 12.
- <sup>51</sup> The Senate Standing Committee on Foreign Affairs, Defence and Trade, *Blue Water Ships: Consolidating Past Achievements*, Commonwealth of Australia, December 2006, p. xix.
- <sup>52</sup> *Blue Water Ships: Consolidating Past Achievements*, p. xv.
- <sup>53</sup> The recent conversion of the commercial auxiliary oil tanker *Delos* – now HMAS *Sirius*, into an underway-refuelling ship now is considered ‘...one of [Defence’s] most successful shipbuilding projects...’ Other recent successful build programs include the *Anzac* class frigates and ACPBs. See *Blue Water Ships: Consolidating Past Achievements*, p. 65.
- <sup>54</sup> Established in 1985, ASC (formerly the Australian Submarine Corporation) was the prime contractor for the design and construction of the RAN’s fleet of six *Collins* Class submarines. The AWD shipbuilding contract was contested between ASC and Tenix.
- <sup>55</sup> *Improving the cost-effectiveness of Naval shipbuilding in Australia*, p.16.
- <sup>56</sup> *Blue Water Ships: Consolidating Past Achievements*, pp.135-136.
- <sup>57</sup> *Defence Personnel Environment Scan 2025*, p. 269.
- <sup>58</sup> The Mining Industry Skills Centre was established as a collaborative venture between the mining industry and government, for the development and implementation of training initiatives for the development of a sustainable workforce to meet the mining industry’s current and future needs. See <[www.miskillscentre.com.au](http://www.miskillscentre.com.au)> (18 October 2008).
- <sup>59</sup> Sir Robert Walmsley, ‘Materiel Challenges Facing Small and Medium Sized Navies,’ in David Wilson, (ed), *Maritime War in the 21st Century*, RAN Sea Power Centre, Canberra, 2001, p. 13.
- <sup>60</sup> With 37,000 kilometres of coastline, Australia’s ocean territory totals more than 16 million square kilometres extending from islands in the tropics to Antarctic waters Add the extended continental shelf and the area increases to more than 20 million square kilometres making Australia responsible for the second largest maritime zone in the world. Australia’s maritime search and rescue responsibility is 53 million square kilometres – representing more than 10 per cent of the earth’s surface.
- <sup>61</sup> Warwick Gately, and Cameron Moore, ‘Protecting Australia’s Maritime Borders: The Operational Aspects’, in Martin Tsamenyi, & Chris Rahman, (eds), *Protecting Australia’s Maritime Borders: The MV Tampa and Beyond*, Wollongong Papers on Maritime Policy No 13, Centre for Maritime Policy, University of Wollongong, Wollongong, 2002, p. 38.
- <sup>62</sup> Key SLOCs include the South China Sea, the Straits of Malacca, Singapore, Sunda and Lombok. It is estimated that more than half the world’s merchant fleet sails through these straits and the South China Sea. Joint Standing Committee on Foreign Affairs, Defence and Trade, *Australia’s Maritime Strategy*, Canberra, 2004, p. 101.
- <sup>63</sup> An ever-widening range of security challenges of various types in the Asia – Pacific region and in the Middle East are recognised in the 2007 Defence Update. Department of Defence, *Australia’s National Security – A Defence Update*, Canberra, 2007.
- <sup>64</sup> Royal Australian Navy, *Australian Maritime Doctrine*, RAN Doctrine 1, Canberra, 2000, pp. 65-69.



- <sup>65</sup> Including: 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; and Civil enforcements – customs, immigration, quarantine, fishery and resource enforcement in the EEZ and protection of the marine environment.
- <sup>66</sup> *Australia's National Security – A Defence Update*, 2007.
- <sup>67</sup> The RAN has been involved in the support of operations for countries in East Africa, the Middle East, the Indian Ocean, Southeast Asia and Pacific Ocean regions. Sea Power Centre – Australia, *Database of Royal Australian Navy Operations, 1990-2005*, Working Paper No 18, Defence Publishing Service, Canberra, 2005.
- <sup>68</sup> Royal Australian Navy, *Plan Blue 2006*, Canberra, 2006, pp. 1-9. *Plan Blue* articulates Navy's long-term strategic vision for future Navy capability development. See <[www.navy.gov.au/Publication:Plan\\_Blue](http://www.navy.gov.au/Publication:Plan_Blue)> (18 October 2008).
- <sup>69</sup> Quote from Catherine Smyth in *Workforce Strategy in Defence*, Personnel Executive Issue 9, 2007/08 (Defence Internal document).
- <sup>70</sup> Some 72 per cent of officer employment categories or PQ are undermanned, with 61 per cent undermanned by 10 per cent or more. 67 per cent of sailor categories are undermanned, with 45 per cent undermanned by 10 per cent or more. 77 per cent of the larger categories are undermanned by 10 per cent or more at critical ranks of Petty Officer and Leading Seaman. (as of May 2008).
- <sup>71</sup> At 31 May 2008, there were 439 officer and 3558 sailor approved positions at sea, out of a total structure of 10,105 positions.
- <sup>72</sup> Some of the consequences of shortages include personnel tempo exceeding policy limits through higher demands to cover vacancies, platforms currently sailing with vacancies, and workforce churn which increases as personnel are posted earlier in their posting cycle to cover higher priority vacancies.
- <sup>73</sup> *Review of ADF Recruitment and Retention*, p. 46.
- <sup>74</sup> *2007 Defence Attitude Survey Summary of Results*, pp. 8-9.
- <sup>75</sup> For the Sea Change Implementation Management and Reporting System see <[www.navy.gov.au/SCIMARS/ProjectSheet.ASP](http://www.navy.gov.au/SCIMARS/ProjectSheet.ASP)> (14 September 2008).
- <sup>76</sup> NCW is 'an information superiority-enabled concept of operations that generates increased combat power by networking.' NCW relies on computer processing power and networked communications technology to provide a shared awareness of the battle space. See DS Alberts, JJ Garstka, and FP Stein, *Network Centric Warfare: Developing and Leveraging Information Superiority*, 2nd Edition, CCRP Publications, Washington, 2001, p. 2.
- <sup>77</sup> China's emergence as a global power is a good example of the trend in 'qualitative efficiency based on advanced technology rather than quantitative force based on manpower.' *Blue Water Ships: Consolidating Past Achievements*, p. 11.
- <sup>78</sup> Aegis is the preferred maritime anti-air weapon system for the US, Japan, South Korea, Norway and Spain. The Aegis Weapon System, <[www.globalsecurity.org/military/systems/ship/systems/aegis-core.htm](http://www.globalsecurity.org/military/systems/ship/systems/aegis-core.htm)> (17 October 2008).
- <sup>79</sup> Royal Australian Navy, *The Navy Contribution to Australian Maritime Operations*, RAN Doctrine 2, Defence Publishing Service, Canberra, 2005, p. 90.

- <sup>80</sup> The Joint Amphibious Capability Implementation Team was established in September 2006 to coordinate the delivery of the ADF amphibious capability.
- <sup>81</sup> At almost 28,000 tonnes full load displacement, 230 metres in length and nearly 5000 square metres of flight deck, the LHD will be three times the size of the LPA, and 8,000 tonnes larger than the Navy's largest ever ship, the aircraft carrier HMAS *Melbourne*.
- <sup>82</sup> 'MRH 90 to Replace Sea King and Black Hawk Helicopters', 19 June 2006, the Government announced the acquisition of 34 MRH 90 helicopters to replace Navy's Sea King and Army's Black Hawk helicopters. See <[www.defence.gov.au/media/download/2006/jun/20060619.cfm](http://www.defence.gov.au/media/download/2006/jun/20060619.cfm)> (16 September 2008).
- <sup>83</sup> Admiral Mullen, then US Chief of Naval Operations, in his address to the 17th International Seapower Symposium, 21 September 2005, Newport, Rhode Island.
- <sup>84</sup> Interoperability is the ability of systems, units, or forces to provide data, information, materiel, and services to and accept the same from other systems, units, or forces and to use the data, information, materiel, and services so exchanged to enable them to operate effectively together. US Defense Acquisition Guidebook, <[akss.dau.mil/dag/DoD5000.asp?view=document&rf=GuideBook\IG\\_c4.4.10.asp](http://akss.dau.mil/dag/DoD5000.asp?view=document&rf=GuideBook\IG_c4.4.10.asp)> (11 October 2008).
- <sup>85</sup> Since the 1990-91 Gulf War, the US Navy has downsized its fleet from just under 600, to almost 300, and many other smaller navies have also reduced their fleet size. FWCrickard and PT Mitchell, 'Introduction', in FW Crickard, PT Mitchell, and K Orr, (eds), *Multinational Naval Cooperation and Foreign Policy into the 21st Century*, Ashgate, Aldershot, 1998, p. 2.
- <sup>86</sup> Globally, there is increased prominence of territorial disputes and regional confrontation; growth in intra-state hostilities and confrontation (political, cultural, ethnical); the proliferation of weapons of mass destruction; piracy, terrorism and organised crime (including arms, human and drug trafficking).
- <sup>87</sup> RAN Clearance Divers formed the bulk of the specially formed Clearance Diving Team 3 to secure the Kuwaiti coastline during the Gulf War in 1991. In 2003, a team of thirty RAN divers were integrated with 150 US and British specialists to form an underwater mine counter measures task unit to clear the ports of Umm Qasr and Az Zubayr. In the Indian Ocean Tsunami relief operations, Australia's amphibious capabilities provided humanitarian relief to victims in Indonesia while RAN hydrographic units were used to locate beach-landing sites for amphibious support landings.
- <sup>88</sup> Australia successfully led a multinational peacekeeping force in East Timor in 1999 - Operation STABILISE. Although Australia led the operation, the US provided intelligence, planning, transport, logistics and communications support. Common doctrine, standards, systems and equipment allowed the US to interoperate to great effect with the ADF. Resting on the reputation of the ADF, Australia's credibility as a leader of a major military coalition was proven in East Timor.
- <sup>89</sup> Department of Defence, *Joint Operations in the 21st Century*, Defence Publishing Service, Canberra, 2007, p. i.
- <sup>90</sup> A Croft, 'HQJOC - Bungendore move on track', *Defence*, Issue 7, 2007/08, pp. 30-32.
- <sup>91</sup> A finding of the RAN's Sea Change Implementation Team was the need to consider alternative crewing options to improve personnel work/life balance and certainty. See <[www.navy.gov.au/SCIMARS/ProjectSheet.ASP](http://www.navy.gov.au/SCIMARS/ProjectSheet.ASP)> (20 October 2008).

- <sup>92</sup> MA Dolfini-Reed, ME Koopman, KS Lawler, *Alternative Sea Manning Concepts: Practices and Policy Implications*, CNA, Alexandria VA, 2006, <[www.cna.org/documents/D0013455.A2.PDF](http://www.cna.org/documents/D0013455.A2.PDF)> (20 October 2008).
- <sup>93</sup> Only Junior Sailors are used in Squad Manning because of lower numbers and greater specialist skill and knowledge requirements at higher ranks. *Alternative Sea Manning Concepts: Practices and Policy Implications*, pp. 40-41.
- <sup>94</sup> Launched by Chief of Navy in September 2004, Sea Change was a Navy-wide program designed to address a wide range of personnel-related concerns. Initiatives included improved access to and advice on career management, improved education and professional development opportunities, improved consultation, trialling alternative crewing to improve work and life balance, more improved sequencing of training, and overhauling transition, transfer and re-entry processes for permanent and Naval reserves. The program ceased on 3 October 2008, to become 'business-as-usual.'
- <sup>95</sup> Anecdotally, despite years of research and scientific evaluation to determine a sustainable alternative crewing model, when considering the proposed Flexi-Crewing model, senior Australian Navy leadership, decided to make changes without supporting analysis, and implemented a trial which arguably had a negative impact on the outcome.
- <sup>96</sup> Rotational Crewing, Extra Manning, pools and optimal manning. *Alternative Sea Manning Concepts: Practices and Policy Implications*, p. 1.
- <sup>97</sup> The Hydrographic ships employ three crews for two ships while the 14 APCBs are divided into three squadrons of four hulls/six crews and one squadron of two hulls/three crews (total of 14 hulls and 21 crews).
- <sup>98</sup> This 86-metre fast wave piercing high-speed catamaran built for commercial ferry service, was chartered for a two-year period directly from the builder, INCAT Australia, and became affectionately known as 'The Dili Express'. Its success in this operation was to have a major influence on the force structure considerations of many of the world's defence forces, including that of the US who have since entered into leasing and purchasing arrangements for four of the INCAT hulls.
- <sup>99</sup> An Australian Coastguard was proposed to be established to take pressure off the Navy giving it greater flexibility to use its fleet for defence operations, and preventing a repeat of events where the Navy was forced to divert frigates and survey vessels for routine surveillance and interdiction. See Mark Latham and Robert McClelland, *Australian Labour Party Policy Document*, 2004. This has since been revised by the Rudd Labour Government.
- <sup>100</sup> The Sea Change program examined a range of alternative crewing options: Enhanced Standard Crewing; Supplementation (Flexi-Crewing); Multi-Crewing; Modular-Capability 'Bricking'/Manning to Mission Crewing; Merchant Marine-Outsourcing Crewing, and Hybrid Manning-Civilian/Military crew mix. Alternative Crewing methods currently employed by other Navies, considered by Sea Change: RN Squad Manning; Three Watch Manning; RFA; US Navy Modular/ Multi-Crewing (LCS program); MSC; Sea Swap; USCG Multi-Crewing (NSC program); Danish Navy Modular (SF 300); Australian Customs Patrol vessels (Multi-Crew) and the RAN Flexi-Crewing Trial. See <[www.navy.gov.au/scimars/ProjectSheet.ASP](http://www.navy.gov.au/scimars/ProjectSheet.ASP)> (18 October 2008).
- <sup>101</sup> The AFS is a budgetary measure used to count the average number of ADF members paid on a full-time equivalent basis during a financial year. Staffing numbers for Permanent Forces are based on average funded strengths and includes Reservists undertaking full-time service.

- <sup>102</sup> The number of Navy Reservists undertaking full-time service during the 2004-2005 period was 262. During the 2005-2006 period, 500 reservists were employed in a Continual Full Time Service (CFTS) capacity within the Navy. Those reservists who provide up to 150 days each per year, not on a CFTS are not included.
- <sup>103</sup> *Review of ADF Recruitment and Retention*, p. 69.
- <sup>104</sup> ESP provides financial assistance to eligible employers to help offset the costs of releasing employees for reserve service. The scheme is available 'to all employers including government organisations, public and proprietary companies, private employers, discretionary or unit trusts and self-employed Reservists.' See <defencereserves.deadline.net.au/asp/home.aspx> (20 October 2008).
- <sup>105</sup> The Personnel FIC includes recruiting, individual training, developing and retaining people with appropriate skills to meet demand. It includes all personnel within Defence; military (PN and NR) and civilian, although additional criteria are imposed upon military personnel who must also satisfy individual readiness requirements such as medical and dental standards, physical fitness and availability. The personnel FIC also includes conditions of service and employment, including entitlements, salaries and wages, superannuation and allowances.
- <sup>106</sup> The Defence Reform Program an outcome of the Defence Efficiency Review of 1996, resulted in Defence support and administrative functions including logistics, engineering support, officer education, common technical training, personnel management, estate management, information management, and regional and base support consolidation and cuts to maximise efficiency with 3100 Defence civilian and 4700 military positions being cut. See <www.defence.gov.au/minister/der/facts.htm> (12 September 2008).
- <sup>107</sup> *2007 Defence Attitude Survey Summary of Results*, pp. 8-9.
- <sup>108</sup> Some 54 per cent of Navy personnel are satisfied that change occurs for a reason. *2007 Defence Attitude Survey Summary of Results*, p. 2.
- <sup>109</sup> ADF workforce numbers are set by Government and managed by Average Funded Strength, a budgetary measure to determine the number of permanent personnel required by each Service.
- <sup>110</sup> Additional to filling Service-specific positions, Navy is required to contribute to manning within the wider defence environment including organisations such as Joint Operations Command, Defence Materiel Organisation and Defence Support Group, placing added demand on critically short categories. Balancing this demand within existing workforce numbers is an added challenge for workforce planning in the Navy.
- <sup>111</sup> *Defence Strategic Workforce Plan 2007 - 2017*.
- <sup>112</sup> *Review of ADF Recruitment and Retention*, pp. 12-14.
- <sup>113</sup> *Review of ADF Recruitment and Retention*, p. 71.
- <sup>114</sup> Some 23 Navy employment categories including Principal Warfare Officers, Marine Engineer and Weapons Electrical officers, sailor categories including and Communication Information Systems, Acoustic Warfare Analysis, Naval Police Coxswain, Marine Technical, Electronic Technical and Cryptologic Systems and almost all Submarine categories are assessed as critical. For example The Machine Technical submariner category has a demand for 181, and only has a strength of 83, while the Electronic Technical submariner category has a demand for 127, with a strength of 60. (as of 31 May 2008).
- <sup>115</sup> Because workforce structures are rank vice competency based, many categories have difficulty in sustaining throughput to the higher ranks. Pushing the high-level specialist

technical skill requirements down from the most senior rank of Warrant Officer to the next rank of Chief Petty Officer would allow those at the higher rank to be utilised in more broad general Service leadership and management roles.

- <sup>116</sup> Human Factors Integration is the process used by a number of industries and Defence around the world to integrate human factors elements (manpower, personnel, training, human factors engineering, health hazard assessment, and system safety) into the systems engineering process to define and optimise the relationship between human performance and core systems architecture and equipment. See <[www.hfidtc.com/index.htm](http://www.hfidtc.com/index.htm)> (11 October 2008).
- <sup>117</sup> Whilst workforce planners and modellers maintain a long-term focus, workforce managers are often consumed with current issues that require a short-term focus.
- <sup>118</sup> Five Training Authorities are responsible for the development, delivery and quality of individual training – Training Authorities: Initial Training, Leadership and Management; Maritime Warfare; Logistics; Aviation, and Submarines.
- <sup>119</sup> A Dickerson, ‘Training and Development Essential for Navy Success’, *Defence*, Issue 2, 2007/08, p. 32.
- <sup>120</sup> Navy is a Registered Training Organisation and Navy training is nationally accredited wherever possible. Audited against the requirements of the Australian Quality Training Framework, Navy is among the top five per cent of nationally registered training organisations in terms of its compliance and continuous improvement processes. See <[www.navy.gov.au/Publication:Sea\\_Talk\\_Autumn\\_2005/Auditors\\_give\\_RAN\\_training\\_top\\_rating](http://www.navy.gov.au/Publication:Sea_Talk_Autumn_2005/Auditors_give_RAN_training_top_rating)> (10 October 2008).
- <sup>121</sup> *Defence Strategic Workforce Plan 2007 – 2017*.
- <sup>122</sup> Cyclical patterns of the main employment industries, the pace of technological change, and changes in the sources of skilled labour, have also reduced the traditional training ground and supply of skilled engineering labour. *Blue Water Ships: Consolidating Past Achievements*, p. 137.
- <sup>123</sup> About 87 per cent of ADF respondents to the Defence Attitude Survey consider that ‘too many Defence services/roles are outsourced to contractors’. Department of Defence, *2005 Defence Attitude Survey Results Report*, Canberra, 2006.
- <sup>124</sup> Due to minimum manning of ships and the limited availability of accommodation for trainees, many Technical category sailors who undertake lengthy category training, are often held up for significant periods of time before they can proceed to sea to attain trade competency. Often sailors lose motivation to serve in the RAN and separate. For other categories, long training delays due to limited training capacity is having the same impact.
- <sup>125</sup> For example the ADF School of Catering, at HMAS *Cerberus* in Westernport Victoria administers the ADF Initial Cook and Steward Training which is Tri-Service and delivered in partnership with Chisholm Institute. Cryptologic Systems Linguist sailors also undergo tri-service training at the ADF School of Languages in RAAF Base Williams in Laverton near Melbourne.
- <sup>126</sup> JR Cooley, *On-Board Training for Naval Combat System Readiness*, AAI Corporation, Hunt Valley MD, undated, at <[www.siaa.asn.au/get/2395379117.pdf](http://www.siaa.asn.au/get/2395379117.pdf)> (01 November 2008).
- <sup>127</sup> The Dutch, US Navy, UK, and Canadian Navies, and now the RAN are increasingly using Onboard Training Systems.

- <sup>128</sup> The Joint Combined Training Capability is a combined Australian/US initiative designed to enhance high-end bilateral training to enhance joint and combined training using a networked approach. The network links training management systems, training areas, simulators, headquarters and units. See <[www.defence.gov.au/capability/jctc/](http://www.defence.gov.au/capability/jctc/)> (29 October 2008).
- <sup>129</sup> *Australian Maritime Doctrine*, RAN Doctrine 1, p. 123.
- <sup>130</sup> Pay and pay-related allowances are determined by the Defence Force Remuneration Tribunal, an independent tribunal established under the Defence Act 1903.
- <sup>131</sup> A major milestone for improving Navy pay was the introduction of the GOPS in 2007 and GORPS in 2007, which is yet to be finalised. Both will provide greater financial reward for upskilling and promotion in targeted employment categories.
- <sup>132</sup> *Review of ADF Recruitment and Retention*, p. 60.
- <sup>133</sup> With 4171 Naval Active Reserves and only 1,110 rendering part-time service, a further 462 undertaking Continual Full-Time Service, and another 3801 Naval Standby Reserves, the combined Naval Reserve force provides a viable option for Navy's current workforce shortfalls (as of May 2008).
- <sup>134</sup> Currently a large number of platform and equipment specific skills and qualifications are required for technical categories. With planned technological changes in future platforms, and to simplify structures, consideration should be given to restructuring technical categories into Hydraulics and Pneumatics, Electronics, Mechanical and Aviation categories.
- <sup>135</sup> Reconstitution is a component of the phases of operations immediately following an operation. The preparedness cycle is complete when reconstitution to a directed level has been achieved, including immediate maintenance, rest and recuperation, and redistribution of supplies and systems, if necessary.
- <sup>136</sup> Australia's land mass is 7.8 million square kilometres in total. Approximate distances between Shore establishments are: 3950 km between the two major fleet bases at HMAS *Stirling* south of Perth and Garden Island in Sydney; or 3500km between the main training establishment at *Cerberus* - south of Melbourne and *Stirling*; or 3200 km from *Cerberus* to HMAS *Coonawarra* in Darwin, or more than 6000 km between *Stirling* and HMAS *Cairns*.
- <sup>137</sup> By comparison and similar in workforce size to the RAN, the Canadian Navy has two shore and two fleet bases for 9000 personnel while the Netherlands, also a much smaller country, has four fleet and four shore bases for about 13,000 personnel (including about 3000 marines).
- <sup>138</sup> Because workforce structures are developed around ship SOCs, reducing the shore footprint would allow resources to be re-directed to the major fleet base locations - HMAS *Kuttabul* and HMAS *Stirling*.
- <sup>139</sup> *Review of ADF Recruitment and Retention*.
- <sup>140</sup> Chief of Navy, Vice Admiral RH Crane, 'State of the Navy Address', 31 October 2008.



# Have Navies Gone Too Far in Outsourcing Services and Support to External Contractors?

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Warrant Officer Simon Kelly

With a sort of weary, dull surprise, many who have overseen some outsourcing and to a lesser degree, privatization projects, are discovering that these 'new ways of doing business' amount only to old wine in new bottles. Contractors bid for outsourced work claiming substantial savings, government employees are surplused or RIFed, then (once the indigenous labor source is shuffled off or absorbed) the contractors run up the bill. Uncle Sam then has nowhere else to go, since the in-housers have been benched in the name of saving and efficiencies. It is the charge and duty of the government employee to ensure that taxpayers don't get fleeced – but the contractor's first duty is just to charge.<sup>1</sup>

The use of private companies to provide support to navies could be considered a modern phenomenon; terms like 'tooth to tail' are becoming more common when describing efforts by governments to introduce cost-savings into naval operations. The Australian Defence Minister Brendon Nelson used the 'tooth to tail' description to explain how government policy was to redirect Defence resources into combat and direct combat support positions.<sup>2</sup> From a personnel perspective, this was to be achieved over a 10-year period, with an increase of personnel undertaking these functions in September 2006 'from 45.2% in June 1996 to 66.6%'.<sup>3</sup>

Despite the perceived recent emphasis on utilising contractors to provide services or support, the concept is not a new one. Arguably contractors have almost always provided support to military forces, particularly in the logistics field; however the use of some form of outsourced support is becoming more prevalent and in most Western navies, mandated by government legislation. Essentially, to place the Defence Minister's comments in the first paragraph into perspective, the theory behind the increased emphasis on outsourcing is so that naval personnel can be concentrated on the primary functions of naval capability delivery. The rationalisation behind this argument is that the companies engaged in providing the outsourced support can provide the outsourced services 'cheaper, provide greater flexibility, and allow the military to focus on its core mission'.<sup>4</sup>

Underpinning the push to outsource is the recognition that navies must simultaneously and continually modernise or replace ageing platforms whilst sustaining existing assets. Given that the cycle of feast or famine of naval spending has been a constant in most Western navies since the end of World War II (WWII), former US Secretary of



Defense William Cohen stressed 'the Department of Defense does not have the luxury to choose between shaping and responding in the near term and transforming itself for the future. We must do both'.<sup>5</sup> However, despite the Secretary's optimistic support, there are a number of detractors to any attempt to outsource; the most obvious being the sailor whose job is being outsourced, through to those who argue that outsourcing will result in a loss of capability and more importantly a loss of control. Perhaps fundamental to the push to rationalise existing in-house functions is the recognition that the tax-paying public, whilst supporting the need for a navy, expect that 'their' navy would not become a financial mill-stone. Certainly, any suggestion to either raise taxes or cut funding from social programs to support Defence spending would be political suicide at the next election.

In his theory of why organisational accidents occur, James Reason proposes that these accidents are a result of a 'Swiss cheese' principle.<sup>6</sup> He argued that the checks and balances that are in place to prevent accidents/failures were not perfect (or had holes like the aforementioned cheese) and consequently, the instant that these 'holes' were aligned, it allowed the accident to eventuate. Reason's proposition, whilst not directly related to the maritime environment parallels to the risk of outsourcing, that is, if not done correctly, then loss or reduction of capability is likely. Instrumental to any decision to outsource is a clear and meticulous understanding of what is being outsourced, the saving expected to be realised and the strategic impact that any outsourcing decision will have on capability delivery. The potential spectrum of outsourced elements of naval capability is certainly broad; from the traditional logistic support elements, through to an emerging aspect of contracted lethal force delivery.

The aim of this paper is to examine whether Western navies have gone too far in outsourcing services and support to external contractors. Initially this paper describes the concept of outsourcing and privatisation; this will be followed by a historical examination of the rise and fall of the earliest form of naval outsourcing. Having established the basis of outsourcing, the advantages and potential disadvantages of outsourcing in a military context will then be discussed. For the purpose of this paper, to avoid confusion when describing the military experiences of outsourcing and privatisation, unless specifically mentioned, the term outsourcing will be utilised as a generic term.

## Outsourcing, Privatisation and Leasing

Outsourcing has a number of negative connotations: the spectre of retrenchment, loss of asset capability control, reduction of the quality of product/service, and even eventual rise in cost, are some just to name a few. These perceptions are not necessarily unfounded. From a commercial perspective, the more common theme of outsourcing is inventory management, are (including their relationship to the elements of integrated

logistic support, warehousing, transportation and information technology (including maintenance of the Information Technology infrastructure)).

It is perceived that there are considerable benefits to outsourcing. As navies attempt to find ways to reduce operating costs, outsourcing is viewed as an opportunity to facilitate achieving this. Outsourcing is never an easy task, particularly as it is (often) quite complex and time consuming. However, this in itself is not an argument against outsourcing, but delaying a decision to outsource introduces the potential for spurious concerns/requirements. A common theme in support of military outsourcing is that it allows a navy to concentrate on its core business, thus eliminating those functions (albeit still necessary) which are not fundamental to achieving military capability delivery.

A review of the top ten commercial drivers behind the decision to outsource indicates that seven of these drivers are cost related.<sup>7</sup> These include freeing up resources for other purposes, reducing operating costs and making capital funds available, to accelerating reengineering benefits. The other three drivers are quite distinct:

**Access to world class capabilities:** Closely related to reducing cost, the risk involved in not considering this outsourcing possibility could lead to an organisation being burdened with technology or infrastructure which is quickly outdated in today's rapidly advancing world. This declining product life places pressures on navies to constantly upgrade, so that existing and future capabilities can be introduced into service as soon as possible. By outsourcing these elements this same organisation could avoid chasing technology and the associated training.

**Function difficult to manage or out of control:** For those organisations that do not have, or have limited in-house experience, the outsourcing of these logistic functions allows a third party expert to provide improved services, thus reducing the risk.

**Reduce risk:** Perhaps the second most important reason for outsourcing (behind reducing cost) is to reduce risk. If, for example, a company's distribution infrastructure is inadequate as a result of the new acquisition (resulting in a new product line), then three options could be considered: make do - high risk, purchase a new system (and hopes the existing infrastructure lasts) - medium-high risk, outsource the requirement and simultaneously retire the old - low risk.

From a military perspective, the description of outsourcing can be quite diverse. Outsourcing can be described in a number of ways: contracting out, privatisation, market testing, or tendering. There are another two types of outsourcing which are becoming more prevalent: private finance initiatives and public-private partnerships.<sup>8</sup> In both a military and commercial sense, the generic definition of outsourcing involves a fundamental decision of whether to continue to undertake those activities/functions in-house or whether to purchase these activities from an external provider, this is commonly referred to as the 'make or buy' question.<sup>9</sup> In a commercial situation, the

driving decision whether to make or buy is fundamentally one of cost; in this context a commercial entity has the benefit of choice and is motivated by profit - competition amongst service/product providers allows the cheapest option to be acquired. Whereas in a military context, capability not profit is a significant factor in any outsourcing decision.<sup>10</sup>

Hartley further describes that with any outsourcing decision, 'efficiency is central',<sup>11</sup> and there are two distinct facets to outsourcing efficiency: technical or allocative.<sup>12</sup> Essentially, technical efficiency is primarily focused on receiving the best value for money, by achieving the lowest cost through enhanced competition. By measuring efficiency in this manner, cost savings of 20 per cent can be achieved through competitive tendering.<sup>13</sup> Whereas allocative efficiency is a combination of technical efficiency and a measure of society-based costs, which are derived by elected officials, and are based upon 'socially-desirable levels of output and the appropriate level of defence spending'.<sup>14</sup> There can be considerable difficulty in defining the 'appropriate' level of funding. Certainly, this would depend upon the prevailing economic conditions and the will of the public to support large amounts of defence spending. Furthermore if these conditions may not allow, or the elected political party may not be responsive to, substantial Defence spending particularly if this policy conflicted with social program funding, such as health, pensioners, or tax-cuts. Unlike most other areas of government responsibilities or corporate organisations, the outcomes of Defence capabilities cannot be measured in terms of profit; rather, these capabilities are relative - the usefulness of these capabilities are generally measured against those activities which are currently being undertaken and those anticipated for the future.

Expanding on the types of outsourcing described by Hartley, from a military perspective, rationalisation of functions can be more broadly defined as reorganisation, outsourcing or privatisation.<sup>15</sup>

The reorganisation of activities results in uniformed personnel continuing to undertake functions in-house; albeit as additional responsibilities, re-refined roles or amalgamation of particular specialisations. The Royal Australian Navy (RAN) has, since the 1990's, undergone transformation in how a number of particular sailor categories are employed. These reorganisations saw a number of categories amalgamated, subsumed, or refined. The driver for these rationalisation initiatives was to enhance the operational efficiency of the RAN. As a result the net effect of these steps, and similar ones in other arms of the Australian Defence Force (ADF) was the reduction in overall uniform strength by 27 per cent<sup>16</sup>.

Outsourcing and privatisation are often considered the same, as the purpose of both is to achieve cost savings through contracting commercial companies to provide supporting services or manufactured goods than which the military could either undertake or produce in-house.<sup>17</sup> I argue that there is, however, a marked difference between the two.

Outsourcing is a process where previously conducted in-house activities are transferred to the private sector. In this scenario, the workforce is essentially civilianised or, in cases where Defence civilians are employed, the work is conducted by the staff of a private company. Importantly, whilst the workload is now undertaken by the private sector, no government facilities ‘...are transferred to the private sector’,<sup>18</sup> thus ownership of the facilities remains with the Government, permitting a significant amount of control over operations. The RAN was subjected to outsourcing of those activities that were not deemed core.<sup>19</sup> Those in-house functions that were outsourced included:

- base support
- catering
- training
- retail uniform issue/sales
- survey and mapping
- laboratory services.<sup>20</sup>

Privatisation is an extension of outsourcing, however, the process involves changing from ‘public to private control or ownership’ with the aim of introducing market forces to reduce cost and improve efficiency.<sup>21</sup> Significantly, a navy no longer ‘owns’ the privatised capability, it cannot exert sufficient control over its own operations, and has essentially become a customer which must compete with all other customers for the now privatised asset.

In Australia, a number of production assets which were considered for privatisation had been developed as part of the ADF’s production capacity, initially from World War I (WWI) through to WWII and the Korean and Vietnam actions. Of significant relevance to the ADF were the Naval Dockyards (Williamstown in Victoria and Garden Island in NSW). The assets were progressively sold to private companies with other ADF factories, with Williamstown being sold in 1986. In 1989 Australian Defence Industries Pty Ltd (ADI) was established as a commercial company which was wholly owned by the Government. It is interesting to note that in the early years, there was no concrete plan to sell ADI.<sup>22</sup> The sale of ADI was again considered in 1992 and was discounted, which was supported by the then Leader of the Opposition, who in February 1996, stated that ADI would not be privatised.<sup>23</sup> It was not until December 1996 (following a change in Federal Government) that the ADI Board proposed that privatisation was a means to gain funding for further growth.<sup>24</sup> It would be cynical to suggest that the newly elected Government would not support the proposed privatisation; particularly given the new Government’s belief that being an owner of business was not the responsibility of the Commonwealth since, as Prime Minister John Howard announced, ‘governments are not appropriate partners for business enterprises’.<sup>25</sup>

To better illustrate the differences between privatisation and outsourcing, Table 1 contrasts the two.

	<b>Outsourcing</b>	<b>Privatisation</b>
<b>Ownership of Facilities</b>	Government	Private Industry
<b>Provides Workforce</b>	Private Industry	Private Industry
<b>Monitors Quality of Output</b>	Government	Government

*Table 1 - Contrast difference between Outsourcing and Privatisation<sup>26</sup>*

## Military Outsourcing - A Historical Perspective

The mercenaries and auxiliaries are useless and dangerous, and if anyone supports his state by the arms of mercenaries, he will never stand firm or sure, as they are disunited, ambitious, without discipline, faithless, bold amongst friends, cowardly amongst enemies, they have no fear of God and keep no faith with men.<sup>27</sup>

From a military perspective outsourcing capability delivery or supporting activities is not a new concept. Certainly any review of historical literature concerning the use of private military forces will reveal how extensively outsourced support in the form of mercenaries have been used through the ages. When considering those activities which could be outsourced during medieval times, mercenaries were used extensively by ‘ancient Chinese, Greek and Roman armies’.<sup>28</sup> Following the Treaty of Westphalia in 1648,<sup>29</sup> mercenaries were freely used as a tool for international state aims, or as a de-facto standing army (Condottieri - literally meaning military contractors) as used by Italian city-states.<sup>30</sup> Use of outsourced mercenaries was not just limited to land warfare, the use of privateers was prolific amongst maritime nations.

During the 1600-1800s privateers were vessels owned privately either by an individual or consortium. These vessels were contracted to the governments as ‘vessels belonging to a private owners, and sailing under a commission of war empowering the person to whom it is granted to carry out all forms of hostility which are permissible at sea by the usages of war’.<sup>31</sup> Privateers were also used as a method to ‘rapidly expand maritime power in time of war’.<sup>32</sup> In this manner, England was able to counteract the threat from the Spanish Navy in the sixteenth and seventeenth centuries. Perhaps the most notable privateers of this time were Sir Francis Drake and Sir Walter Raleigh, who plundered ‘Spanish ships and extorted large sums of ransom from settlements in Spanish America’ and were knighted for their efforts.<sup>33</sup> It goes without saying that the British Crown would have received its share of this booty.

During the American War of Independence and War of 1812, Privateers were also used to good effect, primarily by the Americans. Between 1778-82, 600 English ships were captured or destroyed and during the 1812 war, 1300 ships<sup>34</sup> were captured.<sup>35</sup> Mahan noted that the American colonists could not compete with the British Fleet, and 'were consequently forced to abandon the sea to them'.<sup>36</sup> They could only resort to action by privateers as 'their seamanship and enterprise well fitted them, and by which they did much injury to English commerce'.<sup>37</sup> The demise of privateers (in this form) occurred in 1856 where the majority of maritime powers agreed to prohibit the activity under The Treaty of Paris.<sup>38</sup> The United States however, refused to sign the agreement citing that the US may 'have need of Privateers in future wars'.<sup>39</sup> Perhaps this reluctance to sign the Treaty was in part due to their concern towards 'standing armies as a threat to liberty'.<sup>40</sup> In view of today's environment, the US position was paradoxically explained by the then Secretary of State, William Macy, that:

The United States considers powerful navies and large standing armies as permanent establishments to be detrimental to national prosperity and dangerous to civil liberty. The expense of keeping them up is burdensome to the people; they are in some degree a menace to peace among nations. A large force ever ready to be devoted to the purposes of war is a temptation to rush into it. The policy of the United States has ever been, and never more than now, adverse to such establishments, and they can never be brought to acquiesce in any change in International Law which may render it necessary for them to maintain a powerful navy or large standing army in time of peace.<sup>41</sup>

While not directly an outsourced military function, it is worthwhile to briefly examine the extension of the privateer concept during the historical time-frame of privateers. As previously discussed private merchant companies were given wide-ranging powers which included the capacity to use 'violence and coercion in the pursuit of economic gain ... and if necessary conduct war'.<sup>42</sup> The British East India Company at the end of the nineteenth century had control of almost 'all of India south and west of the Punjab'.<sup>43</sup> The power and influence wielded by these companies was immense. This often led to lines of control (between the sovereign state and company) being blurred. Privateering easily gave way to piracy and mercantile interests could conflict with national interest. This can be illustrated by the conflict between the respective French and English East India companies 1748-56, when their respective states were politically at peace.<sup>44</sup> The demise of these companies is attributed to the maturing of the political infrastructure and the recognition that the actions of these companies impacted on the sovereignty of parent states; the statisation of war slowly saw the ability to wage war becoming the sole dominion of nations.<sup>45</sup>

## Outsourcing Benefits

With any contentious initiative, it is far easier to highlight the negative aspects. Certainly during the research of this paper, it was far easier to identify criticism of outsourcing than proponents of the concept. However, despite the lack of positive commentary, the outsourcing phenomenon is not some flash in the pan concept and is seen as a long-term initiative. The modern trend of outsourcing of support and services to military forces had its genesis in the decentralisation initiatives commenced by the Thatcher Government after election in 1979.<sup>46</sup> It gained greater momentum following the breakdown of the former Soviet Union and the subsequent 'peace dividend' whereby Defence spending was reduced.<sup>47</sup> This necessitated a rethink of how Defence budgets were spent. While it could be argued defence of national interests should be undertaken irrespective of the costs with the diminishing threat of global conflict it was time to trade 'guns for butter'.<sup>48</sup>

In 1996, the US Department of Defense recognised that it faced three main challenges: readiness, quality of life, and modernisation.<sup>49</sup> To meet these challenges, the US had to better manage its 'internal operations' and identify that supporting activities can be conducted more efficiently. Defense described that outsourcing could complement internal functions and capabilities through introducing:

- Competitive forces
- Economies of scale
- Flexibility
- Better management focus.<sup>50</sup>

Notwithstanding the modern shift to outsource military functions, Australia's, and most Allied countries', involvement in two world wars were supported by civilian companies. It is easy to gloss-over the involvement of the (privately owned) Merchant Marine when transporting the ANZACs to their destiny in Turkey. However, the flexibility of privately owned shipping supporting amphibious operations was demonstrated almost 70 years later in 1982. During the Falklands campaign, the Royal Navy (RN) amphibious task group contained 26 RN ships, 22 from the civilian-crewed (crown-owned) Royal Fleet Auxiliary, and some 40 were privately-owned merchant vessels that were contracted for the duration of the conflict. For any future conflict the effectiveness of strategic sea-lift remains germane as the only effective manner of transporting bulky materiel. Consequently, the benefits of outsourcing such a capability remain today. For smaller countries, the cost of acquiring and maintaining this strategic sea-lift capability can be prohibitive. Thomson argues that from an economic view-point 'why invest hundreds of millions, if not billions, of dollars on surge capabilities that are seldom required if they are available in the marketplace?' From an Australian perspective, this has proven true

as almost every major deployment in the last ten years has relied on a mix of military and civilian combination of sea and air transport to move stores and equipment.<sup>51</sup>

Paralleling the Australian experience with privatising and then outsourcing dockyard support, in 1993, the United Kingdom privatised two naval dockyards. From 1987 these dockyards had been managed by separate commercial companies operating under Government Owned, Contractor Operated (GOCO) facilities.<sup>52</sup> The advantage of operating under this arrangement was the benefit of introducing commercial financial controls and business practices. Instituting the GOCO concept allowed the Ministry of Defence to understand the 'true cost of work, and resource allocation decisions have saved money'.<sup>53</sup> Notwithstanding the £57 million sale price for the two dockyards, the Ministry of Defence estimated that over a ten-year period, the savings realised for maintenance work would equate to a total of £158 million.<sup>54</sup>

Ignoring recent events in Iraq (where private security companies are accused of indiscriminately shooting innocent civilians), there is also a political advantage to outsourcing support, whereby contractors can be used to provide 'tail-like' support. This in turn allows for more combat personnel when arbitrary upper-limits are enforced on the number of uniformed personnel allowed in areas of operation. Essentially the use of contractors in this scenario allows forces to be freed up for 'mission critical military tasks'.<sup>55</sup> This is by no means a new concept. The US has been employing contractors in this manner since the Vietnam War, where 80,000 contractors were used.<sup>56</sup> The advantage of using contracted support in this fashion allows the flexibility of increasing or decreasing the level of support as required, in 'response to changing requirements'.<sup>57</sup> Extending this concept further is the increasing use of contractors who in partnership with the military or as an integrated team with multiple contractors, manage the 'through-life design, development manufacture, in-service support and disposal' of systems, support and platforms.<sup>58</sup> Australia has embarked on such a program with the Air Warfare Destroyer (AWD) project, where Raytheon Australia undertook studies (valued at approximately \$15 million) for the Australian Department of Defence on combat system integration and risk reduction, so as to allow an improved understanding of different combat system design options.

Raytheon in partnership with the selected ship builder (Australian Submarine Corporation) subsequently entered into an alliance arrangement with the Department of Defence to manage the project until delivery. Raytheon also have the additional responsibility of mission systems integrator for the AWD.<sup>59</sup> Uttley argues that these integrated project teams achieve 'faster, cheaper and better equipment'.<sup>60</sup> A consequence of military forces relying on the technical expertise of contractors, and particularly for more complex systems, contractors are being drawn closer to forward areas of operation. In doing so the contractor assumes more risk and responsibility for logistic support aspects, and evolves from just being 'the provision of an asset' to becoming a long-term service provider.<sup>61</sup> Outsourcing long-term partnerships has



the potential to benefit the military, given the contractor is responsible for the overall cost, and through penalty/bonus contracting arrangements, the contractor has a clear incentive to provide the required service at a lower cost, as 'profit is a very strong motivator', particularly as the perception exists that the reward for government personnel to acquire, support and ultimately dispose of an asset or support function, results in a 'funding cut the next fiscal year'.<sup>62</sup>

The use of contracted support can also provide the political advantage of deniability. During the East Timor military intervention, the US Government contracted out heavy-lift helicopter support; thus allowing the US to participate in the operation without the need to 'maintain a commitment of uniformed US Forces'.<sup>63</sup> Extrapolating the use of outsourced support in this manner reveals a financial saving. A 2001 review of the benefits of outsourcing discovered that, across a range of traditional military support functions, 'for every personnel dollar DoD spent to obtain a given level of service (contractors) were able to provide the same level of service for only 41 to 66 cents'.<sup>64</sup> One undeniable benefit of contracted support is the flexibility offered by large-multinational contractors. These large companies often have existing or pre-arranged support infrastructure in-place in likely areas of military action. These pre-existing capabilities can 'greatly reduce' the required force structure and the provision of 'strategic lift' capabilities necessary for operation.<sup>65</sup> They can also 'reduce demand on (US) industrial base and may significantly reduce transportation requirements (and) response time'.<sup>66</sup>

## Negative Perception of Outsourcing

The fundamental concern about military outsourcing is that a company providing any outsourced service is exactly that, a company, whose *raison d'être* is profit for shareholders. Certainly the most obvious risk of outsourcing logistic support is that the logistic provider will be unable to provide the service which they are contracted to do or provide. In parallel, losing control of a supporting function was the most commonly cited reason throughout research for this paper, as to why civilian companies do not use outsourced logistics.<sup>67</sup> While I do not intend discussing each of the following in detail as the focus of this paper is on military outsourcing, it is helpful to note some additional risks concerning outsourcing, namely:

- relying on daily deliveries (without retaining any safety stock), and the shipment fails to arrive (loss of capability).
- the contractor sharing proprietary information with a competitor (loss of market edge).
- employing contractor support to manage CALS/MIS data.<sup>68</sup>

This 'loss of control' of logistic support also has parallels in the defence industry. In the defence environment, logistics support takes on a different emphasis to that of the commercial world. The primary purpose of the military logistician is to support the war-fighter under all conditions anywhere in the world and 'must take risks that no third-party logistic company is required to take'.<sup>69</sup> Essentially, defence related logistic support ensures that the operational effectiveness (of the war-fighter) is maintained. However, the risk in using civilian contractors in the support of defence logistics operations is operational failure' such as the inability or the reduced effectiveness of a capability in conducting the required mission.<sup>70</sup>

Furthermore, Reeve cites a 2001 UK Defence paper that expands on the risk of the use of outsourced logistics:

Should a contractor fail to deliver, financial penalties (in the form of delayed payments) are unlikely to be an adequate substitute for the actual loss of capability, and thought must be given at the concept stage to how the capability might be met from other resources or through alternative capabilities...<sup>71</sup>

There is also the physical risk (to the contractors themselves) associated with supporting a weapon system. Whilst it would be unrealistic to expect contractors to conduct repairs in the field, there may be the requirement for equipment maintenance to be conducted in forward areas and equipment and stores to be delivered to supply depots. Consequently, this could expose the support contractor to life threatening danger, and they may even require protection themselves, thus 'diverting resources from the wartime mission'.<sup>72</sup> This of course assumes that logistic support providers are prepared to deploy to the battlefield. When queried on their preparedness to deploy overseas in support of the UK Defence force one company replied 'we would not support endangering our employees for any reason ... This would negate our duty of care'.<sup>73</sup>

Extending this scenario, a 1980s study conducted by the US Military revealed that in the event of a chemical or biological attack (if the contracted workers would return to the contaminated area and were given the necessary training and protective equipment, which is already supplied to military personnel), it was predicted that a 'minimum of 30% degradation'<sup>74</sup> of both contractor availability and capacity for work would occur.

As recently as 2002, the US General Accounting Office (GAO) stated that:

Despite requirements established in (internal Defence guidance) DoD and the services have not identified those contractors that provide essential services and, where appropriate, developed backup plans to ensure that essential contractor-provided services will continue if the contractor becomes unavailable for any reason.<sup>75</sup>

An argument therefore exists that at what point does the contractor eye-off the military as a pool of trained talent necessary to satisfy its contractual requirements. The second-order effects on the military already exacerbates a loss of military capability through the inability to 'retain talented soldiers'<sup>76</sup>, particularly when military personnel are being offered 'US\$1000 per day!'<sup>77</sup> Lock further argues the morality (or perhaps the lack thereof) of the contractor utilising public funds to pay military personnel higher pay as contractors and then pass the costs onto the military for 'services provided by the very personnel that the military itself originally trained'.<sup>78</sup>

There have also been cases where outsourcing of logistic support resulted in increases in cost over the long term. This is evident where the successful tenderer for a logistic support contract relies on recruiting the trained Defence personnel who have been made redundant from the Australian Defence Organisation (because of the function's transfer to the commercial sector). Through employing these already-trained personnel, the successful civilian tenderer is able to provide a commercially attractive initial price for a support capability because there is no need to factor in staff training costs in the contract. This process becomes disadvantageous to Defence where the successful tenderer becomes the monopoly supplier of the warehouse support service, and Defence must subsequently renegotiate that contract from a position of weakness, having eliminated its own in-house capability to perform the particular function.

A 1998 Australian Parliamentary committee found that while Defence currently advocates the efficiencies of the commercialisation process, there is evidence that the short-term gains resulting from the process may not be sustainable in the medium term 'with the need for the civilian support agency to begin training replacement personnel, the increased costs will be reflected in the cost of the support function to Defence, and the apparent gains achieved in the short term may not be sustained'.<sup>79</sup>

Taking this reluctance (of civilian contractors) to support a defence capability even further is the right to undertake strike-action, which is an option not available to the uniformed logistician. Additionally, no contractor can guarantee that their employees will not resign if advised they are to deploy in support of a weapon system.

## Increased Cost

The US Department of Defense was also concerned that the expanded use of contractor logistics support will result in reducing the availability of affordable technical data needed to competitively support weapons systems. Without such a competitive base, future contractor support costs may increase compared with what would be expected in a competitive environment. US Department of Defense officials stated that even though contractor logistics support is theoretically supposed to sustain a weapons system for its entire life cycle, a contractor may not want to do so, especially if the system remains in service longer than initially planned. Consequently, when the technical data

is needed later in the life cycle, it may be 'prohibitively expensive'.<sup>80</sup> In an example cited by the US General Accounting Office, the US Army tried to buy technical data to develop an in-house capability to repair its SPITFIRE radio terminals. The manufacturer was willing to sell the data for US\$100 million, almost as much as what the entire program cost (\$120 million) from 1996 through to 2001. Another example shows how access to adequate and affordable technical data can reduce costs and improve repair times significantly. A private manufacturer was not repairing a commercial satellite communications radio quickly enough to meet the US Army's needs. By using data in the user's technical manual (which comes with the radio), the Army was able to have a government-owned facility repair the units for an average of \$5000 less per repair than the original contractor's price, with an average turnaround time of one week (instead of six months)<sup>81</sup>. For an organisation the size of the Department of Defense, the problem proved not to be insurmountable. However, for any other organisation, this would have been problematic, as accompanying the decision to outsource this element would have resulted in eliminating (make redundant) the equivalent in-house capacity. This lack of in-house expertise would have left the company/government at the mercy of the contractor.

In a parallel discovery both the Department of Defense and the Australian Defence Organisation had similar difficulties in determining the actual cost savings involved with the outsourcing of logistic support. In 2001 the Australian National Audit Office (ANAO) conducted a review of the Defence Reform Program (DRP), which was initiated in 1997 to enable Defence's resources to be focused more efficiently and effectively on its core functions. The objectives of the DRP were to:

- maximise the focus of the Defence organisation and its resources on achieving the Defence mission, which was then to prevent or defeat the use of armed force against Australia and its interests
- have a Defence organisation prepared for war and adapted for peace with a clear command and management structure and better long-term planning and decision making
- increase the efficiency of support and administrative functions
- maximise the resources available to sustain and enhance the operational capabilities of the ADF.<sup>82</sup>

In order to assess the level of confidence that could be placed on the reported savings, ANAO examined the 10 largest DRP reported recurrent annual savings, totalling \$482.4 million. ANAO found adequate supporting documentation for \$412.5 million of that amount. In addition, ANAO examined, and found adequate supporting documentation to support, the five largest DRP reported one-off savings, totalling \$48.3 million.<sup>83</sup>

The Australian Department of Defence and ANAO were unable to establish a direct relationship between DRP savings and reinvestment in military capability due to the inadequacy of the DRP's management information systems. However, Defence reported that through the reinvestment of savings, the DRP assisted in raising the proportion of ADF personnel in combat and combat-related positions from 42 per cent in 1996 to 62 per cent in 2001.<sup>84</sup> ANAO consequently summarised that although there were significant issues arising from its management and implementation, the DRP was successful in enhancing the ADF's operational capability.

Similarly, in 2002 the US General Accounting Office determined that it was impossible to determine whether initial cost-effectiveness estimates for proposed contractor-logistics-support approaches were being achieved, as the US Army and Navy did not have the data necessary to make these assessments. Consequently, the US Army and Navy may have been adopting support approaches without knowing whether expected readiness improvements and cost-reduction goals were being met, where adjustments are needed, or the conditions under which the various support approaches are likely to achieve the most cost-effective results.<sup>85</sup>

## Workforce Impact

Perhaps the reason for these cost oversights and inefficient management centres upon the reliance of outsourced contract managers managing contracts. An example of this is cited by the US Department of Defense when they reduced by 50 per cent<sup>86</sup> the number of public servants who oversaw defence procurement, and outsourced these functions to private firms, whereby 'contractors were hired to manage contractors'.<sup>87</sup>

Between 1997 and 2002, the US Navy planned to evaluate some 80,500 military and civilian positions for a projected savings of US\$2.5 billion.<sup>88</sup> While this saving seemed ambitious and the positions were driven purely by financial considerations, an early assessment of the 10,000 uniform positions intended for outsourcing revealed a hidden cost: the loss of shore positions which allowed sailors respite from serving at sea (if adequate shore positions in specific locations are not available). This then becomes a personnel retention issue, which exacerbates a retention issue (which is already affected by outsourcing). The GAO<sup>89</sup> further reported that the US Navy subsequently withdrew a number of areas from the planned outsourcing initiatives because of the affect on shore positions and agreed that 'improved planning and coordination ... [and] ... realistic goals and timeframes...' were essential in developing plans for outsourcing Naval shore positions.

As illustrated above an unexpected negative impact of outsourcing is the disenfranchisement of military personnel that may occur following successive outsourcing initiatives. While the process of outsourcing may not necessarily cause dissatisfaction, military personnel who are required to work with or work for private

contractors can cause friction. A 2005 case-study found that mixing US Navy uniform personnel and Civilian Mariners (CIVMARs) in the same vessel, which achieved the aim of allowing the uniform personnel to concentrate on core military duties, also had caused a 'negative comparison among service members'<sup>91</sup> with intentions to separate increased. One particular aspect which struck a raw nerve was when sailors and CIVMARs were standing watch together the conversation turned to remuneration. Imagine the sailor's indignation when he discovered the CIVMAR was being paid overtime,<sup>92</sup> something a uniformed sailor will never receive. Ultimately, in this mixed-crew environment, sailors were comparing themselves 'negatively'<sup>93</sup> to the CIVMAR, which in turn did impact on their 'attitudes about remaining in military service'.<sup>94</sup> Further, the study found that while on an individual level there was no animosity, the 'structural difference between groups and the differential benefits and constraints'<sup>95</sup> were the primary cause for dissatisfaction amongst uniformed personnel.

Western navies have progressively outsourced auxiliary maritime functions (tug operations, practice weapon recovery) to private companies. In Australia, Defence Maritime Services stated function is 'to deliver a complex range of harbour and offshore services under the major Port Services and Support Craft Contract for the Royal Australian Navy'.<sup>96</sup> While the use of CIVMAR allows uniformed sailors to concentrate on their core specialist activities and frees sailors from doing the routine (i.e. boring) tasks, the use of CIVMAR introduces another complexity. The US Navy has commenced employing CIVMAR alongside uniformed personnel in warships (USS *Mount Whitney* - LCC20). In doing so, they are potentially in contravention of *The United Nations Convention of the Law of the Sea* (UNCLOS). Under UNCLOS, warships must be, amongst other requirements, 'manned by a crew which is under regular armed forces discipline'.<sup>97</sup>

While this initiative may seem innocuous, the implications to the CIVMARs could be catastrophic, on the basis that under the *Geneva Convention* and *Laws of Armed Conflict*, belligerents should avoid civilian casualties, CIVMARs would lose their immunity from attack as a warship is a legitimate target. Ultimately there is no method of ascertaining whether CIVMARs are embarked. As previously discussed, the Treaty of Paris brought about the abolishment of privateers; however, this US initiative also may have the unintended implication of clouding the role which the CIVMAR plays in belligerent action. Not only will they lose immunity to attack, but the possibility that civilians who 'participate in hostilities - like pirates - may be prosecuted under domestic law of the detaining state as criminals since civilians do not have combatant privilege'.<sup>98</sup> Certainly a method of avoiding this situation would be to, in times of hostilities, make these CIVMARs join the Navy as reservists (as the UK Ministry of Defence has indicated they intend doing with outsourced transport drivers). Belanger further argues that potential for degradation of 'warfighting capacity'<sup>99</sup> is increased with the replacement of uniformed personnel by civilians and careful implementation must be considered.

The rise of Private Security Companies (PSC) is a phenomenon with parallels to those private merchant companies of the 1800s. Certainly the behaviour of these entities in Iraq is coming under closer scrutiny following a litany of negative front-page reports. The activities of these companies has been primarily limited to the land domain, however there is concern that some companies now view the maritime security threat is South East Asia as an area of profit. There is genuine concern that PSC offering their services as armed escorts in 'high-risk areas and piracy hotpots, such as the Malacca Straights'<sup>100</sup> is a potential 'terrorist'<sup>101</sup> act and that any such action 'can be viewed as impinging on the States sovereignty'<sup>102</sup> or potentially 'escalate an already volatile situation and that a shoot-out on an oil or chemical tanker could prove disastrous'.<sup>103</sup>

## Managing The Risk

For navies, investing in functions with high-levels of redundancy is a method of reducing risks. However, the decision to outsource a particular support service may itself be justified and sensible in that particular context, but the overall impact of the decision to outsource support services needs to be considered in the context of the required outcome. Going back as far as 1998, the ANAO concluded that the Department of Defence needs to ensure that the overall impact of support service outsourcing does not 'adversely affect core business and does not have the effect of eroding core capability by default'.<sup>104</sup>

Perhaps in recognition of the maturity of how contracted support is evolving, the US Department of Defense has shifted from the 'just in case, mass logistics ... to a just in time logistics'<sup>105</sup> on the basis that it is 'more efficient'<sup>106</sup> to transfer these activities to contractors. Any decision to outsource contains a level of risk. Simply put, as navies utilise contractors to provide a support function in an attempt to lower costs, the risks associated with that decision increases. For example, in the area of outsourced logistic support, the ability of the war-fighter could be severely impacted upon if contracted support failed to materialise. Not surprisingly, the longer a military contract out a function, it becomes increasingly difficult and costly to recover that capability in-house. Consequently the operational risk of failure must be considered with any decision to outsource. German General Erwin Rommel succinctly described the importance of good logistic support when he stated: 'In fact, the battle is fought and decided by the quartermasters before the shooting begins'.<sup>107</sup> Crucial to any outsourcing decision is the conduct of some form of risk assessment, where all the 'what ifs' are asked. Undertaking this risk assessment allows a navy to understand the operational impact of the decision to outsource either support infrastructure or capability. In 1999, the then Australian Auditor-General described that with any decision to outsource, the 'benefits do not automatically flow'<sup>108</sup> and it is essential that 'like any other element of the business function, it (outsourcing) must be well managed'.<sup>109</sup>

Through researching this paper, it became apparent that new outsourcing strategies are being introduced and tested in both the Private and Public sectors. These strategies are conducted without baseline data being developed or retained to assess actual cost and effectiveness against the initial business-case analysis that was used to select a specific support strategy. Additionally, sufficient data for early assessments of new logistics support strategies are not available to assess whether life-cycle support costs and effectiveness goals are being met. From a military perspective, the following issues were indicative of any decision to outsource support:

- Deficiencies with initial statement of requirements. This is particularly the case when a support function has no civilian equivalent and does not allow a comparison to form the basis of a contract. When developing the initial requirements and subsequent contract, the challenge remains to ensure that the RAN is 'better off'<sup>110</sup> when compared against undertaking the function in-house.
- Poor contract administration. The need to monitor performance of the contracted support function is paramount. Unfortunately it also comes at a (personnel) cost. This cost is perhaps akin to a form of personal insurance, in most cases contract administration measures contract satisfaction. The importance of this function is clearly when performance exceeds contract thresholds and provides navies with a method of preventing any further degradation of support.
- Lack of control. This unique situation is where a navy has outsourced a capability, and the outsource oversight is undertaken by a third party. In Australia this is certainly the case. While this situation allows one central organisation to undertake all contract management tasks, the RAN is now at the mercy of a third party whose priorities may not align with theirs.

Threat of non-compliance. Paradoxically, the most difficult aspect of any non-performance of a contracted requirement is through some form of liquidated damages. However, if this step is taken (particularly when there is no-other company who can provide the service), then it potentially poisons the relationship, and there is nothing to prevent recovery (of the fine/costs) by the contractor through alternative methods. Alternatively, the costs associated with breaking a contract, through poor performance, may also be prohibitive. Cancelling the contract also attracts further costs through re-commencement of the tendering process.

In 'A Practical Guide to Successful Outsourcing', the keys to successful outsourcing fall into three categories:

- Strategic analysis



- Selecting the providers
- Managing the relationship.<sup>111</sup>

In the context of the above elements, the author believes that the 'strategic analysis' is perhaps the most important. Emblerton and Wright break each key element further into sub-elements. The most significant of these being:

- Cost of providing the service? It is essential to have a comprehensive understanding of all costs associated with the support elements to be outsourced.
- Quality level of service. In this sense Navies must know and understand all facets of what is involved with the provision of outsourced support. More importantly, the owner would gain an understanding of their expectations.
- Quantify outsourcing goals. It is fundamental to define expectations explicitly. Without these measurable goals, it would be difficult to quantify current results, or to define the level of service required in the future. What are the long-term and short terms costs.
- Impact on corporate culture. What will be the impact (both internal and external) of the decision to outsource support?<sup>112</sup>

## Conclusion

When it is difficult to justify the large sums of money allocated to navies, it is not difficult to understand why outsourcing is an attractive option. Defence spending must be seen as achieving value for money. Military outsourcing is ultimately equivalent to a commercial make-or-buy decision. Rather than being afraid of contracting out support, outsourcing, provides an opportunity for flexibility in terms of reducing operating costs through eliminating non-essential activities in providing support when and where it is needed. This in turn allows the transfer of budget allocation into combat capability.

This paper has focused on some of the negative or 'risky' elements of outsourcing, namely: loss of control, increased cost and failure to understand the levels of savings. While these present serious risks, ensuring that the RAN's expectations are clearly defined and agreed to by the contractor, and knowing the delta between what the contractor will (and won't) be providing and when, are fundamental to the successful through-life support of any capability.

Outsourcing in a military sense is an attractive option when there are clear organisational benefits to no longer conduct activities in-house. An appreciation of the implications to outsource a function is an essential aspect, as is ensuring there

is adequate management of the outsourcing contract. Importantly, any decision to contract out a function must be measured against two yard-sticks:

1. outsourcing must provide value for money and not just be cheaper than conducting that activity in house
2. contracting out a function, implies that this function can be done better by an external provider.

It is immaterial whether the author agrees with the advent of outsourced support. For navies contractors are here to stay, and they are increasingly diversifying into areas once considered off-limits. They are now providing critical support to areas that directly contribute to capability projection, but this comes with risks as the contractors venture closer to the front line. However, contractors must not specifically be used in a capacity where they are responsible for belligerent action. This role should be the domain of the professional warrior. Whilst it may seem like semantics if a contractor is employed in order to allow the combatant to be in a position to undertake action, the act of 'pushing the button' must be under strict controls, which only a uniformed member should provide.

Ultimately a decision to outsource requires an understanding of two main risks; that of control (or more succinctly, the loss of control) and the risk associated with non-performance (eg the contractor fails to deliver). A basic tenet of management is that risks can be mitigated by control. The greater the risk, the more stringent controls must be used to avoid system failures. As contracted support is increasingly being employed to support new capabilities, close attention must be made on how these business decisions will affect the capability when used in operation. Underpinning these issues is one undeniable constraint, that is, the level of accountability expected by the public of that element of capability of the Navy. It is not difficult to appreciate that poorly controlled civilian application of military power (eg private military companies) can have international implications.

Outsourcing has long been utilised as a method of augmenting military forces and the evidence points to outsourcing being effective as a force multiplier. However, the principle question remains one of risk, not necessarily that of cost. Unlike a commercial decision to undertake outsourcing activities, where a bad decision or outcome results in a shareholder loss; military victories are potentially being gambled on outsourcing decisions. Any decision to outsource support must not be based on any short-term desire to cut costs; rather the decision must be on the basis of providing long-term savings, and more significantly a net tactical advantage.

## Notes

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- <sup>1</sup> JM Brower, 'Outland: The Vogue of DoD Outsourcing and Privatization', *Acquisition Review Quarterly*, Fall 1997, pp. 384-392.
- <sup>2</sup> Defence Direct September 2006, available at <[www.minister.defence.gov.au/defencedirect/sept2006/September.htm](http://www.minister.defence.gov.au/defencedirect/sept2006/September.htm)> (21 February 2007).
- <sup>3</sup> Defence Direct September 2006.
- <sup>4</sup> L Lock, *Is Military Outsourcing Out of Control?*, March 2006, available at <[www.strategicstudiesinstitute.army.mil/pdffiles/ksil403.pdf](http://www.strategicstudiesinstitute.army.mil/pdffiles/ksil403.pdf)> (31 March 2007).
- <sup>5</sup> OASD Public Affairs News Release, 'Defense Secretary Cohen Endorses Panel's key conclusion that fundamental infrastructure reform of US Military', 01 December 1997.
- <sup>6</sup> J Reason, *Managing the Risks of Organizational Accident's*, 3rd edition, Ashgate Publishing Group, Aldershot, Hampshire, 1997.
- <sup>7</sup> Outsourcing Institute, 1998, *Survey of Current and Potential Outsourcing End-Users* <[www.outsourcing.com/content.asp?page=01b/articles/intelligence/oi\\_top\\_ten\\_survey.html](http://www.outsourcing.com/content.asp?page=01b/articles/intelligence/oi_top_ten_survey.html)> (10 May 07).
- <sup>8</sup> K Hartley. 'The Economics of Military Outsourcing', *Defence Studies*, Vol 4 No 2 (Summer 2004), pp. 199-206.
- <sup>9</sup> Hartley, 'The Economics of Military Outsourcing'.
- <sup>10</sup> This statement must be predicated that often the decision to outsource is driven politically, rather than as a matter of military choice.
- <sup>11</sup> Hartley, 'The Economics of Military Outsourcing'.
- <sup>12</sup> Hartley, 'The Economics of Military Outsourcing'.
- <sup>13</sup> Hartley, 'The Economics of Military Outsourcing'.
- <sup>14</sup> Hartley, 'The Economics of Military Outsourcing'.
- <sup>15</sup> G Brown, R Dell & K Mitchell, 1998, *Optimally Reorganizing Navy Shore Infrastructure*, Naval Post Graduate School, Monterey, August 1998, p. 2.
- <sup>16</sup> Senate Foreign Affairs, Defence And Trade References Committee Report, 2001, *Recruitment and Retention of ADF Personnel*, Senate Printing Unit, Parliament House, Canberra, p. 12.
- <sup>17</sup> Brown et al, *Optimally Reorganizing Navy Shore Infrastructure*, p. 5.
- <sup>18</sup> A Marcus, C Moore, J Silk, C Tighe & C Trost, 1997, *A Privatization Primer: Issues and Evidence*, Centre for Naval Analyses, Virginia, USA, , p. 3.
- <sup>19</sup> M McNamara *The Commercial Support Program in the Department of Defence*, A paper prepared for the RIPAA National Conference 30 November 1995, <[www.chound.com/downloads/IPAA2.doc](http://www.chound.com/downloads/IPAA2.doc)> (01 June 2007), p. 6.
- <sup>20</sup> McNamara, *The Commercial Support Program in the Department of Defence*, p. 9.
- <sup>21</sup> E Synder. *Public or Private: The Outsourcing Dilemma within the Department of Defense*, 1995, Naval Post Graduate School, California, USW, p. 8.
- <sup>22</sup> Senate 2000, *Report of the Senate Foreign Affairs, Defence And Trade References Committee*, Senate Printing Unit, Parliament House, Canberra, p. 5.

- <sup>23</sup> Senate 2000, *Report of the Senate Foreign Affairs, Defence and Trade References Committee*.
- <sup>24</sup> Senate 2000, *Report of the Senate Foreign Affairs, Defence and Trade References Committee*.
- <sup>25</sup> Senate 2000, *Report of the Senate Foreign Affairs, Defence and Trade References Committee*.
- <sup>26</sup> Brown et al, *Optimally Reorganizing Navy Shore Infrastructure*, p. 5.
- <sup>27</sup> E Smith, 2002, quoting Machiavelli (from *The Prince*) in 'The New Condottieri and US Policy', *Parameters*, Winter 2002/2003, p. 104.
- <sup>28</sup> D Shearer. 1998. 'Outsourcing War', *Foreign Policy*, No 112, Fall 1998, p. 69.
- <sup>29</sup> Where nations essentially became constitutional entities in their own right, free from any political dominion from the Papacy.
- <sup>30</sup> Smith, 'The New Condottieri and US Policy', p. 105.
- <sup>31</sup> Quoted by R Marshall. 2006, *Militarizing P3s: The State, New Public Management and Outsourcing War*, A paper presented to the session 'A second look at Public-Private partnerships' York University, 27 May - 03 June 2006, p. 5.
- <sup>32</sup> Smith, 'The New Condottieri and US Policy', p. 106.
- <sup>33</sup> Marshall, *Militarizing P3s*, p. 6.
- <sup>34</sup> Marshall, *Militarizing P3s*, p. 6.
- <sup>35</sup> Smith, 'The New Condottieri and US Policy', p. 105.
- <sup>36</sup> AT Mahan, *The Influence of Sea Power upon History, 1660-1783*, Little & Brown, Boston 1918, p. 344.
- <sup>37</sup> Mahan, *The Influence of Sea Power upon History*, p. 344.
- <sup>38</sup> G Anderson & A Gifford, 1991, 'Privateering and the Private Production of Naval Power', *Cato Journal*, No 11, Vol 1, Spring/Summer 1991, p. 119.
- <sup>39</sup> Anderson & Gifford, "Privateering and the Private Production of Naval Power", p. 119.
- <sup>40</sup> A Tabarrok. 'The Rise, Fall and Rise Again of Privateers', *The Independent Review*, No 11, Vol 4, Spring 2007, p. 576
- <sup>41</sup> Tabarrok, 'The Rise, Fall and Rise Again of Privateers'.
- <sup>42</sup> Marshall, *Militarizing P3s*, p. 6.
- <sup>43</sup> Smith, 'The New Condottieri and US Policy', p. 105.
- <sup>44</sup> Smith, 'The New Condottieri and US Policy', p107.
- <sup>45</sup> Marshall, *Militarizing P3s*, p. 8.
- <sup>46</sup> Z Ponos, 'Private Military Companies: Modern Mercenaries or a Possible Answer to New Security Challenges', *Sanford House Papers*, 2004, p. 150.
- <sup>47</sup> T Taylor, 'In Defence of Outsourcing', *Cato Journal*, Vol 25 No 2, 2005, p. 367.
- <sup>48</sup> R Katoch, 'Defence Economics: Core Issues', *Strategic Analysis*, Vol 30, No 2, Apr-Jun 2006, p. 284.
- <sup>49</sup> US Department of Defense, *Improving the Combat Edge Through Outsourcing*, Report Volume 11, Number 30, Mar 1996, p. 1.
- <sup>50</sup> US Department of Defense, *Improving the Combat Edge Through Outsourcing*, p. 5.

- <sup>51</sup> Mark Thomson, *War and Profit: Doing Business on the Battlefield*, Australian Strategic Policy Institute, Barton, ACT, 2005, pp. 10 & 38.
- <sup>52</sup> J Bondanella, J Cave, R Hart, D Keyser & E Pint, *Public-Private Partnerships: Background Papers for the US-UK Conference on Military Installation, Assets, Operations, and Services*, RAND, Santa Monica, CA, USA, 2001. p. 84.
- <sup>53</sup> Marcus et al, *A Privatization Primer*, p. 31.
- <sup>54</sup> Bondanella et al, *Public-Private Relationships*, pp. 85-86.
- <sup>55</sup> J Binder, *Contractors in the Theater: Implications for Joint Operational Planning and Execution*, US Naval War College, 2003, p. 8.
- <sup>56</sup> Binder, *Contractors in the Theater*, p. 8.
- <sup>57</sup> Binder, *Contractors in the Theater*, p. 10.
- <sup>58</sup> M Uttley, *Contractors on Deployed Military Operations: United Kingdom Policy and Doctrine*, Strategic Studies Institute, US Army War College, 2005, p. 8.
- <sup>59</sup> B Nelson, *Australia's Next Generation Air Warfare Destroyer*. <[www.minister.defence.gov.au/NelsonMintpl.cfm?CurrentId=6781](http://www.minister.defence.gov.au/NelsonMintpl.cfm?CurrentId=6781)> (21 Jun 07).
- <sup>60</sup> Uttley, *Contractors on Deployed Military Operations*, p. 8.
- <sup>61</sup> Uttley, *Contractors on Deployed Military Operations*, p. 8.
- <sup>62</sup> E Snyder, *Public or Private: The Outsourcing Dilemma within the Department of Defense*, Naval Post Graduate School, 1995, pp. 12 & 14.
- <sup>63</sup> M Terry, *Contingency Contracting and Contracted Logistics Support: A Force Multiplier*, US Naval War College, 2003, p. 8.
- <sup>64</sup> KL Jennings, *Privitization: Its Benefits*, US Army War College, 2001, p. 13.
- <sup>65</sup> M LaViolette, 'Contractors Support In Theater - Is the Marine Corps Ready for Logistic Mercenaries?', US Marine Corp Command & Staff College, 2001, p. 22.
- <sup>66</sup> LaViolette, *Contractors Support in Theater*, p. 23.
- <sup>67</sup> MA Razzaque & CC Sheng, 'Outsourcing of Logistics Functions: a Literature Survey', *International Journal of Physical Distribution & Logistics Management*, Vol 28 No2, 1998.
- <sup>68</sup> W Atkinson, 'Lessening Suppliers Risks', *Risk & Insurance*, Sep 2001.
- <sup>69</sup> H Brown, 'Using Third Party Logistic Companies', *The Army Logistician* Nov/Dec 1999.
- <sup>70</sup> DW Reeve, 'Contractors in British Logistics Support', *The Army Logistician*, May/June 2001.
- <sup>71</sup> Reeve, 'Contractors in British Logistics Support'.
- <sup>72</sup> General Accounting Office (GAO), *Opportunities to Improve the Army's and the Navy's Decision-making Process for Weapon Systems Support*, USA, February 2002.
- <sup>73</sup> Brown, 'Using Third Party Logistic Companies'.
- <sup>74</sup> K Nelson, *Contractors on the Battlefield Force Multipliers or Force Dividers?*, Air Command Staff College p. 13.
- <sup>75</sup> L Lock, *Is Military Outsourcing Out of Control?*, US Army War College, Mar 2006, p. 8.
- <sup>76</sup> Lock, *Is Military Outsourcing Out of Control?*, p. 5.

- <sup>77</sup> Lock, *Is Military Outsourcing Out of Control?*, p. 5.
- <sup>78</sup> Lock, *Is Military Outsourcing Out of Control?*, p. 5.
- <sup>79</sup> Joint Standing Committee on Foreign Affairs, Defence and Trade, *Funding Australia's Defence*, April 1998.
- <sup>80</sup> GAO, *Opportunities to Improve the Army's and the Navy's Decision-Making Process for Weapons Systems Support*.
- <sup>81</sup> GAO, *Opportunities to Improve the Army's and the Navy's Decision-Making Process for Weapons Systems Support*.
- <sup>82</sup> Australian National Audit Office (ANAO), *Auditor-General Audit Report No16 Defence Reform Program Management and Outcomes*, Oct 2001.
- <sup>83</sup> ANAO, *Auditor-General Audit Report No 16 Defence Reform Program Management and Outcomes*, Oct 2001.
- <sup>84</sup> ANAO, *Auditor-General Audit Report No 16 Defence Reform Program Management and Outcomes*, Oct 2001.
- <sup>85</sup> GAO, *Opportunities to Improve the Army's and the Navy's Decision-Making Process for Weapons Systems Support*.
- <sup>86</sup> Lock, *Is Military Outsourcing Out of Control?* p. 6.
- <sup>87</sup> Lock, *Is Military Outsourcing Out of Control?*
- <sup>88</sup> GAO, *Defence Outsourcing - Impact on Sea-Shore Rotations, 1998*, p. 7.
- <sup>89</sup> GAO, *Defence Outsourcing - Impact on Sea-Shore Rotations, 1998*, p. 9.
- <sup>90</sup> GAO, *Defence Outsourcing - Impact on Sea-Shore Rotations, 1998*.
- <sup>91</sup> R Kelty, *Military Outsourcing: A Case Study of the Effects of Civillianization(sic) on Sailors Retention Initiatives*, United States Military Academy, 2005, p. 26.
- <sup>92</sup> Kelty, *Military Outsourcing*, p. 27.
- <sup>93</sup> Kelty, *Military Outsourcing*, p. 31.
- <sup>94</sup> Kelty, *Military Outsourcing*, p. 31.
- <sup>95</sup> Kelty, *Military Outsourcing*, p. 31.
- <sup>96</sup> <[www.defencemaritimeservices.com](http://www.defencemaritimeservices.com)> (01 August 2007).
- <sup>97</sup> United Nations, *The Law of the Sea: Official Text of the United Nations Convention on the Law of the Sea*, 2001, p. 11.
- <sup>98</sup> GB Belanger, *Civilian Mariners on Warships: Progress or Pirates?*, US Army War College, 2007, p. 7.
- <sup>99</sup> Belanger, *Civilian Mariners on Warships*, p. 9.
- <sup>100</sup> Liss, 'The Privatisation of Maritime Security-Maritime Security in Southeast Asia: Between a Rock and a Hard Place', *Working Paper 141*, Murdoch University, Perth WA, 2007, p. 15.
- <sup>101</sup> Liss, 'The Privatisation of Maritime Security-Maritime Security in Southeast Asia', p. 16.
- <sup>102</sup> Liss, 'The Privatisation of Maritime Security-Maritime Security in Southeast Asia', p. 16.
- <sup>103</sup> Liss, 'The Privatisation of Maritime Security-Maritime Security in Southeast Asia', p. 17.

- <sup>104</sup> ANAO, *Auditor-General Audit Report No2 Commercial Support Program*, Canberra, ACT, 1998, p. 12.
- <sup>105</sup> A King, 'The Post-Fordist Military', *Journal of Political and Military Sociology*, No 34, Vol 2, Academic Research Library, Dec 2006, p. 365.
- <sup>106</sup> King, 'The Post-Fordist Military', p. 365.
- <sup>107</sup> US Air Force Logistics Management Agency, *Quotes for the Air Force Logistician*, USAFLMA, Alabama, 2006, p. 35.
- <sup>108</sup> P Barrett, *Whither Accountability – The Wisdom of Solomon*, Presentation to the Defence & Strategic Studies Course, ADC, Canberra, 1999, p. 5
- <sup>109</sup> Barrett, *Whither Accountability*, p. 5.
- <sup>110</sup> Snyder, *Public or Private*, p. 45.
- <sup>111</sup> P Embleton & C Wright, 'A Practical Guide to Successful Outsourcing', *Empowerment in Organizations*, Vol 6, Issue 3, 1998.
- <sup>112</sup> Embleton & Wright, 'A Practical Guide to Successful Outsourcing'.

# The Challenges of Logistically Supporting the Royal Australian Navy in the early 21st Century

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Commander Shane Glassock, RAN

## Introduction

Following a brief period of relative peace at the end of the Cold War, the last decade has seen the rise of militarised non-state organisations, increasing use of asymmetric warfare against conventional forces, and the expectation that future conflict will be fought amongst the population.<sup>1</sup> Military forces of nation states organised and equipped for fighting World War III are having to adapt, operate, and fight in a disparate range of complex operations around the globe in the early 21st century.

Maintaining the ability to respond to conventional threats, Military forces such as the Australian Defence Force (ADF) will be increasingly employed in stabilisation operations, humanitarian relief, and broader security roles. Assigned forces can expect to be delivering humanitarian aid, conducting peace-keeping operations, and engaged in highly lethal mid-intensity battles all within a short time in the same locality.<sup>2</sup>

For naval forces, such a wide span of operations is not new, and already well established within naval doctrine. Together with a range of additional tasks, humanitarian, peace keeping, and combat operations fit firmly within the confines of diplomatic, constabulary, and military maritime tasks.<sup>3</sup> What is potentially new for naval forces is that forces will be engaged in such a wide span of overlapping tasks within a single area of operations, with much greater frequency. Operating in the littoral, with a growing ability to influence events on land, naval forces will also be required to actively support joint operations ashore.

A recent example of naval forces engaged in such operations was the invasion of Iraq in March 2003. During the space of a week Coalition naval forces went from enforcing UN Security Council Resolutions, to direct combat operations, and then assisting with humanitarian aid through the sea lift of supplies to Umm Qasr.<sup>4</sup> Following the short combat phase, the same ships were then re-tasked to broader maritime surveillance and vital asset protection of Iraq's principal oil terminals.<sup>5</sup>

The span and swiftness of such missions presents major operational challenges, and also directly impacts on the provision of logistic support to best sustain the mission. Optimised for supporting forces engaged in major blue water operations and battles, naval logistics must be increasingly adaptable and able to support a range of tasks all during a single deployment. Although flexibility and adaptability have arguably been hallmarks of naval logistics for many centuries, the evolving nature of maritime capability generation and sustainment, together with the complexity of supporting



overlapping operations in the early 21st Century will present many significant challenges.

This paper will consider the challenges of logistically supporting the Royal Australian Navy (RAN) in the early 21st Century. The key maritime logistic concepts and emerging trends will be first examined, before considering the functional requirements of capability and operations support. The maritime tasks associated with the RAN's defined doctrinal roles of Diplomacy, Constabulary, and Military will be utilised as the construct for considering support to operations.<sup>6</sup>

## Maritime Logistics

Logistics in the civilian context generally refers to the movement, storage, and handling of goods. The military definition is however much broader and involves the 'science of planning and carrying out the movement and maintenance of forces'.<sup>7</sup> It includes the development and sustainment of materiel, movement, the evacuation and hospitalisation of personnel, and provision of services.<sup>8</sup> Military logistics aims to provide for combat forces that are at the required readiness and ensure they can be operationally deployed, sustained, and re-deployed.<sup>9</sup> In providing such support, military logistics should compose simplicity, cooperation, economy, foresight, flexibility, and security.<sup>10</sup> The system being characterised by providing a ready, responsive, and sustainable logistics support.

Maritime logistics can be broadly broken down into two functions, Operations Support and Capability Support. Operations Support is inherently linked to the endurance and self-sustaining capacity of warships, with the crew of Major Fleet Units (MFUs) including specialist catering, personnel, hotel, inventory management, engineering and medical personnel.<sup>11</sup> The onboard facilities allow for an MFU to be largely self-sufficient once at sea, with catering provisions typically lasting for up to 30 days, equipment stores optimised for in excess of 90 days, and fuel and ammunition varying considerably with usage.<sup>12</sup> Supported by replenishment vessels with fuel and provisions, together with a supply chain delivering high priority items, naval forces can operate for months at sea, with the primary limitation often being the morale and psychological endurance of the ships company.

Capability Support focuses on the Through Life Support (TLS) of maritime platforms, and is generally undertaken in the National Support Base. It broadly includes the acquisition, generation, management and sustainment of capability from cradle to grave.<sup>13</sup> Decisions from the initial design, and through the ship's life cycle all directly impact the in-service capability, support requirements, and overall cost.

## Logistic Enablers & Considerations

### Preparedness

Collectively known as Preparedness, the readiness and sustainment of maritime forces is arguably the most important output of maritime logistics. It is also amongst the most difficult to measure. Readiness focuses on the ability to commit forces in a specified time at required strengths, while sustainment is the continued ability to support forces engaged in the conduct of operations.<sup>14</sup> When engaged in asymmetric warfare associated with low level combat and peace operations, it is likely that naval forces will require extreme patience, and may wait weeks, and in some extreme cases, even years before striking targets.<sup>15</sup> To achieve this, naval forces will need to be well equipped and able to sustain heightened degrees of readiness for long periods of time. Readiness, as Geoffrey Till notes, often 'boils down to questions of supply and administrative efficiency'.<sup>16</sup>

The practical challenge for naval logisticians is to provide the required level of combined readiness and sustainment efficiently, and within the bounds of the parent state's available resources. In the United States, there are concerns that the funding required to support the war in Iraq, had led to a focus on short term readiness at the expense of longer term investment in military technology to fight future wars.<sup>17</sup> Similarly for the Royal Navy (RN), it has been suggested that insufficient funding of support and spares to ships has 'hollowed the force out', resulting in ships deploying with significant shortfalls in capability.<sup>18</sup> For the RAN such challenges also exist, with the current Air Warfare Destroyer (AWD) capability gap until 2014, arguably an outcome of insufficient funding to maintain readiness and sustain capability in the late 1990s. The gradual degradation of logistics support has also been highlighted in recent years with additional funding for improved maintenance and sparing of the *Anzac* frigates and naval aviation specifically acknowledged by Government in the FY2004/05 budget.<sup>19</sup> The challenge for the RAN is to accurately measure and report changes in preparedness to Government, while also demonstrating that where additional public funds have been allocated they have been appropriately utilised.

### Flexibility

The potential for maritime forces to be simultaneously assigned to operations comprising diplomatic, constabulary, and military tasks will require significant flexibility to achieve their mission. For the United States (US) Navy and the RN the focus is toward more mobile, and flexible armed forces, to prevent, manage, and deal with a wide range of tasks and missions around the globe.<sup>20</sup> For both land and naval forces this will require the ability to perform a range of very different missions simultaneously.<sup>21</sup> Although flexibility is a defining characteristic of naval forces, support is invariably optimised depending on the mission requirements.<sup>22</sup> Warships are able to

maintain a range of capabilities onboard, however for more dangerous missions will seek to match limited space, weight, and funding resources to specific missions such as maritime interception operations or anti-submarine warfare (ASW). Such support can be tailored with some planning for ships operating close to their National Support Base, however for ships conducting expeditionary operations there will be a greater requirement to rapidly optimise warship storeroom outfits and supplementation stores when deployed far from home waters.

Force structure, planning, and knowledge are all key ingredients in being able to respond proactively to the support of maritime forces. Also critical is the capacity to surge forces when required to support operations. This capability has arguably been reduced in recent years as naval forces have sought to minimise costs through initiatives such as the Commercial Support Program in Australia. Similar programs in a number of countries have particularly impacted on depot level support areas, which have traditionally provided the surge capability to rotate and sustain forces in an operational theatre.<sup>23</sup> US Army Lieutenant General William Pagonis, who commanded the coalition logistic effort during Desert Storm, noted that military logistics should not be run on the bottom line (profit), and instead be capable of switching from one objective to another, with some redundancy and slack.<sup>24</sup> The challenge for the RAN is to identify and use outsourcing and contracting arrangements where it does provide real support and generate savings for higher priority requirements. Also maintaining the capacity and flexibility to sustain the full spectrum of naval forces through raising and training functions to deployed operations.

The ability to provide and support flexible military response options to government is also driven by an understanding of the government's intent. Utilising the increasing media coverage of global events, participation and support in operations may also provide an opportunity for governments to demonstrate to their constituency the value and utility of military forces. An example in the Australian context being a disaster relief mission where the most apparent military response option is to lease large roll-on/roll-off vessels to provide a sealift capability. Whereas a full appreciation of the government's intent may actually be to utilise RAN afloat support and amphibious vessels to provide both a humanitarian response and reinforce public opinion on the positive value of naval funding. An understanding of the wider intent of the mission, being necessary to provide appropriate and flexible solutions.

## Interoperability

Experience from recent conflicts and predictions for future wars, suggest that the ability for military forces to operate both jointly with other branches of the armed services, and in coalitions with other nations will be essential. For navies such as the US Navy, RN, and RAN, their MFUs are arguably more interoperable in a coalition naval setting, than in a joint environment with their own national land forces. What is particularly

challenging for military forces is the ability to operate with less traditional coalition partners, such as in 'coalitions of the willing' formed for a specific operation.<sup>25</sup> The requirement for increased cooperation and sharing of logistic resources with smaller navies is also likely to increase in prominence with ongoing initiatives such as the 1000 Ship Navy.<sup>26</sup>

Logistically, modern naval forces have agreements with close coalition partners and are well practiced in the supply of ammunition, fuel, provisions, and equipment between ships in a task group.<sup>27</sup> There is however considerably less capability to sustain non-traditional coalition partners in 'come as you are wars' such as the response to the invasion of Kuwait.<sup>28</sup> Limited equipment compatibility, differing codification of parts, communications, and security/intellectual property constraints all work against being able to sustain a naval task group from a wide coalition. Although such challenges can be generally overcome by detailed planning and commitment, practical experience through exercises and visits, is vital to being able to rapidly tailor solutions to meet operational requirements.

## Technology

The development and use of advanced technology is a critical requirement for maritime forces searching for superiority over a potential adversary. Increases in lethality, precision, surveillance, and reach are all enhancing the capabilities of naval forces. The application of leading edge technology does however come at significant cost, and an expectation that expensive and potentially troublesome technologies will be well outdated within the traditional 10-15 year major upgrade cycle for a ship. Indeed it is arguable that many of the systems being scoped now for new ship building projects will be superseded before the ship is accepted into service.

Access to classified technology and support from foreign countries is a critical factor in interoperability and sustainment. The ability and cost to acquire advanced US military technology is arguably one of the most significant risks with the US Navy maintaining interoperability with its major allies such as Australia.<sup>29</sup> The purchase and fitting of advanced military technology is also of little use if the equipment cannot be maintained, or associated spares and compatible munitions are denied during a conflict. Even with ANZUS providing a framework for such assistance from the United States, access to technology and ongoing sustainment can still be a slow and expensive process requiring Congressional approval, and subject to strict security measures.<sup>30</sup> Recent measures such as the latest Defence Trade Agreement with the United States being aimed at improving Australian access to sensitive US technology and reducing bureaucratic delays.<sup>31</sup> The ongoing relationship through specific agreements and the exchange of knowledge and personnel being vital to initiatives such as the ongoing improvements of the *Collins* class submarine combat system, Aegis combat system for the AWD, and provision of advanced precision guided munitions.

The adoption of the latest technology also brings with it specific integration challenges onboard maritime platforms. Naval platforms include weapons, sensors, and navigation systems from differing suppliers, all of which must be fully integrated to fight and win at sea. The impact being in cost and schedule overruns in production, through to degraded warfighting ability such as that of HMS *Sheffield* lost in the Falklands largely due to the ship's own satellite communications system operating on a similar bandwidth to electronic warfare surveillance system.<sup>32</sup> For those charged with supporting the systems and platforms in the demanding maritime environment, the technology also provides mixed benefits. The advanced electronics offering improved self-diagnosis abilities, enhanced contractor support, and simpler repair by replacement support concepts. There are however more components to fail, greater cost of spares, and an increased training liability associated with hardware and software complexity. There is also significantly less chance of a ship having sustained enemy damage being able to effectively return to the fight without lengthy and significant repairs.

Together with the operational impact on system performance from ageing equipment, is also the high cost of replacing legacy components which have been superseded and no longer manufactured or available. The RN having recently commenced a submarine fleet upgrade of electronic surveillance measures (ESM) technology to reduce through-life support costs.<sup>33</sup> The key considerations for navies such as the RAN being the trade off with funding projects now to complete a controlled upgrade of outdated technology embedded in combat and ship's systems, against the potential for deferring expenditure with the aim that the complete system will be upgraded before a shortage of repair parts impacts reliability.

## People

Attracting and retaining personnel is a major concern for modern navies. Changing expectations, and ageing populations, are increasing the competition for this relatively small group of potential recruits.<sup>34</sup> In the Australian context with the workforce close to maximum capacity there are also workforce shortages in the civilian transport and logistics industry, and a growing demand for skilled seafarer labour being driven from the oil & gas industry.<sup>35</sup> Globally there is an increasing shortage in skilled and experienced seafarers, with an ageing workforce approaching retirement. Potential applicant numbers are being impacted by the misperception of seafaring as a tough and unattractive career option, and overworked from sub-optimal crew sizes.<sup>36</sup>

For navies confronted with a reducing supply of potential recruits, and the limited ability to laterally recruit skilled maritime personnel, the solutions are essentially confined to increasing retention rates of trained personnel and reducing demand. For the RAN the approach has been to make recruiting a significant priority, together with improving retention through a range of targeted financial incentives and improved management and personal career choice.

The trend toward reducing workforce demand (and cost) through improved ship design and associated crew size is also likely to continue. The US Navy DDG 1000 (previously DD(X)) programme is seeking to reduce the crew to 142 sailors, down from the current DDG-51 *Arleigh Burke* class complement of 320.<sup>37</sup> Similarly the latest RN Type 45 Air Defence Destroyer has a complement of 190, down from 287 onboard the Type 42. For those employed in the personnel support fields such as catering, the reduced crew numbers will result in proportionality less work and billets at sea. It is also likely to continue a trend toward administrative support functions such as the processing of pay being moved ashore. The changes for onboard engineering staff being more significant with greater use of system automation, monitoring, and maintenance technologies required to reduce crew numbers. Civilian shipping industry concepts and practices such as ‘unmanned engineering spaces’, and the conduct of essential maintenance only at sea are still to be fully adopted by navies such as the RAN.

What is not directly evident is the reduced capacity to surge manpower in support of concurrent seamanship and combat evolutions. The ability to launch a helicopter, recover a boat, and having a fully manned operations room without disturbing the off-watch crew sleeping being a consideration in the ability to maintain flexibility and endurance. For the minimum-manned *Anzac* class, the impact on the initial crew of 164 was considerable with personnel being employed for longer periods in ‘wholeship responsibilities, often at the detriment of their own duties and for the logistics staff, the standard of support they could deliver. The eventual outcome being to retrospectively fit additional bunks to the class with an expectation that the ship’s complement would increase to 180 plus on deployment.’<sup>38</sup> The aspirations of manpower planners seeking to reduce crew sizes (and cost) are not always practical in the longer term. The eventual complement onboard the new RN Type 45 is likely to be of interest, with the designed bunk space already capable of supporting 235 personnel, and the crew size almost certain to increase from the planned 190.<sup>39</sup>

An alternative option to significantly reducing crew size is that of multi-crewing, whereby crews rotate between a number of platforms. A reduced number of platforms being designed with increased availability for sea and time on task, and also improving the respite provisions for those crew members off-watch. Initial results from the RAN experience operating the *Leeuwin* class Hydrographic Ships and *Armida* class Patrol Boats using multi-crewing has generally been positive, however has led to a number of specific logistic challenges. This includes the requirement for additional contractor support, less ‘ownership’ of the platforms in maintenance upkeep, and need to enforce strong standardisation. For the US Navy, Sea Swap, the trial of rotation crewing in 2003/04 included the change over of a ship’s company away from home port to maximise on-station requirements. Although there were savings in funding and operations the additional burden on sailors of work and quality of life was questioned.<sup>40</sup>

## Littoral Operations

A common theme of current military operations is that they will be increasingly conducted in the littoral environment. Littoral being those areas on land subjected to influence by units operating at or from the sea and those areas at sea able to be influenced by forces operating on or from land. Together with estimates that up to three quarters of the world's population already live within 200 miles of the sea, and the growing ability to influence events ashore, maritime forces can be expected to operate for longer periods in close proximity to the coast.<sup>41</sup> Operations in the littoral, offering the ability to increase shore-based support through improved access to friendly or neutral port facilities, whilst reducing the reliance on organic task group support, such as that provided through the auxiliary vessels. However, with the increased threat from land attack, fleet units requiring re-supply will need to move out to sea, or accept greater risk to support vessels operating in close proximity to the coast.

For naval ships generally designed and optimised for blue water operations, an increasing focus on the littoral will impact on supportability, and necessitate changes in ship design and support. Operating in coastal waters with high salinity and sea temperatures will impact the usage of consumable spares such as filters at a much greater rate than during normal operations. The challenge for the naval logisticians is to identify, quantify, and share knowledge of the expected impact on systems, thus allowing amended maintenance and optimising of onboard storing allowances. It is arguable that most current measures are ad hoc with the large legacy logistic systems designed to support the configuration and inventory management over a 10-15 year major upgrade cycle, and unable to support the rapid and dynamic changing of mission specific systems and associated onboard spares. More flexible logistic systems will be required to allow for the authorised configuration to be adjusted quickly to respond to changing operational requirements.

## Force Protection

The rise in prominence of non-state actors and the use of asymmetric warfare, together with the compression of time and space from greater weapon range and lethality has created a situation where future operations are unlikely to involve traditional front lines.<sup>42</sup> Attacks such as that on the USS *Cole* in October 2000, have greatly increased the focus on force protection for maritime forces both at home and when deployed. For maritime logistic forces there is a renewed focus on protecting sea lines of communication, such as during Iraq 2003 when Royal Fleet Auxiliary (RFA) ships were escorted into Middle East ports by warships for protection.<sup>43</sup>

Also impacted are onboard logistics staff who must now regularly conduct force protection duties with the rest of the ships company when conducting port visits. Supply chain security such as the receipt of provisions, and access of personnel to conduct alongside services and delivery of goods, are just some of the additional considerations

in the current environment. The potential threat is also impacting logistic planning, with limitations placed on contact and the advance notice of impending port visits given to providores and ship's agents.

## Joint Operations

Joint operations seek to integrate and utilise the relative strengths of the Navy, Army, and Air Force to best achieve a desired military effect or outcome. Military logistic functions are also being combined with the aim of improving support and reducing duplication through standardisation of processes, systems, and equipment. The challenge for maritime logisticians being to define what should be standardised in the joint domain, and what should remain different based on the unique requirements of operating in the maritime environment. Differences that exist in catering management, onboard storing of supplies, maintenance philosophy and medical support are based on decades (and arguably centuries) of experience operating at sea.

A related theme to joint operations is that of all sections of government working together to achieve required military and political outcomes. For the ADF there is a clear expectation they will be actively involved in operations with a whole-of-government approach.<sup>44</sup> This will require greater knowledge and cooperation between government departments, and potentially non-government organisations (NGOs) to ensure related efforts such as foreign aid, diplomacy, and military operations are synchronised for best effect. With missions likely to involve responding to major disasters, and providing assistance to large numbers of the affected population, military planners will need to better understand the fundamental requirements to coordinate such activities.<sup>45</sup> It is also likely that with inherent reach and logistics capability, maritime forces will be employed in supporting other government and civilian organisations, and not always with the military in charge of the overall operation. As with joint operations this requires considerable knowledge and shared understanding to support organisations, with often quite different cultures and requirements.

## Capability Support

### Acquisition

The acquisition process for complex and costly maritime platforms and systems is one that can last over a decade from concept initiation to delivery, and has attracted significant government focus to improve the specification and delivery of equipment on time, and within budget. In Australia the major acquisition process was extensively reviewed in 2003 with significant changes to the process, organisational structure, and management of projects.<sup>46</sup> The recommended changes place a very strict focus on schedule, and making it essential that functional user requirements are correctly documented at the start of the project, with very limited opportunity to later amend



contractual requirements. For the RAN this requires greater effort and allocation of staff resources in the early stages of the project to correctly specify platform requirements that may not be delivered for more than a decade, and which directly affect the capability, logistic support, and through life support costs over a further 30 year period.

Efforts to reduce overall cost, mitigate project risk, and increase standardisation are also resulting in a shift toward joint projects. The acquisition of the Joint Strike Fighter by the RN and Royal Air Force provides cost savings and greater integration to surge forces ashore and afloat. For the RAN, the purchase of the MRH-90 with the Australian Army will allow the initial investment and through life support costs to be amortised over a larger number of platforms. As with the shift toward joint operations, the challenge for the RAN is to ensure that maritime environmental requirements and associated support are appropriately considered, and not biased toward the lowest common denominator.

### **Affordability & Governance**

For nation states seeking to maintain both the capability to defeat conventional threats, and actively respond to lower intensity conflicts, the ability of the national economy to sustain and fund such forces will be a major consideration. The advances in military technology come at considerable cost, such as that for the AWD, where each ship is projected to cost \$2 billion in acquisition alone.<sup>47</sup> The planned US Navy acquisition of the DDG-1000 class is currently estimated at between \$US2 billion - \$US3 billion for each ship.<sup>48</sup> Recent analysis by the Australian Defence Materiel Organisation has indicated that the cost of leading edge military hardware is increasing at a rate of 3 per cent above the CPI.<sup>49</sup> The technological progress of weapons systems having potentially become so complex and costly that many countries will struggle to operationally support those systems.<sup>50</sup> The risk of focusing too much on the funding of the major ship acquisition and systems alone, is that support arrangements, sparring, ammunition and associated maintenance will not be fully budgeted for, and could see navies 'hollowed out'.<sup>51</sup>

Together with the challenge of funding the support of military systems, there is also a trend toward the contracting of maintenance and support to commercial organisations. Companies such as KBR, Raytheon, and Inchcape Shipping Services have global reach and can provide specialised support both at home, and areas of conflict. For the support of RAN capability and operations this requires greater training and knowledge of contract management in order to be a smart and informed customer, particularly when deployed in support of expeditionary based operations away from specialist support staff. Greater public scrutiny, and associated governance requirements also dictate that financial and contracting regulations are consistently applied both at home and when deployed. Increased reliance on contracting local services in theatre to cover logistic support shortfalls are also being tempered against the security situation,

capacity, and ensuring that logistic planners do not compete with each other for scarce supplies and services, artificially increasing the cost of basic goods and services to the local population.<sup>52</sup>

## Design & Construction

The design and construction of maritime platforms has significant potential to effect supportability and capability. Onboard support aspects such as storage, compartment utilisation, and engineering design all directly impact the characteristics of maritime power. The design of onboard crew facilities are also affected by personnel related considerations, and efforts to deal with a shortage of recruits through improved conditions. The design of recreational and service standards onboard the new Italian Multirole Carrier, ITS *Cavour*, to 'cruise ship' standards being a potential indicator of future requirements for the RAN.<sup>53</sup>

Given the cost of maritime capability, navies are also seeking to leverage off the inherent flexibility of maritime vessels to increase their versatility and reduce costs. Vessels delivered under Royal New Zealand Navy (RNZN) Project Protector are being designed to enable the RNZN to better contribute to joint and multi-agency stabilisation operations, whilst also being employed in maritime surveillance role within their Exclusive Economic Zone (EEZ).<sup>54</sup> To accommodate the capacity to multi-role, there is a trend toward fewer platforms that are larger and more capable, such as the RAN *Canberra* class amphibious ships at 27,000 tons, and the RN Future Aircraft Carrier at 65,000 tonnes. The trade-off with a more flexible mix of larger vessels capable of supporting different roles, being a reduced number of platforms to be available for concurrent operations, and greater shore infrastructure requirements.

An alternative to the multirole concept is that of a reconfigurable platform such as the Littoral Combat Ship (LCS) which is planned for operations in shallow high threat areas. The prospect of multi-mission modules such as ASW, and Mine Countermeasures (MCM) outfits being changed out in 24 hours requiring dynamic sparing and planned maintenance support.<sup>55</sup> The downside of smaller platforms being their limited capacity for fuel and provisions endurance, and reduced ability to support the power generation and space and weight requirements of the next generation primary radars.<sup>56</sup>

Greater consideration of the impact of ship design and operations on the environment will also be necessary, with increasingly stringent state legislation and *International Convention for the Prevention of Pollution from Ships* (MARPOL). The inability to comply with international environmental regulations, and State law potentially precluding naval vessels from entering ports, or operating within the littoral regions of foreign states to support evacuation and stabilisation operations. Limitations on the disposal of liquid and solid waste having the potential to significantly reduce the endurance of a platform within the littoral.<sup>57</sup> Although consideration in the design of the new platforms

is the preferred solution, interim options include the retrofitting of compliant sewerage systems through to initiatives that reduce packaging and waste onboard.

Access and the cost of petroleum based fuels such as the F-76 Naval Distillate are also becoming more prominent in ship design and building considerations. Within the US Navy the issue of energy security and cost are already generating a renewed debate regarding the merits of conventional fuels against that of nuclear powered surface ships, such as for the cruiser CG(X) replacement program.<sup>58</sup> The use of alternative bio and synthetic fuels blends will also become more prominent with efforts to reduce dependence on petroleum products. The second order effect of moving away from petroleum based fuels for navies is achieving emission reductions linked to climate change.<sup>59</sup>

## Engineering

Alongside the potential loss of a RN aircraft carrier during the Falklands conflict, it is arguable that the engineering state of RN ships could have also changed the outcome of the 1982 war. Operating 8000 miles from home, the engineering maintenance state was such that had the conflict drawn on for much longer, that the fighting state of the task force would have been severely degraded.<sup>60</sup> Even with over two decades having passed since the conflict, the lesson is still relevant for modern navies and the continued importance of maintaining an onboard engineering capability, together with supporting naval and contracting organisations ashore. Notwithstanding ongoing improvements in usability, reliability, and maintainability, modern navies still require the ability to operate and sustain complex technology, through the employment and maintenance of equipment remote from home support infrastructure.

The trend toward an increasingly risk averse culture and greater complexity of maritime platforms is also placing greater focus on certification and technical regulatory issues. For navies which have traditionally relied on internal standards and technical compliance regimes, the change has been toward greater use of civilian classification and certification standards. Established to provide an independent assessment of the design, construction, and equipment utilised for merchant shipping, the civilian classification societies such as Lloyds and DNV are focused on commercial shipping requirements. Increasing reference to classification standards will require greater awareness to ensure their correct application within navies. As evidenced by the subsequent Board of Inquiry into the HMAS *Westralia* fire in 1994, key personnel within the RAN and more particularly the prime support contractor, bypassed procedures out of ignorance and incompetence.<sup>61</sup> In addition to a much improved understanding of the advantages and disadvantages of such classification regimes, naval engineers will also need to be more proactively engaged with classification regimes such as in the development of the *Lloyds Naval Survey Guidance for Steel Ships* to increase their relevance and application to warships.<sup>62</sup>

Advances in the upkeep and maintenance of commercial shipping fleets are also being increasingly employed within the support of naval ships. Where once large government owned ship yards would support the maintenance of naval ships, the commercialisation of maintenance and repair facilities has led to a far greater focus on contract management. The trend being toward preventative maintenance conducted by contractors during scheduled alongside availability periods, with reduced onboard planned maintenance, and the use of a repair by replacement philosophy. Along with such advantages, has also been a reduction of the onboard skill sets to repair equipment in the operational area, and the need for more expensive spares to be held onboard or ashore. The reliance on commercial support arrangements now also requires military planners to factor in civilian contractors into their contingency and operational deployment plans.<sup>63</sup>

### Logistics Information Systems

Evolving from stove-piped mainframe transaction systems, logistic information systems in the early 21st century will provide for the management of an integrated tri-service supply chain, through increased visibility, control, and management of inventory items through their acquisition, delivery, storage, fitting, and maintenance. The challenge for many defence forces including the ADF will be to migrate from their legacy logistics systems to modern Enterprise Resource Planning applications. The US Department of Defense logistic systems are amongst the most technologically antiquated with their origins in 1960s.<sup>64</sup> Similarly for Australia, the operation and upgrade of logistics systems has been regarded as poor, with financial accounts being questioned, and significant project cost overruns.<sup>65</sup> Improved project management within the Australian Defence Organisation, and a greater understanding of system requirements and operation by those ADF logistics personnel using and managing the systems is still required.

A common complaint from US forces involved in Operations DESERT SHIELD, DESERT STORM and IRAQI FREEDOM was the need to improve the timely delivery of items they needed in a fashion expected of them.<sup>66</sup> Logistic 'lessons learnt' from the two major conflicts in Iraq since 1991, and for Australian forces deployed to Timor in 1999, consistently cite the lack of visibility deployed units have of their own stock holdings and supplies being passed to them.<sup>67</sup> In Australia the use of passive Radio Frequency Device (RFD) for tracking is being implemented to improve visibility of large consignments, albeit with some concerns remaining on the increased security and potential detection from the RFD emissions when onboard RAN ships.

Within the maritime domain, access to the network bandwidth to support the flow of improved logistics information between ships and ashore will become more crucial. Logistic systems will require the ability to operate independent of communications, synchronising with other ships, and ashore as spare operational bandwidth and the security situation permits. The ability to satisfy the competing requirements of

operational, logistic, and welfare related satellite bandwidth use being unlikely to be resolved in the medium term, particularly with increasing use of bandwidth intensive operational applications such as real time video streaming from Uninhabited Aerial Vehicles.<sup>68</sup>

Integration with suppliers and service providers through electronic Business-to-Business system interfaces is also being used to improve the responsiveness of the logistics supply chain. The dramatic increases in timely information and convenience, are weighed against security concerns and vulnerability to intelligence collection and Information Operations. The availability of procurement, maintenance, and transport information all providing indicators of maritime operations, and at increased risk of being disrupted by targeted hacking. The ability to conduct offensive cyberspace operations is now generally regarded as a core military capability by many military forces, including China's Peoples Liberation Army.<sup>69</sup> The challenge for the RAN is to gain the benefits of logistic information systems and electronic business links, while balancing the risk with appropriate security protection, and the redundancy to sustain operations in the event of widespread attack on military, commercial, and government information and communications systems.

## Medical & Health Support

Also included within the scope of maritime logistics is the provision of medical and health support. The outcomes being focused on ensuring personnel are medically fit to deploy to sea for extended periods, together with retaining the capability to conduct the initial treatment and stabilisation of peacetime and wartime casualties at sea. Mirroring civilian health trends, the increasing range of treatment options and community expectations, are likely to rapidly increase medical costs.<sup>70</sup> The issue being further magnified by an ageing military work force with an increasing mandatory retirement age.<sup>71</sup>

The attraction and retention of doctors to practice at sea is also a major concern for the RAN, with a nationwide shortage of doctors. In the United States a 40 per cent shortage of applicants for medical and dental scholarships is being attributed to the Iraq War, and is being remedied through an increase in bonuses and changes in recruiting.<sup>72</sup> The length of deployments away from home, difference in earnings, and a shortage of doctors in the civilian community are also impacting navies. In addition to attracting more medical professionals, potential solutions will need to include greater use of other medical personnel such as nurse practitioners and advanced medics together with access to voice and video communications for remote medical diagnosis and treatment.

## Operations Support

### Disaster Relief

Increasingly severe weather patterns, and indications that the world's population cannot be sustained based on current trends in consumption will place substantial demands on humanitarian relief in the 21st Century.<sup>73</sup> With greater public visibility of such events through the media, and efforts by governments to achieve political objectives through the use of soft-power, humanitarian relief is likely to be a 'growth business' for military forces in the near future. In addition to missions such as the sea lift and direct support provided to Indonesia following the 2005 Boxing Day tsunami, the RAN would also be expected to contribute in the event of a major Australian terrorist attack, or human outbreak of a contagious virus such as the Avian Influenza Virus.

Generally arriving within the first few days of a major disaster such as a cyclone, ships are able to provide vital communications, safe drinking water, medical aid, and a labour force to assist with clean up efforts.<sup>74</sup> Importantly as self-supporting units they can undertake this task without placing further burden on the local infrastructure. They can also provide valuable respite for land forces deployed ashore with hot meal facilities, showers, shelter, sleeping, and communications.<sup>75</sup> Even without resupply, warships proceeding direct from other tasks within the area would be capable of providing food to sustain several hundred people for two-three days from their minimum endurance holdings. More specific items such as baby formula, nappies, and tents would not normally be carried, and require external supply or a dedicated logistics port visit to collect the supplies prior to arriving on task.

### Assistance to Foreign Forces

The ability for nation states in the Asia-Pacific region to manage and police their EEZ is important to their local economy and long term economic sustainability. Similarly the control of their own territorial waters is also crucial for reducing criminal activity such as piracy, and directly related to the self-reliance of the state's maritime forces. Support such as the long term assistance of the Pacific Patrol Boat Program in the South West Pacific is aimed at providing the basis for self-reliance, and allowing a reduced presence by RAN vessels in the region. Twelve countries in the South West Pacific were provided with 22 vessels from Australia with the aim of improving the local maritime surveillance and policing capability. The introduction of the boats has required a high level of ongoing logistic support to maintain the increased maritime capability, with special consideration of local infrastructure. This has specifically included upgrades to air conditioning and cooling systems to better reflect the environment, the provision of trained advisers, and associated port infrastructure.<sup>76</sup> Noting the quantum increase in maritime capability for many of the small nations it is also suggested that patience,

humility, and practical ongoing support are critical to building long term defence relationships and self-reliance.

Logistic support to foreign forces is also essential to enabling smaller countries to assist with regional security missions, and the need to build a strong network of regional defence cooperation links.<sup>77</sup> The ability to form and operate as a broad coalition of military forces is vital to achieving military and diplomatic objectives in a number of regional operations such as the Australian-led Regional Assistance Mission to the Solomon Islands (RAMSI), and United Nations mandated International Force in East Timor (INTERFET). The assistance often including access to transport, catering supplies, fuel, and medical support.

## Presence

In seeking to convey an interest in a region or nation, maritime logistic support can also actively contribute to the provision of credible combat power. The readiness and sustainability of ships engaged in an exercise or mission being direct indicators of maritime combat power. Similarly, the conduct of a well planned and professional port visit, with the ability to work with local contractors and military personnel can also indirectly assist with seeking to reassure, impress, or provide a warning through naval presence.

## Evacuation Operations

The evacuation of international visitors from Lebanon between July and August 2006 highlighted the importance of maritime evacuation operations. With evacuation by air blocked, and land restricted, tens of thousands of people were evacuated by sea through a combination of naval shipping and hastily chartered passenger ships. In addition to indicating the speed at which modern conflicts can occur, the evacuation demonstrated the increasing expectations of citizens to rely on their own nation state for assistance, and the ability of the media to focus national efforts.<sup>78</sup> The Australian Government, without a naval ship in the region, utilised chartered ships to evacuate approximately 5000 Australian citizens from Lebanon. Later in 2006, the ADF responded to a military coup in Fiji, with a task group including three RAN ships to standby in the event that the evacuation of Australian citizens become necessary.

Similar to disaster relief operations, the challenges for maritime logistics is the ability to quickly respond to such situations, and support large numbers of evacuated citizens without necessarily having the opportunity to embark specialist humanitarian supplies, and additional provisions. Although land and air evacuations are likely to remain the preferred choice of governments to protect their citizens, maritime forces can expect to be involved in such joint evacuation operations, if not least as a military contingency. The flexibility to transport and support large numbers of personnel will be a key requirement, together with greater cooperation with other government departments

through a coordinated response. A recent report into the evacuation of 15,000 US citizens from the Lebanon conflict in 2006 noted that while the large and complex operation was a success, differences in institutional cultures and systems impeded the ability of the Department of Defense and State to work together, and resulted in miscommunications and possible delays.<sup>80</sup> It is suggested that such observations would apply equally in the Australian context.

## Coercion

Active deterrence of potential aggressors can be achieved through the ability and readiness to deploy combat power. Linked to overall logistics preparedness, measures will generally be conducted as joint coalition operations, such as the US led Proliferation Security Initiative (PSI) aimed at impeding trafficking in weapons of mass destruction (WMD), missiles and related items.<sup>80</sup> In the maritime context the PSI is supported through a framework of agreements and demonstrations of capability aimed at investigating and stopping ships that may be transporting WMD. Through overt exercises such as PACIFIC PROTECTOR in 2003, the PSI seeks to coerce states into limiting the passage of WMD related items. While the agreements that underpin the PSI, and the legal issues of boarding foreign flagged vessels on the high seas is arguably the most significant challenge, the practical application of coercion requires a focus on readiness, flexibility to conduct a range of missions including support of foreign special forces at short notice, and ability to sustain a short notice coalition.

## Environmental & Resource Management and Protection

Maritime patrol and surveillance is a core activity for naval forces, and one which is undertaken by a range of navies in support of environmental interests. Within Australian waters, naval vessels routinely undertake fisheries patrols in the EEZ ranging from Ashmore Reef in the North, to Southern Ocean patrols in the vicinity of Heard Island. As the use and protection of the maritime environment becomes more prominent, it is likely to result in RAN vessels being involved in a wider range of tasks, similar to that suggested in Canada to use the capacity of their military and intelligence organisations for environmental security.<sup>81</sup> There is also a developing opinion that the extension of coastal and port state controls may be the answer to violations of MARPOL.<sup>82</sup> Cooperation between states to monitor and enforce the protection of the environment is also expanding, and draws on the experience navies have in sharing information and operating in coalition forces.<sup>83</sup>

With well-established procedures and support of patrol boats in environmental and resource management, it is likely that new challenges in logistic support would most likely relate to greater use of MFUs in patrolling the Southern Ocean. Leaving aside the legal issues, there has been calls from environmental interest groups within Australia and the Parliamentary Opposition to utilise RAN ships to protect whales



within Australia's undeclared Antarctic EEZ.<sup>84</sup> Together with the patrols in the vicinity of Heard Island to police the fishing of the Patagonian toothfish, if greater tasking in the Southern Ocean region was directed by government, the practical implications for the RAN in the longer term would include changes to the design and construction of future ships to operate in sub-Antarctic areas. In the short term, such patrols would increase the physical stress on the hull and associated systems, requiring additional maintenance including the provision of cold weather oils and lubricants. Equally important is reliability as in the event of a major machinery breakdown or accident there are no close ports that can offer assistance and provide sanctuary from the weather conditions. Changes to endurance capacity, provision of cold weather safety equipment, clothing, and dedicated tanker support to refuel are also related considerations.

### Defence Aid to the Civil Power

The emergence of a widespread terrorist threat in recent years has resulted in greater involvement of military forces in the enforcement of law and order within their own country. Practical examples of this include the provision of support and infrastructure to major policing operations such as the recent APEC Heads of Government meeting in Sydney, and the use of HMAS *Kanimbla* as an underway command ship during the Melbourne Commonwealth Games 2006. The more direct application of such aid to the civil power is the use of special forces in the underway apprehension of the North Korean vessel, *Pong Su* in April 2003. With such operations generally conducted as a very high priority in close proximity to Australia, minimal additional logistic effort is generally required beyond that of supporting joint, multi agency operations. The logistic support of major events impacts the Army significantly more because of the movement and sustainment of large numbers of troops.

### Maritime Barrier Operations

Maritime barrier operations seek to leverage off the maritime environment to prevent access to specified areas. In the contemporary environment, maritime barrier operations are frequently utilised to prevent unauthorised access to state sovereignty or EEZ.<sup>85</sup> Currently supported by RAN ships through Operation RESOLUTE, the mission includes the protection of the Australian EEZ, the detection and deterrence of illegal refugees and drug smuggling, and general maritime security.<sup>86</sup> The medium term outlook for the Asia-Pacific region with the effects of climate change and rising sea levels is expected to dramatically increase the number of potential refugees, and the associated tasking of RAN ships in support of such operations.<sup>87</sup>

RAN units undertaking barrier operations require the endurance and reliability to patrol large areas, remaining on station for in excess of four weeks.<sup>88</sup> The accommodation, catering, medical, and the support of additional boarding parties and detained personnel also is necessary. The capacity of ship's services such as water and sewerage, quarantine

arrangements, and the physical deck space to offer safe and secure accommodation areas are a number of the limiting logistic factors. The preferred option for detained personnel would generally be to remain on their own vessel, or be transferred to a dedicated detainment ship. The capacity and procedures are however still required for large groups of personnel to be embarked for short periods of time onboard RAN ships, such as the rescue of 223 people from Suspected Illegal Entry Vessel (SIEV) 4 in October 2001.<sup>89</sup>

## Peace Operations

Peace operations comprise both peacekeeping and peace enforcement, with the aim of alleviating human suffering and creating conditions and institutions for self-sustaining peace.<sup>90</sup> Maritime forces are most likely to be employed in patrolling coastal regions and supporting land forces ashore associated with stabilisation operations. For regional forces such as Australia, the ability of the ADF to be employed in stabilising fragile states in the region is a stated objective of the Australian Government.<sup>91</sup>

In coastal regions and archipelagic states where there is minimal civilian transport infrastructure, naval forces have a critical role in providing mobility to land forces such as the RAMSI.<sup>92</sup> The transport role generally is generally provided by Minor Warfare Vessels (MWVs), which have limited logistic and self-sustainment capabilities.<sup>93</sup> For the RAN the deployment and tasking of MWVs requires a greater level of logistic support, particularly in regions with minimal local infrastructure. The operational level support being provided through the use of a contracted ship's agent, the provision of a Navy Logistic Support Element ashore, or leveraging off deployed Army logistics infrastructure.

## Sanctions & Embargoes

The enforcement of sanctions and embargoes is arguably one of the more common maritime tasks performed by the RAN in recent years. A regular rotation of Australian warships participating in UN sanctions against Iraq led up to the invasion in 2003, and has since assisted with customs and maritime security related patrols. The major challenges in logistic support includes the distance from Australia, integrating into a large coalition maritime force, and best utilising shore support and replenishment at sea to maximise time on station in an operational area.

In addition to supporting boarding parties with a range of equipment more readily associated with that of an infantry soldier, there are specific requirements for the collection and handling of evidence, and management of detained vessels. Detained vessels often wait up to several months at sea in a dedicated 'smuggler's box' area in the North Arabian Gulf (NAG) for legal proceedings, which imposes a duty of care on the Coalition maritime forces for the continued health and welfare of the sailors onboard. Coalition warships in the area undertake health and comfort checks, and

provide medical aid and provisions.<sup>94</sup> The differences in culture, religion, and diet from many nationalities present a variety of practical challenges.

## Combat Operations at Sea

Potentially the ultimate test of logistic support of maritime forces, combat operations at sea, bring together many of the roles already discussed in a highly lethal military environment. Navies can expect to move from diplomatic and constabulary roles to responding to a military situation with little or no notice. For HMAS *Stuart* and USS *Firebolt* in April 2004, the patrol of the Al Basra Oil and Khawr Abd Allah oil terminal in the NAG, changed dramatically in a matter of minutes with a coordinated terrorist attack. Following the initial response and treatment of casualties, HMAS *Stuart* assisted with the reinforcement and logistic support of the oil terminals.<sup>95</sup> Similarly for many years following the Iraq attack on Kuwait, the Maritime Interception Force (MIF) warships enforcing UN trade sanctions and undertaking peace enforcement operations were still vulnerable to coastal missile batteries such as the Seersucker surface to surface missile which could be launched in a matter of minutes.<sup>96</sup> This highlights the need to actively balance the requirements of readiness and sustainability. The reliability of combat systems, support and training of personnel, and the ability to deal with major battle damage all potentially come down to a few minutes of intense activity within a six month operational deployment.

A return to more traditional naval combat operations involving conflict between nation states also remains a possibility. With the current focus on asymmetric warfare, diplomatic and constabulary roles, the RAN must also maintain readiness and skills in a range of conventional maritime warfare disciplines in order to provide suitable deterrence. Although arguably well within the traditional skill-sets for maritime logisticians, medium to high intensity combat operations such as that involving ASW would still provide a number of logistic challenges, particularly with the potential to be conducted simultaneously with peace and humanitarian operations.<sup>97</sup> The ability to integrate into a US Navy led battle group for extended periods of time, the maintenance of a secure munitions and equipment supply line, and response to major battle damage and loss of life being just a few of the logistic considerations.

## Combat Operations from the Sea

Combat operations from the sea includes land strike, maritime mobility, amphibious operations and support to land forces. They are likely to be undertaken in support of joint service expeditionary operations at some distance from local infrastructure, and with a strong logistics focus on the support of land forces. The ability to conduct and support amphibious operations is integral to the defence of Australia, regional humanitarian support and peace keeping, and the broader contribution to global coalition operations. The two *Canberra* class amphibious ships with the capacity to embark 1000 personnel,

and large numbers of aircraft will also bring many new challenges in learning how to best operate and support a significant increase in RAN capability.

Following the initial lodgement of land forces, support through the provision of personnel, equipment, fuel, food, and water would expect to be transferred ashore utilising available port facilities, water transport craft, and helicopters. The common cited logistic shortfalls being in available lighterage to transport supplies such as fuel and inventory ashore, and shortages of materiel handling equipment.<sup>98</sup> The movement of personnel and equipment ashore by either conventional watercraft or Air Cushioned Vessels remains relatively slow, time consuming to load/offload, and heavily susceptible to the sea state.<sup>99</sup> The visibility and prioritisation of supplies to be transferred ashore are also hindered by the current logistic systems, which are yet to mature into integrated joint information systems.<sup>100</sup>

Seeking to further expand the concept of support to allied forces ashore, the US Navy is investigating an initiative to improve support through the use of sea basing. Leveraging off the security, mobility, and ability to operate independent of host nation support, the most practical current options centre around the use of large civilian container ships with endurance of up to 45 days and the capacity to carry more than 700 containers.<sup>101</sup> Critics of sea basing suggest that limitations will still remain in the availability of sea lift assets to support the base, and the number of additional vessels and aircraft required to practically support large land formations operating ashore.<sup>102</sup> Secure beachheads, ports, and airfields would still be required, and continuous operations would be susceptible to adverse weather. Cost also remains a major issue with the project competing for funds against the next generation aircraft carriers, destroyers, and amphibious assault ships.<sup>103</sup> Even without being in the realm of current Australian naval capability, much of the related research and concepts are potentially applicable on a smaller scale, such as that of a task group comprising amphibious, afloat support, and leased merchant vessels supporting a low level intervention operation in the South West Pacific. If the concept enters service in the US Navy, it is likely that RAN ships, submarines, and aircraft deployed on coalition operations and exercises would integrate into available sea basing logistic support infrastructure.

Closely related to the support of amphibious operations and support to land forces ashore is that of maritime mobility, and the transportation of equipment, fuel, supplies and ammunition to deployed forces. Notwithstanding the time delays, for large and heavy items such as tanks, ammunition, and large vehicles, sea lift remains the primary enabler during expeditionary operations. A common factor in lessons learnt from operations is that sea lift is invariably limited. This also applies to operations with relatively long lead times such as the deployment phase conducted in support of DESERT STORM, where it was noted that even the United States faced serious shortages in strategic sea and air lift capability.<sup>104</sup> During the invasion of Iraq in 2003, the UK

Ministry of Defence chartered up to 64 merchant vessels for the build up prior to the war, which were primarily used to move the Desert Rats 7th Armoured Brigade.<sup>105</sup>

As alluded to above, the primary constraint on sealift remains the time needed to move items over large distances. Future improvements in sea lift are likely to centre around the use of wave piercing catamarans.<sup>106</sup> Currently being trialled by the US Military Sealift Command as Theatre Support Vessels they offer significantly faster transit times with the aim of freeing up rotary wing assets for other tasking.<sup>107</sup> There is also scope for the adoption of knowledge and processes from the transport shipping industry, as a lack of urgency, poor scheduling, and inefficient cargo preparation slowed down the naval shipment of supplies from the US to the Middle East in 2003.<sup>108</sup>

For Australia, the purchase of four C-17 Globemaster strategic aircraft, with significantly increased capacity to move large items is unlikely to impact on the applicability of sea lift. Instead the Globemaster essentially replaces leased aircraft and the slower C-130 for inter-theatre movement, and will be particularly useful in provides a first response to major disasters and operational contingencies. The aircraft also providing a major increase in capacity to support deployed RAN platforms through the movement of helicopters, equipment, and spares. As 'light vehicles' become heavier with greater force protection measures it also worth considering the efficiency of sea lift against air lift. The trade-off of moving Mine Resistant Ambush Protected (MRAP) vehicles to Iraq from the United States via sea being one additional month to the supply chain, with the cost of airlift seven times as much (US\$ 134,000) for each vehicle to be airlifted to Iraq.<sup>109</sup>

## Conclusion

The early 21st century will require the RAN to operate more frequently in the littoral, simultaneously engaged in short notice diplomatic, constabulary, and military operations. Working within global multinational coalitions, and as a leader in regional assistance, there will be a requirement to support both coalition naval forces, and joint operations ashore. The RAN will require logistic support that is capable of adapting, operating, and sustaining a range of overlapping tasks in reducing time frames and areas.

While the logistic support of the RAN is capable of supporting such operations, there are shortfalls in being able to flexibly surge and sustain forces, conduct large scale sea lift, and establish interoperability with land force logistics. The operations also bring with them the need for greater logistic interoperability with less traditional coalition partners, enhancing joint inventory management and cargo visibility systems, and leveraging off concepts such as sea basing.

The way in which maritime capability is generated and sustained is also evolving. Greater scrutiny of acquisition and the through-life support can be expected, with a

focus on delivering capability into service in a much shorter time frame. Contractor support, increasing technological complexity of maritime platforms, governance and environmental requirements, and the attraction and retention of trained personnel are just a few of the many factors that will also impact the support of modern maritime forces.

Optimised for supporting forces engaged in major blue water operations and battles, RAN logistics will need to become more adaptable and able to support a range of missions simultaneously during a single deployment. While flexibility and adaptability have arguably been hallmarks of naval logistics for over a century, the complexity of supporting overlapping operations will continue to present new and varied challenges in providing maritime readiness, and sustaining capability moving into the future.

## Notes

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- <sup>1</sup> Rupert Smith, *The Utility of Force*, Penguin Group, London, 2005, p. 278.
- <sup>2</sup> General Charles C. Krulak, *The Three Block War Fighting In Urban Areas*, US National Press Club, Washington DC, 10 October 1997.
- <sup>3</sup> Royal Australian Navy, *The Navy Contribution to Australian Maritime Operations (NCAMO)*, RAN Doctrine 2, Defence Publishing Service, Canberra, 2005, p. 9.
- <sup>4</sup> Greg Nash & David Stevens, *Australia's Navy in the Gulf - From Countenance to Catalyst, 1941-2006*, Topmill, Sydney, 2006, p. 70.
- <sup>5</sup> Nash & Stevens, *Australia's Navy in the Gulf*, p. 78.
- <sup>6</sup> *NCAMO*, p 9.
- <sup>7</sup> Australian Defence Force, *ADFP 101 Glossary*, Defence Publishing Service, Canberra, 1994, p. L-7.
- <sup>8</sup> Australian Defence Force, *ADDP 4.3 Supply*, Defence Publishing Service, 2005, Canberra, p. G-2.
- <sup>9</sup> Royal Australian Navy, *Australian Maritime Doctrine (AMD)*, RAN Doctrine 1 - 2000, Defence Publishing Service, Canberra, 2000, p. 84.
- <sup>10</sup> Australian Defence Force, *ADFP 20 Logistics in Support of Joint Operations*, Defence Publishing Service, Canberra, 1999, p. 1-3.
- <sup>11</sup> *AMD*, p. 84.
- <sup>12</sup> *AMD*, p. 84.
- <sup>13</sup> *NCAMO*, p. 63.
- <sup>14</sup> *NCAMO*, p. 76.

- <sup>15</sup> James Stavridis and Frank Pandolfe, 'From Sword to Shield - Naval Forces in the Global War on Terror', *Proceedings*, August 2004, p. 48-51
- <sup>16</sup> Geoffery Till, *Seapower: A Guide for the Twenty-First Century*, Frank Cass, London, 2004 p. 119.
- <sup>17</sup> Caitlin Harrington, 'US Passes War Spending Bill', *Jane's Defence Weekly*, Vol 44, Issue 22, 30 May 2007, p. 5.
- <sup>18</sup> Peter Felstead, 'UK Royal Navy is 'at the Limits' of Capabilities', *Jane's Defence Weekly*, Vol 44, Issue 12, 21 March 2007, p. 15.
- <sup>19</sup> Commonwealth of Australia, *Portfolio Budget Statements 2004-05 - Defence*, Canberra, 2004, Chapter 2, p. 26.
- <sup>20</sup> Nick Brown, Richard Scott, and Kathryn Shaw, 'New Carrier Age Takes Off', *Jane's Navy International*, September 2003, p. 45.
- <sup>21</sup> Max Boot, 'The Corps Should Look to its Small-Wars Past', *Armed Forces Journal*, March 2006.
- <sup>22</sup> *AMD*, p. 50.
- <sup>23</sup> Australian National Audit Office (ANAO), *Department of Defence Commercial Support Program*, Australian National Audit Office, Canberra, 1998.
- <sup>24</sup> William G Pagonis, with Jeffrey L Cruikshank, *Moving Mountains - Lessons in Leadership and Logistics from the Gulf War*, Harvard Business School Press, Boston, 1992, pp. 210-211.
- <sup>25</sup> Thomas J Marshall, Phillip Kaiser, and Jon Kessmeier (eds), *Problems and Solutions In Future Coalition Operations*, The Strategic Studies Institute of the US Army War College, December 1997, pp. 19-20.
- <sup>26</sup> Admiral Mike Mullen, 'What I Believe: Eight Tenets That Guide My Vision for the 21st Century Navy', *Proceedings*, US Naval Institute, January 2006.
- <sup>27</sup> *NCAMO*, p. 69.
- <sup>28</sup> Pagonis, *Moving Mountains*, p. 1.
- <sup>29</sup> Kenneth Gause, Catherine Lea, Daniel Whiteneck, Eric Thompson, *U.S. Navy Interoperability with its High-End Allies*, Center for Strategic Studies, 2006, <[www.dodccrp.org/events/5th\\_ICCRTS/papers/Track3/080.pdf](http://www.dodccrp.org/events/5th_ICCRTS/papers/Track3/080.pdf)> (21 November 2008).
- <sup>30</sup> Tom Allard, 'Treaty signals move to top-tier military ally status', *Sydney Morning Herald*, 6 Sep 2007, <[www.smh.com.au/news/national/treaty-signals-move-to-toptier-military-ally-status/2007/09/05/1188783320140.html](http://www.smh.com.au/news/national/treaty-signals-move-to-toptier-military-ally-status/2007/09/05/1188783320140.html)> (21 November 2008).
- <sup>31</sup> Department of Defence, *Fact Sheet Australia Us Treaty On Defence Trade Cooperation*, September 2007, available at <[www.defence.gov.au/publications/Treaty\\_fact\\_sheet.pdf](http://www.defence.gov.au/publications/Treaty_fact_sheet.pdf)> (21 November 2008).
- <sup>32</sup> Sandy Woodward, *One Hundred Days*, Harper Collins, London, 2003, pp. 17-18.
- <sup>33</sup> Richard Scott, 'UK Royal Navy Selects Thales Solution for Fleetwide RESM Technology Update' *Jane's International Defence Review*, Volume 40, August 2007, p. 17.
- <sup>34</sup> Jenny Reich, John Hearps, Andrew Cohn, Jeromey Temple, Peter McDonald, *Defence Personnel Environmental Scan 2025*. Department of Defence, Canberra, 2006, pp. xix-xxi.
- <sup>35</sup> Commonwealth of Australia, *Senate Inquiry into Workforce Challenges in the Transport Industry*, 9 August 2007, Chapter 2.

- <sup>36</sup> Lim Hwee Hua, *Minister Of State For Finance And Transport - Opening Address At The Launch Of The Singapore Maritime Training Fund And Forum On Maritime Training In Chemicals And Gas*, Singapore, Friday, 7 July 2006.
- <sup>37</sup> Congress Research Service, *Navy DDG-1000 (DD(X)) and CG(X) Ship Acquisition Programs: Oversight Issues and Options for Congress*, Washington, Updated June 11, 2007.
- <sup>38</sup> Darren MacDonald, 'Team ANZAC takes crews to \*\*\*\*\*', *SeaTalk*, Royal Australian Navy, Winter 2006, p. 26, available at <[www.navy.gov.au/publications/seatalk/winter2006/2006-winter.pdf](http://www.navy.gov.au/publications/seatalk/winter2006/2006-winter.pdf)>(16 November 2008).
- <sup>39</sup> Royal Navy, 'Air Defence Destroyer (Type 45)', <<http://www.royalnavy.mod.uk/server/show/nav.2227>> (26 October 2007).
- <sup>40</sup> US Government Accountability Office, 'Force Structure: Navy Needs to Fully Evaluate Options and Provide Standard Guidance for Implementing Surface Ship Rotational Crewing - GAO-05-10', Washington, <<http://www.gao.gov/htext/d0510.html>> (10 Nov 2004).
- <sup>41</sup> Till, *Seapower: A Guide for the Twenty-First Century*, p. 241.
- <sup>42</sup> Michael Evans, 'Clauswitz's Chameleon: Military Theory and Practice in the Early 21st Century', *Future Armies Future Challenges Land Warfare in the Information Age*, Allen & Inwin, Crows Nest, 2004, p. 41.
- <sup>43</sup> Guy Toremans, 'RN Key to Sporting Land Forces in Iraq - Interview with RADM David Snelson, Deputy Coalition Maritime Joint Component Commander', *Jane's Navy International*, May 2003, p. 40.
- <sup>44</sup> Department of Defence, *Australian's National Security: Defence Update 2007*, Commonwealth of Australia, Canberra, 2007, p. 37.
- <sup>45</sup> Christopher Briem, 'Joint is Dead: What is Next?', *Proceedings*, January 2004, pp. 56-59.
- <sup>46</sup> M Kinnaird, L Early, & B Schofield, *Defence Procurement Review 2003*, Department of Defence, Canberra, 2003.
- <sup>47</sup> Julian Kerr, 'Clean Sweep for Navantia in Australian Warship Deals', *Jane's Navy International*, Vol 112, Issue 6, July/August 2007, p. 4.
- <sup>48</sup> Ronald O'Rouke, 'The Shape of Things to Come: CG(X) may Grow in Size and Cost to Deliver Capability', *Jane's International Defence Review*, Vol 40, August 2007, p. 32.
- <sup>49</sup> Steven Gumley, Defence Materiel Organisation, *Defence & Industry Conference*, National Convention Centre, Canberra, 21 June 2005.
- <sup>50</sup> Martin Van Creveld, *Modern Conventional Warfare: An Overview*, <[www.cia.gov/nic/PDF\\_GIF\\_2020\\_Support/2004\\_05\\_25\\_papers/modern\\_warfare.doc](http://www.cia.gov/nic/PDF_GIF_2020_Support/2004_05_25_papers/modern_warfare.doc)> (18 November 2008).
- <sup>51</sup> Till, *Seapower*, p. 119.
- <sup>52</sup> Thomas J Marshall, Phillip Kaiser, and Jon Kessmeier (eds), *Problems And Solutions In Future Coalition Operations*, The Strategic Studies Institute of the US Army War College, December 1997, p. 3.
- <sup>53</sup> Luca Peruzzi, 'Italians Eagerly Await their 'Cruiseship' Aircraft Carrier', *Jane's Navy International*, Vol 112, Issue 6, July/August 2007, pp. 22-26.
- <sup>54</sup> R Scott, 'New Model Navy', *Janes Defence Weekly*, Vol 43; Issue 31, 2006, p. 23.
- <sup>55</sup> Scott C Truver, 'LCS Moves Out of the Shadows', *Jane's Navy International*, September 2003, p. 14



- <sup>56</sup> Ronald O'Rourke, 'The Shape of Things to Come', p. 32.
- <sup>57</sup> Glenn Kerr and Barry Snushall (eds), *Future Environmental Policy Trends to 2020 : Impact on Ship Design and Operation*, Sea Power Centre Australia, Canberra, 2005, pp. 10-11.
- <sup>58</sup> Tara Copp, 'US Navy considers nuclear option for CG(X)', *Jane's Defence Weekly*, Janes Information Group, Vol 44, Issue 31, 1 August 2007, p. 10.
- <sup>59</sup> Caitlin Harrington, 'Future Generation', *Jane's Defence Weekly*, Janes Information Group, Vol 44, Issue 34, 22 August 2007, pp. 24-29.
- <sup>60</sup> Woodward, *One Hundred Days*, pp. 129 & 252.
- <sup>61</sup> Commonwealth of Australia, *Report of the Board of Inquiry into the Fire in HMAS WESTRALIA on 5 May 1998*, Defence Publishing Service, Canberra, 28 Aug 1998, Section 16.
- <sup>62</sup> Lloyd's Register, 'Naval Ships Classification and Value-added Services', available at <[www.lr.org/Industries/Marine/Ship+types/Naval+ship+services.htm](http://www.lr.org/Industries/Marine/Ship+types/Naval+ship+services.htm)>(18 November 2008).
- <sup>63</sup> US Department of Defense, *Quadrennial Defense Review*, Washington, February 2006, p. 48.
- <sup>64</sup> Vice Admiral Keith Lippert (ret'd), 'US DoD Strives to Keep Ahead of the Game', *Jane's Defence Weekly*, Vol 40, Issue 27, 4 July 2007, p. 21.
- <sup>65</sup> Joint Committee on Public Accounts and Audit, 'ANAO Inability-to-form-an-Opinion on the Department of Defence Financial Statements 2003-04', *Audit Report No 21*, 2004-05, Commonwealth of Australia, 7 November 2005, Chapter 8.
- <sup>66</sup> Lieutenant Colonel Adrian Burke, 'Has Strategic Distribution Made a Difference to the Last Tactical Logistics Mile?', *Logistics Spectrum*, SOLE - The International Society of Logistics, July-September 2006, pp. 12-18.
- <sup>67</sup> Pagonis, *Moving Mountains*, p. 206. See also Nick Brown, 'Commando Logistics - Delivering the Goods', *Jane's Navy International*, May 2003, p. 27.
- <sup>68</sup> Caitlin Harrington, 'USAF Eyes UAVs with Reduced Demands on Bandwidth, Spectrum', *Jane's Defence Weekly*, Vol 44, Issue 33, 15 Aug 2007, p. 7.
- <sup>69</sup> Timothy Hu, 'Marching Forward', *Jane's Defence Weekly*, Vol 44, Issue 17, 25 Apr 2007, p. 26.
- <sup>70</sup> Jenny Reich, John Hearps, Andrew Cohn, Jeromey Temple, Peter McDonald, *Defence Personnel Environmental Scan 2025*. Department of Defence, Canberra, 2006, p. xxiv.
- <sup>71</sup> Dr Brendan Nelson, 'ADF Members Given More Career Choice', 2 April 2007, available at <[www.minister.defence.gov.au/NelsonMintpl.cfm?CurrentId=6517](http://www.minister.defence.gov.au/NelsonMintpl.cfm?CurrentId=6517)> (21 November 2008).
- <sup>72</sup> Tom Philpott, 'Surgeon General: Looming Doctor Shortage', *Stars and Stripes*, 13 July 2006.
- <sup>73</sup> Till, *Seapower*, p. 34.
- <sup>74</sup> Till, *Seapower*, p. 270.
- <sup>75</sup> Australian Army Journal, 'An Interview with Brigadier Mick Slater', Commander JTF 631, *Australian Army Journal*, Vol 3, No 2, Winter 2006, p. 11.
- <sup>76</sup> Steve Bell, 'The Pacific Patrol Boat Project', *Papers in Australian Maritime Affairs No 16*, Sea Power Centre - Australia, February 2005.

- <sup>77</sup> Department of Defence, *Australia's National Security A Defence Update 2007*, Canberra, p. 32.
- <sup>78</sup> Hugh White, 'The Safety Net Dragging Us Down', *Sydney Morning Herald*, 19 October 2007, also available at <[www.lowyinstitute.org/PublicationGet.asp?i=699](http://www.lowyinstitute.org/PublicationGet.asp?i=699)> (18 November 2008).
- <sup>79</sup> Government Accountability Office, 'Evacuation of American Citizens from Lebanon Report', United States, 7 July 2006.
- <sup>80</sup> Alexander Downer, 'The Threat of Proliferation: Global Resolve and Australian Action', Speech to the Lowy Institute, Sydney, 23 February 2004.
- <sup>81</sup> Ann Griffiths, Richard Gimblett and Peter Haydon, Halifax (eds), *Canadian Gunboat Diplomacy: The Canadian Navy & Foreign Policy*, Centre for Foreign Policy Studies, November 2000, p. 369.
- <sup>82</sup> Till, *Seapower*, p. 341.
- <sup>83</sup> Mary Beth West, 'International Challenges in Addressing Marine Environmental Problems, Deputy Assistant Secretary of State for Oceans and Fisheries -Remarks to Stockholm Declaration and Law of the Marine Environment Conference -- Panel VIII: Future Developments, Stockholm, Sweden, May 25, 2002', may be found at <[www.state.gov/g/oes/rls/rm/2002/10741.htm](http://www.state.gov/g/oes/rls/rm/2002/10741.htm)>(18 November).
- <sup>84</sup> Mark Metherell and Andrew Darby, 'Rudd Stand on Whaling is Piracy, says Turnbull', *Sydney Morning Herald*, 21 May 2007, also available at <[www.smh.com.au/news/whale-watch/rudd-stand-on-whaling-is-piracy-says-turnbull/2007/05/20/1179601244365.html](http://www.smh.com.au/news/whale-watch/rudd-stand-on-whaling-is-piracy-says-turnbull/2007/05/20/1179601244365.html)>.
- <sup>85</sup> Sea Power Centre - Australia (SPC-A), 'Considerations in Maritime Barrier Operations', *Semaphore*, Issue 2, May 2004.
- <sup>86</sup> Department of Defence, 'About Operation Astute', Commonwealth of Australia, October 2007, available at <[www.defence.gov.au/opresolute/default.htm](http://www.defence.gov.au/opresolute/default.htm)> (18 November 2008).
- <sup>87</sup> Alan Dupont & Graeme Pearman, *Heating Up The Planet Climate Change And Security*, Lowy Institute, Paper 12, 2006, pp. 46-50.
- <sup>88</sup> SPC-A, 'Considerations in Maritime Barrier Operations', *Semaphore*, Issue 2, Sea Power Centre Australia, May 2004.
- <sup>89</sup> Senate Select Committee, *A Certain Maritime Incident*, Commonwealth of Australia, 2002, Chapter 3.
- <sup>90</sup> United Nations, 'The Logic of Peacekeeping', <[www.un.org/Depts/dpko/dpko/intro/2.htm](http://www.un.org/Depts/dpko/dpko/intro/2.htm)> (18 November 2008).
- <sup>91</sup> Department of Defence, *Defence Update 2007*, p. 27.
- <sup>92</sup> Aiden Collie & David Stevens, 'Australian Operations in the Solomon Islands', *Australian Maritime Issues 2004*, Sea Power Centre - Australia, Canberra, 2004, p. 56.
- <sup>93</sup> *NCAMO*, p. 67.
- <sup>94</sup> Rear Admiral Ronnie Tay, 'Modern Navies: A Force for Good', Special Edition, *Jane's Navy International*, 01 April 2005.
- <sup>95</sup> Nash & Stevens, *Australia's Navy in the Gulf*, p. 82.
- <sup>96</sup> Toremans, 'RN Key to Supporting Land Forces in Iraq', May 2003, p. 40.
- <sup>97</sup> Andrew Davies, 'The Enemy Below: Anti-submarine Warfare in the ADF', Australian Strategic Policy Institute, Special Report February 2007, Issue 2, pp. 11-12.

- <sup>98</sup> Pagonis, *Moving Mountains*, p. 205.
- <sup>99</sup> Richard Scott, 'Doctrine and Innovation are Key to New Amphibious Watercraft', *Jane's Defence Review*, Vol 40, August 2007, pp. 40-41.
- <sup>100</sup> Auditor General, *Management of Australian Defence Force Deployments to East Timor*, Australian National Audit Office, Canberra, 2002, pp. 62-64.
- <sup>101</sup> Stephen M Carmel, 'A Commercial Approach to Sea Basing - Afloat Forward Stage Bases', *Proceedings*, January 2004, pp. 78-80.
- <sup>102</sup> Brown, 'Commando Logistics', May 2003, p. 24.
- <sup>103</sup> John P Patch, 'Sea Basing - Chasing the Dream', *Proceedings*, May 2005, p. 39.
- <sup>104</sup> Pagonis, *Moving Mountains*, p. 203.
- <sup>105</sup> Guy Toremans, 'RN Key to Supporting Land Forces in Iraq', p. 40.
- <sup>106</sup> Richard Scott, 'UK Plans Theatre Support Vessel trial', *Janes Navy International*, Janes Information Group, June 2004, p. 13.
- <sup>107</sup> Scott, 'UK Plans Theatre Support Vessel Trial', p. 13.
- <sup>108</sup> Burke, 'Has Strategic Distribution Made a Difference to the Last Tactical Logistics Mile?', p. 16.
- <sup>109</sup> Nathan Hodge, 'Pentagon Request Funding for MRAP Transport to Iraq', *Janes Defence Review*, Vol 44, Issue 34, 22 August 2007, p. 7.

# Naval Administration 1919-23: Lessons for Today's Royal Australian Navy

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**This paper had its genesis in a Chief of Naval Staff Advisory Committee (CNSAC) meeting in 1992. At that meeting Rear Admiral Tony Hunt suggested that there was merit in examining the financial situation that applied immediately after World War I, to see what lessons might be applied to the current financial situation. This paper was prepared in response to this CNSAC direction. It remains as relevant today as it was in the early 1990s, especially as we re-examine naval administration in the joint ADF environment.**

The situation the Royal Australian Navy (RAN) found itself in during the period 1919-23 was extremely complex and involved many similarities to the administrative problems faced today. It was characterised by significantly reduced financial provisions in real terms, choices to be made on which areas of activity and capability to reduce or abolish, as well as changing policy and financial guidelines.

## Background

### Fleet Composition

At the outbreak of World War I (WWI), the RAN consisted of one battlecruiser, four cruisers, three destroyers, two submarines, five smaller vessels and one training ship. By the end of WWI one cruiser, three destroyers and two auxiliaries had been added to the strength while the two submarines were lost and some of the smaller vessels had been paid off. Shortly after the war the British Government offered six destroyers, six submarines and three minesweeping sloops to the Australian Government as a free gift. This offer was subsequently accepted.

### Naval Manpower

Naval manpower grew in line with the expansion of the fleet from a permanent strength of 3800 at the outbreak of war to 5050 in 1918 and 5250 in mid-1919.<sup>1</sup>

### Financial Situation

Actual expenditure for the period 1918-25 is detailed in Table 1.

Expenditure (£ million)	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-35
War Expenditure	7.46	3.72	0.58	0.26	0.20	0.00	0.03
Ordinary Appropriation	1.65	1.72	2.55	2.38	2.12	2.08	2.02
Equipment	0.00	0.00	0.32	0.41	0.21	0.16	0.16
Loan Expenditure on Works	0.29	0.17	0.21	0.16	0.04	0.03	0.02
Total non-war expenditure	1.94	1.91	3.08	2.95	2.37	2.27	2.20
<b>Total Naval</b>	<b>9.41</b>	<b>5.63</b>	<b>3.66</b>	<b>3.21</b>	<b>2.58</b>	<b>2.28</b>	<b>2.23</b>

*Table 1 - Actual expenditure for the period 1918-25*

From this data it is not readily apparent why the significant force structure and manpower reductions were necessary. Looking at non-war expenditure it appears that there was significant financial growth after 1919-20. It is only when an analysis of expenditure on Ordinary Votes and Appropriations is undertaken that one can discern why reductions were necessary. It was in this area of the Estimates where operating and manpower costs were funded.

In 1914-15 expenditure on Ordinary Votes and Appropriations was £1.4 million. Although expenditure rose to £1.72 million in 1919-20 and to £2.55 million in 1920-21 the following factors resulted in a need for increased funding compared to 1914-15:

- the addition of one cruiser, nine destroyers, six submarines, three sloops and several support ships to the fleet's strength
- about 2000 additional personnel in the fleet
- the cost of supplies was considerably greater (oil fuel more than doubled in price in 1920)
- the ships were older and hence required more expenditure on maintenance and up-keep
- there were two separate wage increases for naval personnel, the latter in 1919 resulted in an increase of £130,000 for naval salaries
- Navy had assumed several new or additional functions (such as the radio service).<sup>2</sup>

## Scope

This paper is divided into two sections. The first commences with an outline of naval force structure policy, which provides a broad context for the subsequent chronology of events in the period 1919-23 and their analysis. The second section comprises a series of case studies on individual issues such as manpower, fuel and ammunition considerations.

## Naval Force Structure Policy

The RAN's force structure from the 1909 Imperial Conference through to the early 1920s was based upon the concept of a Fleet Unit centred around the battlecruiser HMAS *Australia*, with cruisers, destroyers, submarines and their associated support ships. This force was seen as providing a contribution to overall Imperial Defence as well as the protection of shipping and other maritime interests in Australia's coastal waters and shipping routes.

Aside from the initial fleet unit and its supporting vessels the only other major construction program announced by the Australian Government until 1924, was in June 1914, when it advised that two more light cruisers and two submarines would be acquired (only one cruiser, HMAS *Adelaide*, was subsequently built). Apart from the development of naval infrastructure and requisitioning some minor war vessels for local defence no further force development measures were implemented during WWI.

## Lord Jellicoe's Report

Action was initiated during the war to obtain Admiralty advice on the development of the RAN.<sup>3</sup> As a result of these requests Lord John Jellicoe was appointed to report on the naval defence of the Colonies and India. His report on Australia was submitted on 12 August 1919 and assessed that only the United States and Japan had the capability to pose a serious threat, but dismissed the former as a possibility. Jellicoe considered it was almost inevitable that the interests of Japan and the British Empire would clash and predicted that if Japan were determined on war, little warning would be given.<sup>4</sup> He forecast the Japanese thrust against Singapore, the subsequent path taken through the Philippines and Netherlands East Indies and commented that with the loss of its bases at Singapore and Hong Kong the power of the Royal Navy (RN) would be strangled, and Japan could pursue any desired policy of invasion or trade destruction.

The main thrust of Jellicoe's report was for the establishment of a Far East Fleet with Britain responsible for a 75 per cent, Australia a 20 per cent and New Zealand a 5 per cent contribution. This implied that Australia would have to provide a considerably expanded fleet compared to what it then operated. It meant a significant expansion of the battlecruiser, cruiser, submarine and support vessel forces as well as the introduction of an aircraft carrier into service. Overall, Australia would have to provide:

- 2 battlecruisers
- 8 light cruisers (4 in reserve)
- 1 flotilla leader
- 12 destroyers (2 in reserve)
- 1 destroyer depot ship
- 8 submarines
- 1 small submarine parent ship
- 1 seagoing minelayer (in reserve)
- 2 sloop minesweepers (in reserve)
- 2 special reserve sloop minesweepers
- 1 aircraft carrier
- 1 fleet repair ship.

Jellicoe also suggested that for harbour defence Australia needed 20 destroyers or 'P' boats, 10 submarines, 82 minesweepers (trawlers), of which 74 should be fishing trawlers, and four boom defence vessels. He noted that Australia already had more than one fleet unit, but needed vessels for trade protection and harbour defence.

Prior to Jellicoe's report naval infrastructure development was based on the Report of Admiral Henderson in 1911. This report proposed two major bases, at Sydney and Fremantle with a series of lesser bases scattered around the Australian coast. In relation to the establishment of a two-ocean navy, Jellicoe stated that:

At present the fleet is too small to introduce any such scheme, even if the necessary bases existed; but as it expands ... the proposal ... to divide the fleet into an Eastern Squadron and a Western Squadron should be carried out.

At this time the RAN comprised one battlecruiser, four cruisers, 12 destroyers, and six submarines (a larger number of major combatants than exists today). Jellicoe also noted that the proposal to base different squadrons and flotillas on various ports, other than the principal bases, as suggested by Henderson in 1911, did not have merit.<sup>5</sup>

Jellicoe recommended that if the development of the base at Cockburn Sound was to proceed, it should be on a considerably reduced scale. His views seem to have been driven by recognition of the importance of providing an appropriate balance between investment in operational capability and supporting infrastructure. Indeed, he stated that 'it is detrimental to efficiency to scatter the fleet around the coast in small detachments'.<sup>6</sup>

Overall, Jellicoe's report lacked reality in terms of what the Australian Government might be willing to spend on naval defence. Although the report was not formally endorsed by the Australian Government it had some impact on Australian naval policy development. Elements of it were used by the Naval Board and the Commodore Commanding the Australian Squadron (CCAS) in supporting their views for not reducing naval expenditure. The report was, however, important as it highlighted many strategic considerations which flowed from an analysis of Australia's geographic and strategic situation. In particular, it highlighted the extent to which an adversary would be constrained by geography in attempting to attack or harass Australian maritime interests, their potential lines of approach and the importance of Australia's northern maritime approaches in defending its overall interests, both in the north and south. Much of this was not new and had been recognised earlier by the Australian naval strategists Creswell and Thring. Jellicoe's observations were not so much important for what was said, but rather the weight they carried coming from an internationally recognised strategist.

Shortly after Jellicoe's report was tendered, the Australian Government adopted the stance that further naval force development should await the outcome of the Washington Naval Disarmament Conference and the Imperial Conference of 1921.

## Planning for Operations in the Pacific

Planning for operations in the event of war was undertaken principally in Britain either by the Admiralty or in the context of the Imperial Defence Committee. Despite the existence of the Australian fleet unit, colonies played little effective part in operational planning. One major exception was the conferences held between the commanders of the Australian, Far East and China stations. Even in this context the British were keen initially to exclude Australian participation. At the 1921 conference held in Penang, the RAN was represented by the First Naval Member, Admiral Sir Percy Grant. During these discussions, it was concluded that in the event of war in the region the four light cruisers of the Australian Fleet would join the China Fleet. The following vessels would be retained for the local defence of Australia: three sloops for minesweeping in Torres Strait; HMAS *Anzac* and 11 destroyers for local defence of Newcastle, Sydney and Melbourne; and six submarines and their depot ship. In addition, it was assessed that six coastal motor boats, nine flying boats and 12 torpedo carrying airplanes would be needed for local defence.

A disturbing aspect of the conclusions of the Penang Conference was the apparent willingness of RN officers attached to the RAN to divert Australian fleet units to other areas in time of conflict, without apparently considering the prospect of damage to Australia and its immediate interests. The main concern in this instance, and with the subsequent strategy based on deployment of units to foreign areas in time of conflict,



was the acceptance that Australian interests would be subservient to those of overall imperial defence considerations.

## Admiralty Guidelines for Australian Naval Development

During the 1921 Imperial Conference the Admiralty provided guidelines on naval development for the colonies.<sup>7</sup> This guidance was contained in CID Paper 131C titled *Empire Naval Policy and Co-operation*. For Australia the main thrust was to:

- continue the maintenance of a sea-going fleet
- assist in the development of Singapore
- commence the provision of oil fuel reserves.

In regard to trade protection, the Admiralty advised that the employment of vessels for patrolling trade routes was proved to be of little value in the recent war. Convoying was considered to be the most effectual method of protection, but the Admiralty acknowledged that insufficient destroyers and sloops were likely to be available. The Admiralty also suggested that Dominion naval authorities should collaborate in the development of a vessel suitable for minesweeping and escort duties.<sup>8</sup>

The Admiralty also prepared programs for individual Dominions at the request of Ministers, which advised that shipbuilding programs should comprise light cruisers and submarines. These vessels were seen to be of most value in the Pacific until the arrival of the main British fleet. Light cruisers being employed to threaten the enemy's lines of communication and for dealing with enemy raiders operating against seaborne commerce, while submarines would be employed to interdict enemy shipping.<sup>9</sup>

Australian naval force development largely followed this advice and the Government's five-year development program 1924-29 provided for the construction of two heavy cruisers (HMA Ships *Australia* and *Canberra*), two submarines (HMA Submarines *Otway* and *Oxley*) and a seaplane tender (HMAS *Albatross*).

During the early 1920s Australian naval force development was torn between the needs of Imperial and local defence. On several occasions local defence preparations were acknowledged to be deficient, yet inevitably when judgements were made in relation to expenditures the Imperial strategy prevailed. This inevitably led to a fleet which was inadequate for Australia's immediate naval needs, yet one which could provide a limited contribution to Britain's global position.

## Formulation of the 1919-20 Budget Estimates

Formulation of the 1919-20 budget proposals within the RAN occurred at a time when there was considerable public and political pressure to reduce expenditure on defence, and when Treasury was forecasting an excess of bids over funds predicted to be available from revenue of some £9.5 million in 1919-20.<sup>10</sup>

### Negotiations With Treasury

In relation to Navy's original Budget Estimates for 1919-20 Treasury advised on 19 August 1919 that:

- total expenditure should be reduced by £450,000
- the provision for Citizen Naval Forces, pay and contingencies, payable from the War Loan Fund should be reduced by £20,000 as should the provision for this activity in the 'Ordinary Estimates'
- no Naval Establishments Contingencies could be provided from the War Loan Fund.

The RAN's response on 22 August stated that the bid for £1,884,593 (which had already been reduced from £2,041,799) represented their minimum requirements, and they also reminded Treasury that many of the increases in naval expenditure resulted from government initiatives in the construction of the Fleet Unit, acceptance of the gift vessels from the Imperial Government, increases in pay so that naval ratings pay more closely approximated that paid in relative civil employment, and increases to the Citizen Naval Forces flowing from the Government's Universal Training Scheme.

On 11 September 1919 the Naval Board was advised that Treasury now sought a reduction in the Main Naval Estimates of £400,000. After consideration within Navy, the Minister, advised the Acting Treasurer, that revised estimates had been submitted by the Department of the Navy, but these were still £239,669 in excess of actual expenditure for 1918-19. The Naval Board was also of the view that no further savings could be made without seriously affecting the strength of the Navy.<sup>11</sup>

The Treasurer's response of 19 September was blunt and stated that funds were not available for a navy on the scale bid for in the Estimates. The Treasurer reiterated that a reduction of £400,000 was necessary to the Ordinary Estimates. Reductions were also sought in other areas of expenditure as follows:

- Naval Works Loan - although £953,439 was sought for naval bases, Cockatoo Island and other naval works, only £140,000 was available (expenditure the previous year was £532,835)
- Naval Works Revenue - although £56,300 was sought, only £9000 was available (expenditure the previous year was £8121)

- Construction of Vessels for Various Departments – although £146,750 was sought, only £5,000 was available (expenditure the previous year was £14,816).<sup>12</sup>

On 15 September the Finance and Civil Member of the Naval Board outlined some indicative measures that would have to be undertaken if expenditure was to be reduced by the £400,000 sought by Treasury. The measures in the Main Naval Estimates are detailed in Table 2:

Item	Saving (£)
Discharge 1000 RAN personnel and pay off further vessels	150,000
Stop recruiting	60,000
As a consequence of the above items:	
victualling and clothing savings	60,000
repair and maintenance of vessels	50,000
RAN College – no new entries in 1919-1920, or no new appointments to staff	6000
Cancel establishment of mine-sweeping service	10,000
Boys Training Ship – stop recruiting	10,000
RAN Brigade – suspend training and no new appointments	40,000
Miscellaneous other savings – stoppage of all new appointments	14,000

*Table 2 - Measures undertaken by Naval Board and savings for 1919-20 Budget Estimates*

In other areas of expenditure the situation was more complex. For naval works financed from the Loan Fund a sum of £439,739 was required to complete works which were commenced prior to 30 June 1919, and also to meet liabilities incurred for purchase and installation of machinery already on order. However, Treasury advice was that only £140,000 could be provided for this area of expenditure. The RAN's major projects in this area comprised:

- Cockatoo Island (£118,004)
- Flinders Naval Base (£132,279)
- Wireless telegraphy (£19,376)
- Henderson Naval Base (£110,000)
- New South Wales miscellaneous (£60,1000).

Similarly, funds for naval construction from the Loan Fund were fully committed to construction of *Adelaide*, oiler HMAS *Biloela* and collier HMAS *Kurumba*, and paying

for equipment supplied to *Adelaide*, *Kurumba* and the submarine depot ship HMAS *Platypus* (II). No scope was available for undertaking new initiatives.<sup>13</sup>

In essence the RAN found itself in a position where its obligations from already approved proposals exceeded the funds which Treasury advised were available. This highlights the importance in financial planning of retaining an appropriate relationship between obligation and expenditure.

A conference was held on 30 September between the Treasurer, Assistant Treasurer, Minister for the Navy, and the Secretary to the Treasury. It was agreed that the Main Naval Estimates would be reduced by £239,000, to bring the figure below the 1918-19 figure. Also the Treasurer would, in January 1920, consider the provision of additional funds for Navy.<sup>14</sup>

The Estimates subsequently submitted to Parliament, compared to actual expenditure in 1918-19 and Treasury advice is outlined in Table 3.

Item	1918-19 Expenditure (£)	Treasury Funds Available (£)	1919-20 Estimates (£)
Ordinary Votes	1,663,824	1,384,593	1,669,927
Works from Revenue	8121	9000	9000
Works from Loan Fund	556,050	140,000	185,700
Naval Construction	523,694	500,000	350,000

*Table 3 - Comparison of actual expenditure in 1918-19 to funds available. (Source: Parliamentary Paper No 2, 1920-21 General, Volume 2, Estimates of Receipts and Expenditure for the year ending 30 June 1920.)*

In February 1920 the Naval Board, in accordance with the meeting of ministers of the previous September, asked Treasury to provide an additional £157,360 to see them through to the end of the financial year. Treasury responded on 14 April with a warrant for £117,360.<sup>15</sup>

## Impact of the 1919-20 Budget

The result of the 1919-20 Estimates was that ship and manpower strength was broadly retained, but cuts were made in ship maintenance, fuel, stores and infrastructure development. In later years these areas of reduction, with the exception of infrastructure, were to have serious consequences and were subsequently redressed. Overall at this stage the RAN lacked a policy framework, against which it could plan. There was also a rather ad hoc approach to identifying areas in which expenditure might be either contained or reduced. However, the financial planning and programming system in place was inadequate to identify the RAN's longer term expenditure needs and

integrated the various areas of expenditure and informed the longer term consequences of planned decisions.

Development of the 1919-20 Budget Estimates provided an initial indication of the dominant role Treasury was to play in the subsequent development of the RAN. A similar relationship developed in Britain between the Admiralty and Treasury. A most disturbing aspect of this development in Australia was the inclination of Treasury to try and define the level of expenditure in individual votes and hence to dictate naval policy and contain development in certain areas.

### Admiralty Offer of Further Vessels

Incredibly, while this hiatus over naval expenditure was in progress, the RAN was actively considering an Admiralty offer of surplus battle cruisers, light cruisers, destroyers, submarines, sloops, minesweepers, patrol gunboats, motor launches, coastal motor boats, trawlers and drifters. These ships were additional to those that the RAN obtained at the end of the war. On 29 September 1919 the Naval Board recommended that the Admiralty be advised that the RAN required 20 destroyers or 'P' boats, 10 submarines, 82 minesweeping trawlers (of which 74 were fishing trawlers), four boom defence vessels and four tugs.<sup>16</sup>

The Naval Board recognised that these vessels could not be manned and intended that they be placed in 'special reserve'. It was also planned that the 74 fishing trawlers be used to establish an Australian fishing industry. Initial estimates for annual maintenance cost were £192,000.

In responding to the Admiralty, the RAN asked if the nominated vessels could be held until the Government had the opportunity to carefully review its position and to seek other colonies reaction to Jellicoe's proposed scheme.<sup>17</sup> The Admiralty advised that they could not retain some 120 vessels which were surplus to their requirements and that a decision to obtain either destroyers or submarines would be necessary within three months. Further, the Admiralty stated it was unlikely that any trawlers or tugs would be available and as the boom defence vessels had no motive power would be more economical to build them in Australia.<sup>18</sup> It was also later advised that His Majesty's Government had given the Admiralty discretion to offer surplus vessels as a gift to the Dominions.<sup>19</sup>

On 15 December 1919 Lord Jellicoe sent a cable advising that:

The following ships are now available for Dominion Governments. Five 'Sentinel', five 'Bristol', five 'Boadicea' classes of Light Cruisers; one Flotilla Leader and one hundred and sixty Destroyers all classes between and including G and M classes; forty five P boats and PC boats; six R, six G and seventeen E classes of submarines ... As such an opportunity of acquiring these vessels will not occur again and in

view of their now being available strongly urge desirability of twenty P or PC class of Torpedo Craft being acquired by Australia ... I would also suggest that Australia acquire ten submarines I class of later build than 1914 ... These vessels would, I am given to understand, be a gift, suggest confirmation be sought from Admiralty.

This cablegram was sent to the Minister for Navy, The Rt. Hon Sir Joseph Cook, with the comment that 'Admiral Grant strongly urges that Lord Jellicoe's advice be taken'.<sup>20</sup>

On 13 January 1920 the Secretary to the Naval Board advised the Minister of the estimated operating costs outlined in Table 4.

Ship Type	£ per annum
20 destroyers at £5100 each (special reserve, not full commission)	102,000
10 submarines at £20,000 each (full commission)	200,000

*Table 4 - Estimated operating costs of vessels offered by the Admiralty*

It was also advised that the ships could be obtained free of cost and they were conservatively estimated to be worth £3 million.<sup>21</sup>

A cabinet submission on this proposal was lodged on 12 January 1920, together with proposals for surplus Admiralty mines and to purchase 58 trawlers for commercial purposes. In this latter context the Admiralty had also sought Australian interest in some 58 trawlers constructed in Canada during the war. Admiral Grant, the First Naval Member, was a keen supporter of this proposal, arguing that these vessels be acquired in order to start a fishing industry, which would not only be a lucrative employment in peace but a great asset in war. Not surprisingly the offer of gift vessels and the purchase of trawlers were not taken up - the primary reason being a lack of money.

## Formulation of the 1920-21 Budget Estimates

The tenor of post-war naval Budget Estimates negotiations was very much established in 1919-20, and provided a sample of what was to occur in 1920-21. This latter budget, however, was to have far greater implications for the development of the RAN.

On 18 February 1920 Grant sent a paper to the Minister for the Navy detailing the minimum expenditure needed for the period 1920-21 to 1924-25 in order to maintain the present units and organisation of the RAN in an efficient condition. This assessment was based almost entirely on Jellicoe's Report of 1919. In summary, the paper asserted that the following additions were necessary to maintain efficiency of the fleet:

- an aircraft carrier (cost £500,000)
- an air patrol depot ship (cost £200,000)

- a destroyer depot ship (cost £200,000)
- an ammunition ship (cost £150,000)
- three floating docks (gift from the UK Government)
- eight aircraft for cruisers (gift)
- two oil lighters (cost £100,000)
- mining depot (cost £40,000 to accommodate the 2000 mines presented by the British Government)
- four fuel tanks (to accommodate 20,000 tons of oil fuel at a cost £60,000)
- ammunition depot (cost £450,000).

The estimated cost of these initiatives, together with the overall operating costs of the RAN were assessed as:

Cost £ million	1920-21	1921-22	1922-23	1923-24	1924-25
New Initiatives	0.7	0.5	0.5	0.1	0.1
Operating Costs	2.9	3.0	3.0	3.4	3.4
Total	3.6	3.5	3.5	3.5	3.5

*Table 5 - Total cost of new initiatives and operating costs of the RAN, 1920-25 (Source: First Naval Member letter N. 19/061 of 18 February 1920 to the Minister for the Navy - copy held by the Sea Power Centre - Australia.)*

Grant stated that this force, complemented by British forces in the Pacific, could probably hamper and delay any attempted landing by the Japanese in Australia until the British could send help. He continued:

6. There is a minimum beyond which the present sea force cannot be reduced. If reduced below that minimum the force would become impotent against any landing.

7. The absolute minimum to which the sea force can be reduced, allowing for the British Fleet coming to our assistance and bringing their own fuel, is shown in the attached statements forwarded herewith....

8. This is the minimum reduction in Naval Estimates which can be effected to give Australia a 'sporting chance' against a potential enemy and tide over the immediate period until Britain can come to our assistance with all her forces.<sup>22</sup>

This advice seemed to completely misjudge the political and economic environment in Australia. Given Grant's recent experience in negotiating the 1919-20 estimates, it should have been reasonably clear that the Government was most unlikely to accept an increase in Naval Expenditure of over 60 per cent.

## Council of Defence Financial Guidance

As a prelude to the development of Defence's estimates for 1920-21 the Council of Defence meeting on 12 April 1920 concluded that the maintenance of the existing Naval Unit required an annual minimum expenditure of £3,620,000. Overall, the Council concluded that some £8.25 million was required per annum as a minimum for all defence purposes. It also stated that with any less expenditure there would be no chance of security to Australia in the event of war.<sup>23</sup>

## Navy's Strategic Appreciation

In response to a request from the Minister for the Navy, Grant forwarded a paper on 21 April 1920 titled *An Appreciation of the Present Position of Australia with Regard to Defence*. This appreciation perceived Japan as the major power most likely to pose a threat to Australia and placed great reliance on British forces coming to Australia's aid in time of conflict. It made explicit reference to the relative priority of military versus naval expenditure and commented that:

15. It is obvious that, if the British Fleet were beaten, the Army proposed by the Military could not hold out against the enormous force which the Japanese could bring to Australia. The sea borne trade of the Country would cease to exist, no help could arrive by sea and no matter how valiant the Australian soldiers were, the end would only be a matter of time ... It must therefore be evident to all thinking people that it is essential not to lose command of the sea and that every endeavour should be made to keep the Australian Sea Forces in such a condition as to assist in retaining the command of the sea and to hamper and harass the enemy until Great Britain can come to the assistance of the Commonwealth with her sea forces. To delay the enemy in any projected attack on Australia should be our object and the best means of doing this is to keep in being the largest efficient Naval force that is possible.

16. It would, therefore, appear that, if there is only a certain amount of money available for defence purposes, a proper proportion would be three-quarters to the Navy (including Naval Air Defence) and one quarter to the Army (including Army Air Service), the Army being maintained principally for the defence of bases and capital cities against raids by the enemy.<sup>24</sup>



The appreciation also suggested that a policy which relied upon destroyers and submarines working in conjunction with an Army was dangerous. The main reasons offered for this view were that destroyers and submarines would not prevent a country from being invaded, trade could not be protected and would cease, and an enemy could bring up and land large forces which in the end could capture the bases from which the ships operate. In addition, the paper commented that to defend the country in this fashion was opposed to the policy of Great Britain which had, for generations, been to carry out defence in or near the enemy's waters.

In addressing the issue of air forces, the appreciation raised the notion of defeating an enemy before it reached Australia. It stated that:

Air raids on Australia can only come from the Sea and counter measures can only be initiated and carried out by those who work in close co-operation with the Navy. Air patrols must be carried out in the Islands as it is essential to delay as long as possible, and if strong enough 'smash', an opposing force before it reaches Australia.

Overall, the appreciation recommended that if only a limited sum of money was available then Lord Jellicoe's scheme should form the basis, and only such Army and Military Air Proposals as will assist that policy should be implemented.<sup>25</sup>

### Admiralty Advice on Reductions to the RAN

During June 1920 the Naval Board became aware that Cabinet was unlikely to carry out Jellicoe's scheme and that the minimum amount asked by the Naval Board to keep the present fleet efficient was unlikely to be provided by the Government. Its initial reaction was to seek Admiralty advice on where the limited funds might best be expended.

A slightly modified version of Grant's appreciation was forwarded to the Minister, recommending that it be considered by Cabinet as soon as possible. The covering letter also cautioned against merely splitting the money equally between the RAN and Army with instructions to make the best use of it they could.<sup>26</sup>

On 3 July 1920 the Cabinet's dilemma on naval defence was conveyed to the British Government. Although the cable alluded to overall defence difficulties, quite clearly the major issue was the naval defence. Apart from the issues arising from limited finances to the Australian Government it was unable to determine how best to utilise resources on naval defence. It sought clarification on the British attitude to Jellicoe's scheme and on Imperial Defence policy for the Pacific.<sup>27</sup>

In response the Admiralty suggested:

- *Australia* be place in reserve and used for training

- the rest of the squadron should be maintained in commission and light cruisers and submarines be built
- development of ships for naval aircraft work should cease as the best types to develop are still in the experimental stages
- reconnaissance aircraft for shore bases and cruisers should be procured
- Port Stephens should be developed as a naval base
- self sufficiency in munitions and other naval stores should be sought
- the RAN should start providing large reserves of oil fuel.<sup>28</sup>

Aside from the questionable practice of seeking British advice on priorities for RAN capabilities there were inherent dangers in such an approach. The judgements would not necessarily reflect the needs of the defence of Australia, and as the Admiralty lacked detailed geographic and other knowledge their judgements could be faulty, as proved to be the case with the development of Port Stephens as a naval base.

### Navy's Reassessment of its Expenditure Needs

In August 1920 the RAN reviewed its expenditure proposals for 1920-21 and discovered that the previous estimate of some £3.5 million was grossly understated and £4,186,567 was now needed to keep the present fleet in an efficient state. This increase was caused in the Board's words by 'the rise in price of almost every essential.'<sup>29</sup> Within this new estimate no provision was made for development of the naval bases at Cockburn Sound or Port Stephens or the provision of floating docks to support the British Fleet. Further, reserves of oil and coal had only been provided on a moderate scale and no provision was made for training of adult Citizen Naval Forces. It also assumed that one light cruiser, six destroyers and HMA Ships *Una* and *Protector* would be placed in reserve.

### Definition of Naval Force Structure Priorities

In early August 1920 the Minister for the Navy advised Grant that a sum of £3.25 million would be available out of Revenue for Naval Estimates. In addition, funds would be provided from War Loan to cover the cost of such stores, etc. as could be properly charged to the war. On 9 August the Naval Board considered the issue of force structure priorities and decided that the following capabilities should be retained in priority order:

1. six submarines and their parent ship and depot
2. six gift destroyers and their parent ship
3. aircraft carrier and aircraft depot ship

4. magazines for ammunition
5. naval intelligence and nautical survey service
6. completion and commissioning of *Adelaide*
7. one other light cruiser
8. reserves of ammunition and fuel
9. one sloop for surveying duties
10. seagoing training ship (HMAS *Encounter*)
11. other ships with nucleus crews, e.g. *Australia* as gunnery training ship, *River* class destroyers, etc
12. fleet auxiliaries *Kurumba* and *Biloela*
13. Jervis Bay Naval College, which should eventually be closed, but not at present.

It was also assessed that the naval depots and training schools *Tingira* and *Flinders* (at Williamstown) must be maintained, as well as the Garden Island repair yard.<sup>30</sup>

This assessment by the Naval Board, while partially consistent with advice received from the Admiralty, placed a higher priority on maintaining the destroyer force for local defence, than cruisers whose principal contribution was seen to be the defence of sea lines of communication and the needs of Imperial Defence. This judgement was subsequently to come under severe criticism from both the Admiralty and CCAS.

### Consideration of Reduced Funding Implications

On 13 August the Naval Board advised Mr Laird Smith, the Minister for the Navy, of the consequences of naval estimates being contained within a cost ceiling of £3.25 million. This advice drew on the Admiralty's perceptions detailed in the Secretary of State for the Colonies cablegram of 13 August 1920. However, more severe action than suggested by the Admiralty was necessary to meet the new financial ceiling. The action proposed was the following ships would be kept in full commission:

- six submarines and depot ship
- six new destroyers
- two sloops
- one light cruiser, an
- one training cruiser

- *Australia* would be reduced to nucleus crew and employed as a training ship
- two light cruisers reduced to nucleus crews
- six destroyers, one sloop and *Una* paid off and placed in reserve with skeleton crews
- no development of Port Stephens or Cockburn Sound
- cutting down the reserves of oil, coal and ammunition to dangerously low levels
- no provision for ammunition depots, aircraft carrier, aircraft depot ship, destroyer depot ship, ammunition ship, trawlers, oil lighters and oil tanks
- closure of the RAN College, Jervis Bay
- no provision for training adult Citizen Naval Forces.<sup>31</sup>

The overall philosophy behind deciding which ships to retain involved a choice essentially between local and Imperial defence. In this case the former prevailed, at least initially. Combat capability resided in the submarine flotilla of six boats, a destroyer flotilla of six and one fully manned light cruiser. The submarines and destroyers were proposed to be employed in local defence, while the light cruiser would be available to reinforce British squadrons. Those ships with only a nucleus crew were proposed to be employed in local defence and on protection of local and overseas trade near the Australian coast.<sup>32</sup>

The implications for manpower were similarly severe. The lack of personnel, both trained and untrained, meant that ships which had been decommissioned could not be quickly brought back into fully effective service. Hence they were seen as being only relevant to local defence activities. Concern was also expressed by the Naval Board about the effects on morale that paying off ships and reductions below full commission would have.

There were also misgivings about the ability of Australian infrastructure to support the deployment of the British Fleet in time of emergency. The lack of fuel and ammunition reserves as well as the absence of suitable floating docks all contributed to this view. At this time there was no dock in Australia which could accommodate either British battleships or battlecruisers - the design of Australia had to be altered by the removal of bilge keels to enable her to be docked in Sutherland Dock, Cockatoo Island.<sup>33</sup>

## Employment of Residual RAN Forces

Following these reductions the Naval Board produced an appreciation of the effects. In relation to the battlecruiser *Australia* and the cruiser force it commented that:

It may be stated ... A Light Cruiser Squadron, if intended to fight so as to hamper and delay an enemy, must be backed up by an efficient Battle Cruiser Force, otherwise the Light Cruiser Force will be destroyed by the Battle Cruisers of the enemy ... If, however, it is intended that a Light Cruiser Force shall act mainly as a Convoy for Merchant Ships or as Commerce Destroyers, then the Battle Cruiser Force, though desirable, is not absolutely necessary and the risk is one that must be accepted.<sup>34</sup>

In addressing the issue of how to best utilise the destroyer and submarine forces it was noted that to split the vessels up too much would reduce its efficiency as a fighting unit. Therefore, it was necessary to decide which parts of Australia should receive naval protection. The assumption was that the most valuable ports should be protected, and this reduced it very rapidly to the two principal cities - Sydney and Melbourne. Accordingly it was proposed that the destroyer and submarine forces be based on these two ports. Three submarines would be based on each port, together with six destroyers (three in commission and three in reserve - the latter to be mobilised on the outbreak of war). This would enable one submarine and two destroyers to be kept on patrol off each port on a continuous basis. These local defence forces would also be supplemented by the 2000 mines, which could be used for local defence and possibly for blockade purposes.

The remaining ships, with only nucleus crews, would be deployed as follows:

- *Australia*, at Flinders to assist in the protection of the depot, as there were no land fortifications
- two light cruisers at Sydney and two at Melbourne to assist in local defence, or for protection of trade off the coast
- any small craft available to patrol as necessary in Torres Straits and around the coast to give warning of the approach of the enemy.

In addressing the 'Sea Air Service' the Naval Board was most emphatic that as much money as possible be spent on this area of activity. This was seen to be necessary to provide a patrol capability, which in the past was undertaken by the Cruiser Force. It was envisaged that patrols would be undertaken by seaplanes or flying-boats and, when possible, attacks would be made by torpedo carrying aircraft on enemy surface ships. The Sea Air Service was seen as an adjunct of the Naval Local Defence Force and as such should be trained and its operations controlled by the RAN.

These judgements by the Naval Board, while having a strong defence bias, reflected a good overall appreciation of Australia's maritime defence needs. In addition, they were somewhat prophetic in forecasting the importance, and recognising the linkage, of air power to effective maritime operations. The resultant force, if implemented in subsequent years, would have provided a more robust solution to Australia's maritime defence needs than that which was adopted as a result of Admiralty advice.

## Naval Estimates 1920-21 as Presented to Parliament

In tabling the Naval Estimates for 1920-21 on 23 September, Mr Smith presented an explanatory paper, which included a statement of 'Naval Policy'. In effect it was not a statement of policy, but rather an outline of areas affected by the budget. In addition to detailing the revised composition of the Fleet, the paper advised that:

- the cost of oil fuel, coal, labour, munitions and stores had increased since the previous year - in some cases as much as 100 per cent
- a considerable expenditure was necessary to build up an adequate reserve of ammunition, oil fuel and coal, but funds were not available for this at present
- the period of engagement of ratings in the RAN was extended from 7 to 12 years
- the title of the Royal Australian Naval Brigade was altered to the Royal Australian Naval Reserve (RANR) and the latter was separated into those who were seamen by profession and those who were not
- formation of a Volunteer Reserve was under consideration. This reserve was planned to draw on people with some experience of the sea and who might be prepared to serve in a voluntary capacity
- formation of the Royal Australian Naval Fleet Reserve was started. This element of the reserve comprised former RAN personnel who, for an annual retainer agreed to undertake a period of training each year
- elements of the Fleet Reserve and those with seagoing experience in the RANR would supplement the nucleus crews of vessels in reserve in time of conflict
- it was hoped to exercise some of the 11 ships in reserve for a few days on a quarterly or half-yearly basis
- control of wireless telegraphy was to be transferred from Navy to the Postmaster-General's Department

- the development of an adequate Naval Staff was planned to deal with all questions of naval policy, operations, naval intelligence and training, as well as co-ordination with Admiralty plans
- Navy Office was in the process of being reorganised and it was expected that this would lead to economy and greater efficiency
- the main training establishment was to be transferred from Williamstown to Flinders
- it was recognised that the naval defence outlined in this statement could not be regarded in any way as being adequate for the defence of Australia, and for this, reliance had to be placed on Great Britain. Pending the decisions of the Imperial Conference it was intended to provide for a nucleus of a Fleet on a local defence basis, which could be expanded as circumstances permitted.<sup>35</sup>

The overall result of the 1920-21 Budget negotiations was one of frustration. While the RAN had managed to derive some logical force structure priorities and to develop some internal policies, the Government remained unconvinced of the advice it was receiving from its naval advisers and instead opted to wait for the insight of Imperial authorities. Prime Minister Billy Hughes statement to Parliament when introducing the 1920-21 Estimates provides a clear indication of Government's attitude in this period and the reliance on Great Britain for naval force development advice.

## Defence Policy of the Hughes Government

On 9 September 1920 Mr Hughes advised Parliament that the main factors in determining the scale of defence were: the international situation, which he saw as being basically unstable; the League of Nations, which offered some prospect for peace but also had several practical deficiencies; the British Empire, with Australia's commitments to Imperial Defence; and lastly Australia's geographic situation and Australian policies and ideals, especially the White Australia Policy which had considerable scope for provoking international tensions.

Key points raised by the Prime Minister in relation to Australia's geographical situation were:

- its remoteness from European nations
- Australia's coastline that had to be defended was 12,000 miles, which, for perspective, equated to the distance from Australia to Great Britain
- new obligations flowed from taking control of some Pacific islands

- Australia had a vast overseas shipping trade worth £250 million per annum, in addition to her inter and intra state trade
- as a result of the war, the centre of gravity in terms of potential conflict had shifted to the Pacific.

Hughes then went on to observe that Australia had definite obligations to share in the defence of the Empire, particularly in the Pacific. He acknowledged that while Australia's contribution to defence had not been as substantial as that of Great Britain, it was nevertheless more significant than other colonies. He also stated that Australia's 'main lines of defence must be on the sea and in the air'.

Having outlined a not too encouraging international situation and recognising Australia had obligations both in relation to its own defence and that of the Empire, Hughes proceeded to walk back from announcing what initiatives Australia intended to take in naval defence. Instead he reverted, as many Australian Governments before his had, to relying on the Admiralty for advice on naval force development. In this context Hughes stated that:

We hope that there will come from the Imperial Defence Conference a scheme in which we shall be able to co-operate and do our share. Under that scheme we anticipate that there will be expected of us a given quota, and that there will be allotted to us and the other Dominions a given sphere of operations.<sup>36</sup>

While Hughes acknowledged that the level of expenditure proposed for naval defence involved taking some risks, his statement was unlikely to have pleased the Naval Board, which since 1915 had been endeavouring to obtain a statement of naval policy from the Government. The most recent attempt was on 1 July 1920 when the Naval Board submitted a paper on *An Appreciation of the Present Position of Australia with Regard to Defence*.

### The Impact of Commodore Dumaresq's Protests on Naval Policy

Commodore John Saumarez Dumaresq was CCAS in the immediate post-war years. In the period between July and September 1920, he wrote a series of letters, which were highly critical of the reductions in naval expenditure and the force structure priorities established by the Naval Board. He was instrumental, together with Admiralty advice, in having a higher priority allocated to elements relevant to Imperial Defence at the expense of local defence capabilities. His main points were:

- the fleet strength should not be reduced below the level suggested by Jellicoe
- Australian's should spend an equivalent sum per head of population to that of Great Britain



- the RAN was strategically impotent because of a lack of ammunition, magazines, reserves of fuel, Deep Sea Naval Flying arrangements, trained gunnery and torpedo ratings, schools to train them, and other essentials of a Naval Force
- the fleet was tactically inefficient owing to a lack of opportunity for the individual ship and squadron exercises - but this could be remedied if the time and personnel were available, and if the repeated detachment of ships on other duties than working up to a state of efficiency could be avoided.<sup>37</sup>

In his response to CCAS, the Secretary of the Naval Board advised that the main points raised by the Commodore had been represented to the Minister and that it was inappropriate that his advice be referred to Cabinet for consideration as Cabinet's advisors on naval policy were the members of the Naval Board.<sup>38</sup>

Dumaresq was not to be deterred by such comment and forwarded another emotive letter on 4 September 1920. In this instance he commented that:

Light Cruisers are still the prime essential of any naval force (existing with a greater object than local defence) both tactically in war and instructionally in peace, and that should economy be pushed to the point of confining Light Cruisers to any one harbour or its vicinity, as opposed to a reasonable amount of cruising in company and the carrying out of essential individual ship and squadron exercises ... the morale of the RAN will suffer so severely that it may not recover for an indefinite period.

He also suggested that HMAS Brisbane have a full ship's complement, HMAS Sydney be the sea-going training cruiser instead of the Encounter (as proposed by the Naval Board) and HMAS Melbourne, with a 60 per cent crew be the flagship. In this matter Dumaresq aimed to keep the light cruiser force largely intact.<sup>39</sup>

Before any reply from the Naval Board, CCAS followed up with a further letter on 7 September 1920. This correspondence quoted extensively from his earlier letters and went on to make an impassioned plea for retention of the cruiser force. He stated that:

I am strongly of the opinion that the annual charge should be apportioned so that so important an essential of seagoing offensive naval force as Light Cruisers are not doomed to atrophy. This will be the case as regards a Light Cruiser with less than a 3/5 crew, as here proposed...

He then went on to suggest that the CCAS be granted flexibility to allocate fuel for training purposes so that he could guarantee a measure of squadron and general efficiency.<sup>40</sup>

In response the Naval Board rather bluntly commented that it was fully aware of the disadvantages of limiting the activities of the Australian Fleet. They also broadly agreed with CCAS's proposal for cruiser employment, but *Melbourne* would only have a 3/5 crew as flagship.<sup>41</sup> Overall, the result was to bolster those elements of the fleet relevant to Imperial, as opposed to local defence.

While some of CCAS' proposals, such as those for employing a more modern cruiser than *Encounter* for training purposes, had merit they ultimately led to the reversal of the Naval Board's policy which placed emphasis on local defence. The danger arising from such lobbying, as was undertaken by CCAS, was that the decision makers failed to recognise the vested interests that attached to the proponent and that they did not necessarily reflect the overall interests of the RAN or Australian defence. Despite the mild rebuke from the Secretary of the Naval Board and the irritation of the First Naval Member the views of CCAS, supported by Imperial authorities, ultimately prevailed.

## Formulation of the 1921-22 Budget Estimates

The pattern established in the previous two financial years occurred again in the formulation of the 1921-22 Estimates. That is, there was a series of exchanges with Treasury and consequential reductions to the RAN's initial proposals.

### Changes to Force Structure Priorities

On 10 September 1921 the Naval Board advised the Minister for the Navy that advice had been received from the Treasury that the amount of money available for Naval Estimates was only £3,180,000. The RAN assessed that some £4,240,766 was needed to maintain the fleet in its reduced state and to provide stocks of ammunition, coal, oil, and warlike stores which would be essential in the event of war. To meet the level of expenditure proposed by Treasury would, in the RAN's view, involve the following measures:

- cease all work at Cockburn Sound
- curtail expenditure at all naval establishments and reduce personnel
- pay off *Australia*
- reduce the number of destroyers in commission to three
- reduce the number of submarines in commission to three
- return to England those men whose time expires without arranging relief.

The Naval Board cautioned that a point may be reached when it would be useless to attempt to retain an Australian Fleet. It would be better to abandon all attempts to

maintain an Australian Fleet, and to reduce the basis of the present RAN to a coastal defence force.<sup>42</sup>

While the spectre of a coastal defence force had been raised by the RAN its proposals for reductions were essentially aimed at this area of activity by the planned reduction of submarine and destroyer strength, rather than that of light cruisers. Furthermore, the area of planned reductions cut across earlier Naval Board policy to accord priority to retention of six submarines and six destroyers in commission. The policy now seemed to be very much aimed at keeping a little bit of everything in commission, and that the cruiser force was central to Australia's naval defence.

### Treasury Attempts to Contain New Initiatives

During the negotiations on the 1921-22 estimates, Treasury also sought advice from the RAN on the items where financial commitments had not yet been entered into. By this means Treasury sought to identify what financial flexibility remained to contain expenditure on new or ongoing activities. The Naval Board sensing what Treasury was up to responded that: 'in order to maintain HMA Fleet, reduced to its present state, obligations may be considered to have been entered into in regard to all sums as set forth in the present Estimates'.<sup>43</sup>

### Navy Lobbies on Relative Priority of Armed Services

On 9 November 1921 the Acting First Naval Member advised the Minister for the Navy that in his view the time had arrived when the Government needed to give consideration to the relative importance of the Army, Navy and Air Forces in the defence of Australia. Not surprisingly, he observed that the RAN was the most important. This flowed from the view that if command of the sea was retained then no invasion, except perhaps sporadic raids, could be effected. He also noted that during the past financial year the amounts available for operations had been practically exhausted and the RAN was forced to draw on the reserves of stores to maintain the Fleet. Although it had been intended to replace these reserves in 1921-22 if the current reduction suggested by Treasury was implemented the replacement of reserves would not be practical. The Acting First Naval Member also stated that it was doubtful if the Fleet could be maintained at its present reduced basis to the end of the financial year, even if Treasury's latest reduction were not implemented.<sup>44</sup>

### 1921-22 Budget

The Explanatory Statement of Estimates for 1921-22 for the Department of the Navy tabled in Federal Parliament advised that the strength of the sea-going Fleet was now reduced to:

- two light cruisers (*Melbourne* and *Brisbane*)

- one training cruiser (*Sydney*)
- two sloops (HMA Ships *Geranium* and *Mallow*)
- three destroyers (*Anzac* and two 'S' class destroyers)
- one River class destroyer (*Huon*)
- one submarine parent ship (*Platypus*)
- three 'J' class submarines
- one yacht (*Franklin*) tender to Naval College.

In addition, one 'S' class and one *River* class destroyer were to be employed in connection with training at Flinders Naval Depot and at the submarine base at Geelong, respectively. It was also noted that although *Australia* was in commission with a reduced crew for training purposes, it may be necessary to pay her off into reserve.

Other factors emerging from the Explanatory Statement were that:

- the supplies and reserves of coal, oil and ammunition at present in Australia were inadequate
- difficulty was experienced in keeping within the sum provided for fuel, while also enabling the fleet to cruise for the necessary armament training and exercising
- HMAS *Kurumba* was employed in transporting oil for RAN use from Borneo to Australia
- the funding provided for repair and maintenance in 1920-921 was insufficient, and became exhausted about three months before the end of the financial year. As a result practically no refitting was carried out in the last quarter of the financial year
- submarine repair and maintenance was above normal requirements because they require expensive refits after two or more years
- recruiting of ratings had not been satisfactory, particularly boys for entry in the training ship *Tingira*, engine-room and electrical artificers, shipwrights and certain other artificer ratings
- HMA Naval Depot, Flinders was commissioned on 1 April 1921
- a Mining Depot was established at Swan Island, Victoria
- the Naval Ordnance Depot at Spectacle Island, Sydney was too small to store the necessary reserve of ammunition
- Williamstown Naval Depot was closed on 15 June 1921

- Cockatoo Island was transferred to the Shipbuilding Board of Control on 29 June 1921
- dredging operations in the approaches to Henderson Naval Base were continuing
- the reorganisation of Navy Office had been effected.<sup>45</sup>

Development of the 1921-22 Budget Estimates reflected that the RAN now had major planning and financial programming difficulties. These difficulties did not only relate to the reducing finances in real terms, but more importantly that the RAN was not effectively planning and monitoring the achievement and viability of a number of its activities. For example, it was continuing to spend money on dredging at Henderson Naval Base when it must have been evident, with the reductions in the Fleet, that such a base was unlikely to be utilised in the foreseeable future. At the same time supplies of fuel and ammunition were insufficient to support the normal activities of the Fleet and funds for maintenance were fully expended some three months before the end of the financial year. Overall, there was a need for effective force structure and financial planning, both of which needed to address the full range of naval activity.

## Formulation of the 1922-23 Budget Estimates

### Options for Reducing Naval Expenditure

Negotiations for the 1922-23 Navy Estimates continued on the earlier trends. On 6 April 1922 a message was received in Navy Office advising that the Minister had directed that Naval Estimates for 1922-23 be based on £500,000 less than the total vote for 1921-22. The Naval Board were also requested to provide a statement of the naval policy for the ensuing financial year within those guidelines. In response the Naval Board submitted four tentative schemes, each of which included the retention of existing depots, harbour ships and two sloops remaining in commission. The schemes were:

- pay off two light cruisers; leaving in commission one light cruiser, two destroyers, the submarine force and RANR
- pay off the submarine force; leaving in commission two light cruisers, two destroyers and RANR
- pay off one light cruiser and two destroyers; leaving in commission two light cruisers, the submarine force and RANR
- pay off two destroyers and abolish the RANR; leaving in commission three light cruisers and the submarine force.

The Naval Board did not express any preference for a particular option, but noted that:

The Naval Board has, up to this morning, been under the impression that the Australian Navy, such as it is, should be maintained in its present state until the results of the Washington Conference had been digested, and the whole of the Imperial Naval Defence had been discussed with the Home Authorities. The Estimates of last year, with their cuts, in reality anticipated the results of the Washington Conference and the further cut the Board are now called upon to meet finds them unprepared to offer any considered Naval Policy for the future.<sup>46</sup>

By avoiding any comment on the implications of the various options and failing to comment on the capabilities that could be provided under the four options, the Naval Board left it to the Minister to provide guidance on which elements he thought were of most utility to the RAN.

The Minister subsequently advised the Secretary, Department of Defence, that the Naval Board should prepare estimates for a total expenditure of £1.5 million and £2 million. He also advised that ships were to be put out of commission in the following order: submarines, destroyers, cruisers. The Minister also directed that the corresponding manpower reductions in all establishments be advised, including Garden Island, Flinders Naval Depot and Central Administration (Naval and Civil). The estimates were also to be prepared on the basis that no Cadet training was undertaken by Navy and there would be a corresponding reduction in Naval Depots.<sup>47</sup>

The RAN's response was forwarded on 11 April 1922. For the £1.5 million ceiling it was advised that the following measures would be necessary:

- pay off the submarine force, *Platypus*, and close the submarine depot at Geelong
- pay off three of the four destroyers remaining in commission
- pay off one of the three light cruisers at present in commission
- close the Royal Australian Naval College
- close the Boys' Training ship *Tingira*
- reduce Naval Reserve Training
- reduce naval and civil personnel (about 3400 Naval and 133 Civil personnel).

For the £2 million ceiling it was advised the above cuts would be made, but it would be possible to maintain one additional light cruiser and two destroyers in commission. Manpower reductions would also be less severe and some additional funds would

be available to purchase reserves of ordnance and other stores. The make-up of the operational fleet under these proposals are outlined in Table 6. In submitting these proposals the Naval Board also acknowledged that the reductions would necessitate a reduction or reconstitution of personnel of the Naval Board.<sup>48</sup>

<b>£1.5 million ceiling</b>	<b>£2 million ceiling</b>
Two light cruisers	Three light cruisers
One destroyer	Three destroyers
One oiler (part time)	One oiler (part time)
One collier (commission only)	One collier (commission only)

*Table 6 - The composition of the Operational Fleet under various expenditure ceilings*

On 19 April the Secretary, Department of Defence, advised that Cabinet had provisionally approved that Navy Estimates for 1922-23 not exceed £2,487,800, but excluding the Naval College. The Naval Board subsequently advised the Minister that the amount provided would permit maintenance of the existing fleet, with the exception of the submarine force, comprising *Platypus*, Osborne House at Geelong, HMAS *Huon* (tender) and three 'J' class submarines. Sea-going manpower strength would also reduce by some 500 personnel as a result of disbanding the submarine arm. No reductions were planned for Naval Staff employed in naval administration as this area had recently been reduced by the Navy Officer re-organisation. Several cuts were planned for civilian areas which are outlined in Table 7. It was also intended to discharge a number of temporary civilian staff.<sup>49</sup>

<b>Areas</b>	<b>Numbers cut</b>
Navy Officer	60
Medical Service Branch	1
RANR	47
Garden Island	27
Spectacle Island	3
Royal Edward Victualling Yard	7
Flinders Naval Depot	3
London Naval Depot	1

*Table 7 - Proposed Civilian cuts for 1922-23*

Throughout April 1922 the RAN had been reviewing what elements of their force structure could best be reduced. The basis for selection of the submarine force was explained by the First Naval Member, to the Minister, in late April 1922. Factors which favoured selection of the submarines were:

- the most expensive naval force was the submarine branch; costing about £250,000 a year, and perhaps more
- at that time there were only two out of the six submarines, which could be regarded as efficient for active service
- it would cost about £150,000 to put the other four into effective running order
- to keep the submarine force in constant running order some £40,000 would be needed for facilities for maintaining their batteries ashore
- thirty three per cent of the force would be under repair at any given time
- the 'J' class was not considered to have been a great success as they continually broke down
- even if some £150,000 was spent to make the submarines effective, their remaining life would only be some five years
- Australia would be paying an exceedingly high price for only four effective submarines, which could only be considered for harbour defence.

While making these observations the First Naval Member observed that the menace of submarines off the most attractive ports of Australia could act as a powerful deterrent to hostile ships.<sup>50</sup>

On 27 April 1922 the Minister advised that the amount for naval works was to be reduced from £120,000 to £96,000 and that all new works were to be shown separately from those works in progress. The Minister also directed that certain military areas were to be abolished and where a Naval District or Sub-District is included, no training for adults or cadets of the Naval Reserve was to take place and there was to be a corresponding reduction in RANR staff. Personnel employed with the Boys Training Ship *Tingira* were also to be reviewed with a view to reducing staff and ship's company.<sup>51</sup>

## Washington Naval Disarmament Conference

While negotiations over the 1922-23 Naval Estimates were proceeding, the results of the Conference on the Limitation of Naval Armament held in Washington DC from 12 November 1921 to 6 February 1922 became available. Australia's delegation was



led by Senator G F Pearce, the Minister of Defence. Findings of the conference were formally submitted to the Prime Minister on 1 June 1922 and to the Parliament on 29 June 1922. Provisions of the Naval Treaty regarded the British Empire as a whole and hence agreements relating to total tonnage, scrapping and replacement had to be reached on an empire wide basis. In determining the ships to be disposed of, it was concluded that the older ones be scrapped and the newer ones retained. It was on this basis that the battlecruiser *Australia* was nominated as one of the capital ships to be scrapped. The only other issue of significance for Australia emerging from the conference was that cruiser displacement was limited to 10,000 tons with eight-inch guns, but there was no limit to their numbers. No agreement was reached on submarines or escort vessels. As none of the RAN's light cruisers were over 10,000 tons or carried eight-inch guns the treaty had no immediate significance for this element of the RAN, however, it did strongly influence the Government's decision in 1924-25 to acquire two new cruisers.

In tabling the Defence Estimates for 1922-23, the Minister for Defence commented that the Naval Disarmament Conference had 'granted to the nations of the world a measure of relief from the burden of armaments at a time when the financial and economic situation is most difficult and complex'. The statement explained that the Government, in framing the Defence Estimates for 1922-23, had taken the attitude that all expenditure on armaments should be reduced as far as was compatible with the preservation of national security. It also advised the reductions effected as a result of the Disarmament Conference. In this context the statement observed that it was necessary to compare the naval situation in 1920-21 with 1922-23 as the reductions in 1921-22 were effected pending the result of the conference. This comparison reflected a reduction in fleet personnel from January 1921 to 1922-23 of 4843 to 4000 and in the number of ships in commission from 25 to 13. Overall, a reduction of £186,690 was planned for 1922-23, compared to the actual expenditure for the previous financial year.

The 1922-23 Navy Estimates made provision for:

- the paying off and disposal of *Australia*
- the commissioning of the light cruiser *Adelaide* and the paying off of her sister ship *Brisbane*
- the paying off of the six 'J' class submarines, the sloop HMAS *Marguerite* and the tender to the Naval College *Franklin*
- *Platypus* to be used as a destroyer depot and repair ship for the fleet
- the Submarine Depot at Osborne House, Geelong, was to close down.

## Consequences of the 1922-23 Budget

While significant reductions in naval expenditure had occurred in earlier years, it was not until 1922-23 that the RAN started to look seriously at its essential infrastructure and manpower needs. Up to this time the focus of reductions had been mainly in areas of operational capability. Little was done to adopt measures to improve overall efficiency until the operational strength of the Fleet had reached such a level that there was effectively no option but to canvass shore-based support, administration and training activities in search of financial reductions. It was not until about 1922 that serious thought was given to cheaper and more effective forms of Naval Reserves, significant administrative infrastructure, and in certain areas adopting joint training across the services. For example, flowing from the 1922-23 Budget, the training of Army recruits and Warrant Officer instructors was undertaken at Flinders Naval Depot, the RAN undertook the instruction of Army and Air Force personnel in cookery and wireless telegraphy, and the intelligence sections of the three Services were amalgamated.<sup>52</sup>

The pattern of naval reductions which occurred in the early 1920s is reflective of an organisation which is more familiar with operational capability than other areas of activity such as infrastructure, administration, training and logistic and technical support. Hence when reductions were needed the Naval Board's attention tended to focus on areas of familiarity, rather than overall activity which often contained greater waste and scope for reduction or rationalisation without seriously affecting combat power.

## A Selection of Case Studies

### Fuel

The supply of oil and coal fuel was a major issue with the RAN in the immediate post war years. At this stage Australian colliers were not producing the quality of coal preferred for naval use, and oil in recoverable quantities had not been commercially developed in Australia; consequently, the RAN was dependent on imported sources of fuel stocks. During 1919 the RAN experienced considerable difficulties with fuel supply. Jellicoe was prompted to report in this context that 'for many weeks coal-burning ships of the Royal Australian Navy and HMS *New Zealand* have been unable to obtain suitable coal'.<sup>53</sup> Less than a month later the First Naval Member, in a report to the Minister advised that:

The situation with regard to the coal is ... that after 3 days approximate steaming at full speed HMA Ships 'Australia', 'Brisbane' and 'Sydney' would be out of action and impotent. The position is so grave with regard to coal that the cruise so essential for the training of the crews which had been arranged to commence on 23rd September, will have

to be postponed indefinitely. I cannot urge too strongly that the Cabinet take immediate steps by bringing pressure to bear on the New Zealand Government for the export of this coal for the Fleet.<sup>54</sup>

At this time roughly 126 tons of 'Westport coal' was in stock at Sydney, however, about 4500 tons was required by Australia, Sydney and Brisbane between 12 and 20 September 1919.<sup>55</sup>

The issue of fuel re-emerged in 1920 when the Secretary to the Naval Board sought advice from the Commodore Commanding HM Australian Fleet (CCAF) on the fuel needed to keep one light-cruiser and the six gift destroyers up to the highest state of efficiency over the next year. In response Commodore Dumaresq on 17 September suggested some 9046 tons of coal and 540 tons of oil for one light-cruiser and 4470 tons of oil for six destroyers. He also argued that provision should be made for a second light-cruiser, Melbourne, as cruisers needed to operate in company to attain the highest state of efficiency. This would entail a further 7370 tons of coal and 240 tons of oil. In providing these estimates Commodore Dumaresq provided quite a detailed breakdown of fuel expenditure. This included full-power trials, gunnery and torpedo exercises, tactical exercises (e.g. submarine and destroyer attacks by day and night, search-light and challenging tactics, smoke-screen and depth charge tactics, zigzagging, and experience for ship-handling and engine-room staff) and fuel expenditure in harbour.<sup>56</sup>

During November 1920 the Naval Board considered fleet fuel requirements for 1920-21. It was noted that after accounting for liabilities incurred the previous financial year only £3000 would be available for the remainder of the year; this would effectively involve laying-up every coal burning ship in the Navy. In assessing its minimum requirements the Naval Board concluded that some £266,741 was needed to provide for 64,196 tons of coal, 19,307 tons of oil, 918 tons of solar oil for submarines and 13,168 gallons for motor boats. This would allow the battlecruiser 4 weeks at sea, two light-cruisers 10 weeks at sea and the third cruiser only 4 weeks at sea, six destroyers 10 weeks at sea with the remaining 6 destroyers only two weeks at sea, one sloop 10 weeks at sea and a second sloop 6 weeks at sea. The position with the submarines was less clear as they were progressively undertaking maintenance, however, it seems that those in commission were planned for 10 weeks at sea.<sup>57</sup>

Outlined in Table 8 are the fuel stocks the Secretary to the Naval Board was able to report on 2 December 1920. While Table 9 shows the coal needed to fuel *Australia* and the light cruiser squadron at the same time.

Location	Coal (tons)	Oil (tons)	Solar Oil (tons)
<i>Sydney</i>	5221	6350	597
<i>Newcastle</i>	6808		
<i>Fremantle</i>	1256	416	
<i>Geelong</i>			355
On Order	9000	3800	600
<b>Total</b>	<b>22285</b>	<b>10566</b>	<b>1522</b>

*Table 8: Fuel stocks reported by the Secretary of the Naval Board on 2 December 1920 (Source: Secretary to the Naval Board letter of 2 December 1920 on file 20/0295 MP 1049 series 1 box 53.)*

Ship	Speed (knots)	Consumption of coal per 24 hours in tons
<i>HMAS Australia</i>	12	190
	15	252
	20.9	475.2
	26.89	819.4
Light cruisers	12	120
	16	220
	20.6	198
	25.5	290

*Table 9 - Coal Consumption of Australia and the light cruiser squadron*

Assuming an average consumption of about 200 tons per day of coal, then sufficient stocks existed for 111 days steaming for a sole ship which equates to almost 28 days for Australia and three light cruisers. This figure would be further reduced by fuel requirements while alongside and by the needs of other coal-burning vessels (Australia consumed between 161 and 189 tons of coal per week alongside).<sup>58</sup>

The Naval Board considered the issue of coal and oil fuel requirements for the Fleet on 27 January 1921 and noted that the total expenditure and liabilities for fuel had already exceeded the provision in the estimates for the current financial year. The Minister at this meeting stated it was highly important that rigid economy be observed for the remainder of the year. This comment set the tenor of the meeting, which concluded in relation to oil fuel that:

- the Anglo-Saxon Petroleum Company offer of oil at £7.5 per ton be declined
- *Kurumba* should discharge oil now on board to HMA Ships at Sydney, and into the oil tanks at Williamstown, and then it should pay off
- efforts should be made to hire *Kurumba* out to commercial enterprises

Regarding coal the Naval Board concluded that:

- it was absolutely necessary, if the fleet is to be kept efficient, that occasional full-power passages be made
- it was necessary that the coal in reserve be turned over once in every three years
- rigid economy was necessary and expenditure must be reduced, where possible, during the remainder of the financial year
- no funds were available for further purchase of coal during the present financial year
- when *Biloela* was not required for fleet purposes, it may be used for commercial work.<sup>59</sup>

During the immediate post-war period the cost of fuel varied widely, particularly oil which more than doubled in price. Extraordinary measures were adopted to try and contain expenditure on fuel, including constant reminders from both the Naval Board and Dumaresq on the need for economy in fuel consumption; and the employment of *Kurumba* and collier *Biloela* in the transport of fuel from both local and overseas sources. These two vessels were also hired out for commercial use, or paid-off into reserve, when not required for fleet support or fuelling operations.

While some innovative measures were adopted in relation to the RAN's predicament with fuels in the immediate post-war period, overall its approach to the adequate provision of fuel stocks left a lot to be desired. In particular, there did not appear to be sufficient linkage between operational needs and the resultant fuel supplies to support this activity. Given the dependence on overseas sources of supply, more attention might well have been given to stockholding levels and the provision of adequate reserve stocks.

## Ammunition

On 2 September 1919 the First Naval Member advised the Minister on a number of important matters, one of which was the state of the RAN's reserves of ammunition. He commented that:

The matter of the supply of reserve ammunition for the Fleet also requires immediate attention. There is no reserve of Ammunition for the Fleet in Australia consequently after expending that now on board the ships would be out of action. The despatch of the reserves from England has had to be stopped as there is no place to store the Ammunition when it arrives. Telegrams have been sent asking the Home Authorities for the names of firms with suitable vessels equipped for storing Ammunition and a ship will have to be chartered at great expense for storage until suitable magazines are built. It is, therefore, a matter of immediate importance for the Cabinet to decide where these magazines are to be built so that they can be commenced without delay.<sup>60</sup>

Stockholding policy of the Naval Board at this time was that two outfits of ammunition should be maintained in addition to the one embarked in ships. The only naval magazines in existence at this time were those at Spectacle Island in Sydney and they were assessed to be quite inadequate for the amount of ammunition required for the Fleet.

On 11 September 1919, the Naval Board agreed to order some £83,000 of ammunition which would bring the Spectacle Island depot to its maximum capacity. It was noted, however, that this would still not complete the reserves of ammunition or provide two years of practice allowance.<sup>61</sup> Shortly after placing this order the Admiralty advised that the cost would be £150,000, rather than the £83,000 which had been estimated by Navy Office. This latter estimate had been based on the latest Imperial rates held, ie. 1915 rates, and 10 per cent had been included for freight charges and 20 per cent contingency.

No expenditure was achieved against this order in 1919-20 and an amount of £150,000 was carried forward into the 1920-21 Estimates. These estimates as originally submitted to the Treasury sought a total expenditure of £710,561, but this was ultimately reduced to £225,000. In effect the 1920-21 Estimates were reduced to only meeting those liabilities which had actually been incurred (including £35,000 for freight and other charges on gift mines from the Admiralty).

On 18 September 1920 the Director of Ordnance, Torpedoes and Mines outlined a draft policy for stockholding of ammunition and torpedoes. This policy recognised that new conditions may apply as a result of future Imperial Conferences. However, he argued that any policy on this area needed to look some 18 months ahead, as it took at least

six months, and in some cases longer, to obtain supplies from England. The quantity of ammunition to be maintained was based on the following principles:

- vessels which in the event of war had clearly defined duties; the amount to be provided would be determined by the assessed probability of their employment
- vessels of greater offensive power to have a larger reserve of ammunition than those of less power
- no vessel capable of being armed, however old, should be left without some reserve of ammunition
- a certain quantity of ammunition was to be retained for reserve guns for shore-based use.

The proposals made by the Director of Ordnance, Torpedoes and Mines in accordance with the above policy are outlined in Table 10.

<b>Ships</b>	<b>Employment</b>	<b>Ammunition</b>
<i>Australia</i>	Convoy, attack on bases, indirect firing in defence of bases	1.25 Outfits
<i>Adelaide</i>	Attack on communications, attack on minor bases	3 outfits
<i>Sydney, Melbourne and Brisbane</i>	Attack communications, and attack on minor bases	5 outfits for three ships
Six 'S' class destroyers	Offensive action against enemy squadrons, attacks on enemy trade, concerted attacks with light-cruisers on minor bases, forming smoke screen etc	3 outfits per ship
Six old destroyers	Local defence, convoy	2 outfits per ship
Six submarines	Attacks on bombarding enemy squadrons, attacks on enemy shipping, attack by gunfire on minor defended ports and commercial harbours, etc	3 outfits per boat
Three sloops	Minesweeping	2 outfits per ship

*Table 10 - Director of Ordnance, Torpedoes and Mines proposals based on ammunition available.*

In relation to practice ammunition the following allowances were suggested. *Australia* one third of allowance for two years, the light cruisers *Brisbane* and *Adelaide* two years full allowance, the light cruisers *Melbourne* and *Sydney* one third of allowance for two years, 'S' class destroyers two years full practice for each vessel, River class destroyers one third of allowance for two years, submarines two years full practice for each vessel, sloops one third of allowance for two years and the gunnery school tender two years full practice allowance. For torpedoes, with the exception of *Australia* all ships were planned to have the full Admiralty allowance. That is, light cruisers six per tube (12 per ship), 'S' class destroyers two per tube (eight per ship), River class destroyers two per tube (six per ship) and submarines four per tube (16 per ship). *Australia's* stowage was 18 torpedoes of which 17 were available in country, however, it was planned that 12 torpedoes would be sufficient to equip the ship. Total cost of this scheme, including freight charges was £223,935.<sup>62</sup>

The Naval Board considered this proposal on 20 September 1920 and agreed that these reserves should be considered as a minimum in view of the existing financial position and the limited magazine capacity available. In this latter context the RAN gained access to the Army's depot at Newington, which extended the limited capacity of Spectacle Island. It was also decided that the Admiralty be approached to ascertain whether any or all of the ammunition could be supplied as a gift from excess war stocks in England. In the event of the Admiralty not providing the ammunition as a gift, it was decided to ask Treasury to make available from the 'Trust Fund, London Liabilities' a sum of £250,000. This fund had been accumulated over a number of years on account of an inability to obtain stores for which funding had been provided.<sup>63</sup>

Neither of the Naval Board's schemes for funding seems to have borne fruit as on 31 December 1920 the Director of Naval Accounts sought approval to provide funds of £252,684 in the 1921-22 estimates for reserves of ammunition. This advice was not well received by the First Naval Member who noted that:

When the Board approved of this it was not anticipated that the whole sum would be on next year's estimates. If the estimates for next year are continually swollen by placing these large amounts on next year's estimates, there will be nothing left for the maintenance of the Fleet. The whole matter of accounting requires, in my opinion close examination.<sup>64</sup>

This situation prompted the First Naval Member to inquire as to the Admiralty policy on ammunition. On 14 January the Australian Liaison Officer at the Admiralty advised that the policy was two outfits for battlecruisers and light cruisers, one of which was carried on board and the other in reserve ashore. For 4-inch guns in destroyers the provision was 400 rounds of which 120 were carried on board. The Director of Ordnance, Torpedoes and Mines in commenting on this advice remarked that this referred to the reserve outfit that was kept at the ordnance depot on which the ship



is based and that the large reserve stocks at Woolwich and elsewhere had not been taken into account. Further, he argued that a relatively large reserve was necessary for a small fleet, because 'if any particular squadron at home uses up its ammunition there is no actual shortage because of many other ships with guns of similar type whose reserve can be drawn upon'. In view of this advice the First Naval Member reaffirmed the policy endorsed by the Naval Board, but requested that an examination be undertaken into whether it was possible to make any reduction in the amount of ammunition to be ordered.

The Naval Board considered the issue of ammunition orders on 19 January 1921 and noted that the £187,000 provided in the 1920-21 estimates had been expended principally in settlement of liabilities incurred in previous years. It also decided to inform Treasury that it proposed to order ammunition for the Fleet at a cost of £252,000 and that it would be necessary to make provision in next year's estimates for this expenditure.<sup>65</sup>

By this time the situation with ammunition for the 'S' class destroyers was becoming critical. On 7 February 1921 the Director of Ordnance, Torpedoes and Mines advised that the stock of ammunition for *Anzac* and the 'S' class destroyers had reached a state where, unless it could be confirmed that stocks were on their way from England, it would be necessary to stop the planned practice firings for the June 1921 quarter.

The Treasurer decided to refer this matter to Cabinet for their consideration. Cabinet considered the issue on 26 April 1921 and decided to refer the matter to the Prime Minister when he reached London. A letter was subsequently despatched to the Prime Minister apprising him of the situation in the following terms:

As ammunition cannot be manufactured in Australia a larger reserve should be maintained than is done in England.

2. The order of reserve Ammunition is the minimum necessary, and is actually less than would be maintained by the Admiralty. At present the 'S' Class Destroyers and Submarines (our most modern vessels) have no reserve ammunition at all, and less than a complete 'Outfit' on board each ship.

3. The Light Cruisers are a little better off but much of their ammunition is obsolete as a result of war experience and they would be at a disadvantage against an enemy provided with modern explosives.

4. A Light Cruiser or Destroyer may use all her ammunition in the course of a single engagement lasting a few hours, and, if there is no reserve, she is therefore useless...<sup>66</sup>

With the exception of 3000 4-inch cartridges at a cost of £10,900, the ordering of further supplies of ammunition was suspended, pending a decision by the Prime Minister.

The situation with ammunition was further compounded by the changes which were occurring with the Fleet's composition at this time. No further action seems to have occurred on this issue until 2 September 1921, when the Deputy Armament Supply Officer was advised that it was improbable that funds would be made available for the ammunition proposals endorsed by the Naval Board on 19 January 1921. The Director of Ordnance, Torpedoes and Mines, did however suggest that funding might be forthcoming for the following holdings and sought advice from Spectacle Island as to the costs of such provisioning:

- *Australia* – one outfit
- *Adelaide* – one outfit, two reserve outfits and two years practice
- *Brisbane, Melbourne* and *Sydney* – three outfits, one reserve outfit and one years practice for each ship
- *Anzac* and 'S' class – six outfits, six reserve outfits and one years practice for each ship
- River class – six outfits
- submarines – six outfits, six reserve outfits and one years practice for two ships
- Gunnery School – two years practice.<sup>67</sup>

The response from Spectacle Island indicated an additional cost of £117,889, while the value of stores to be cancelled was £17,303. Such a proposal was still well in excess of what was likely to be funded by Government and on 27 October 1921 the Director of Ordnance, Torpedoes and Mines authorised the placement of an order at an estimated cost of £39,748 for the following ammunition:

- HMA Ships to full authorised stowage
- One years practice for the following ships, *Adelaide, Melbourne, Sydney, Anzac, Stalwart, Swordsman, Huon, Marguerite* and *Geranium*.

No provision was made for reserves of ammunition.<sup>68</sup>

The RAN's experience with ammunition in the post-war period were in many respects similar to those with fuel. Difficulties were experienced in matching the Fleet's ammunition requirements with the storage capacity of Spectacle Island. In addition, the use of outdated financial estimates from Britain led to inadequate provision so that when additional funds were voted in subsequent financial years they were consumed largely in meeting prior commitments. The situation was further complicated by overly optimistic projections of delivery schedules and compressed financial phasings, which inhibited financial flexibility in other areas of naval expenditure.

## North-west Coastal Patrol

On 1 August 1919 the Secretary, Home and Territories Department wrote to the RAN advising that The Premier of Western Australia had made representations to the Acting Prime Minister to send a gunboat to Broome periodically. This report had been prompted by growing tensions at the port between Japanese, Malays, Whites and Koepangers. In commenting on this letter Rear Admiral Creswell remarked that:

It is a police matter and should be provided against by a strong body of police. These are duties not proper to any ship of war. Similarly the illicit landing of Japanese on the Queensland coast can only be prevented completely if there is good police co-operation on time. This should be provided by the State Government.<sup>69</sup>

A response to the Department of Home and Territories was forwarded on 8 August 1919 advising that the question of periodic visits to the north had been 'kept in view' by the Naval Board, and from time to time ships visited that area during the war, however, no vessels were available for that service at present.<sup>70</sup> This advice formed the basis for the Acting Prime Minister's response to the Premier of Western Australia.

Further requests followed from the Western Australia Government and attached reports from the police in Broome and Port Hedland detailing their concerns about civil unrest. The RAN's reaction was to suggest that a small craft be acquired by the Western Australia Government, manned by merchant seaman and RANR officers, with a couple of machine guns. It was also suggested that the vessel fly the Blue Ensign and carry water police.<sup>71</sup> This view was not supported by the Prime Minister who after careful consideration adopted the view that patrolling of the north-west waters was more a matter for the Commonwealth than the State Government. The RAN was consequently advised that 'it would be advisable for a ship of war to visit the northwest coast once or twice a year'. It was also suggested by the Secretary of the Prime Minister's Department that such visits be extended to include the waters between the Aru Islands and Cairns, via Torres Straits, especially during the northwest monsoon season, in view of the repeated statements that Japanese have for some time been illicitly entering North Queensland from the Aru Islands.<sup>72</sup>

The implications of this commitment for the RAN were significant, coming as it did in a period of reduced finances and shortages of fuel. CCAF took the view that commitments arising from the visit of His Royal Highness, the Prince of Wales and combined training of the Fleet, were such that it was undesirable that any ships comprising the Squadron under his command should be detached at the present time for an independent cruise to the outlying islands. The Naval Board also noted that during the war a patrol was constantly maintained in Torres Strait and only one instance of alleged illicit smuggling occurred (this incident involved a lugger from the Aru Islands). *Encounter* was however, programmed to visit Broome in July 1920 and return to Sydney via Torres Straits.<sup>73</sup>

Further representations were made by the Premier of Western Australia on 8 March 1921, following a riot which took place at Broome between 20 and 26 December 1920 in which five people died and three were seriously injured. The Premier specifically sought an assurance that a warship would be despatched to the area at the end of the year, during the period of lay-up of the pearling fleet (it was at this time when trouble usually arose). The RAN advised the Prime Minister's Department on 4 May 1921 that a sloop, *Geranium*, would be on the north-west coast for the majority of the year, but would leave for refit in October and not return until April the following year. (*Geranium* was employed on hydrographic surveying in the area.) The Naval Board also reiterated that the provision of a patrol vessel was not a matter for the RAN, but one rather for the Police or Customs Department. In any event the board considered that it was quite impossible with their present means to provide a vessel permanently for patrol duties on the north-west coast.<sup>74</sup>

Provision of a vessel for the north-west coast by the RAN was essentially put to rest when the Prime Minister wrote to the Premier of Western Australia agreeing to the joint funding of a patrol vessel. It was also decided at this point that the Department of Trade and Customs would action this issue from the Commonwealth's perspective.<sup>75</sup>

The debate surrounding the provision of a naval vessel to undertake a non-defence task is illustrative of the pressures that can be created by lobby groups on Government and why limited resources may have to be expended on low priority tasks because of political direction.

## Recruiting

When it became clear in 1920 that funding for the RAN was to be cut with consequent implications for naval manpower, the Naval Board decided to cease recruiting. As from 10 June 1920 naval authorities in Australia were advised all recruiting of ratings for the RAN was to cease until further notice. In addition, the Naval Representative London was similarly advised to cease recruiting and any ratings obtained from the RN who were waiting passage to Australia should be reverted to the RN and agreements cancelled, if the Admiralty would concur.<sup>76</sup>

Only four days later the first two requests seeking exemptions were forwarded. One request from CCAF sought approval to recruit officer's stewards as these ratings were in short supply in the fleet and none were available at HMAS *Cerberus*. The other request was from the Director of Naval Office Fremantle seeking approval to recruit a stoker second class who had already been provisionally entered and passage to the eastern states arranged. As a result the policy was reviewed and a telegram was despatched on 16 June 1920 advising that recruiting could be resumed for selected ratings, such as engine room artificers, electrical artificers, shipwrights, plumbers, painters. By 29 June the Second Naval Member had agreed that recruiting for all ratings for the RAN was to be resumed on 1 July 1920.<sup>77</sup>

Within a month the decision to cease recruiting had been overturned. It was very quickly recognised that such a policy could not prevail as a solution to containing manpower expenditure, particularly when certain key areas were experiencing shortages. These shortages could not easily be rectified by transferring personnel from other areas which were overborne. The other problem which arose was that the reduction in recruiting levels created gaps in experience levels later on and as a consequence personnel were employed in positions where they lacked the relevant expertise to fully perform the tasks required of them.

## Naval Manpower

There is considerable variation between official sources on naval manpower. The budget papers seem to reflect manpower estimates which have been used to provide the financial estimates, rather than the actual manpower levels. While this data is at considerable variance from that provided in the *Commonwealth Year Book*, it nevertheless provides some insight into the distribution of manpower by function. Table 11 details service and civilian manpower data for the period 1918-19 to 1924-25.<sup>78</sup>

The main trends that are discernable from Table 11 are:

- while total manpower reduced, the shore based component increased, eg. Administration, naval establishments, Flinders Naval Depot
- while permanent naval manpower reduced, new schemes for naval reserves were introduced and reserve manpower in total for 1924-25 was broadly equivalent to that the 1918-20
- significant variations in manpower were achieved in short timescales
- reserve manpower did not reduce the more expensive elements in terms of operating costs even though the Citizen Naval Forces were significantly cut
- the manpower reductions in the period 1920-24 were effectively nullified by the manning requirements flowing from the Government's program to acquire two cruisers, a seaplane carrier and two submarines in the 1924-25 Budget.
- Manpower trends in the post-war period reflect that in the period 1919-22 the non-seagoing elements of Navy and civilian sector experienced moderate growth rates, while the operational elements were in decline flowing from the significant reductions in the number of ships in commission. This trend was halted in about 1922 when efficiency measures were adopted in non-seagoing areas.

The reasons why the RAN chose initially to protect shore-based and administrative personnel are not readily apparent but it may flow from a realisation of the full support needs of the Fleet. In the immediate post-war years the RAN undertook more training locally with the establishment of Flinders Training Depot, and this coupled with the return of major fleet units from Europe after the war no doubt brought more fully into focus the overall support needs of the Fleet, which had not been experienced before.

Activity	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25
Administration	164	191	191	214	169	174	3874
Sea-going	5408	5175	5748	4134	4000	2816	3874
Flinders Naval Depot	296	464	446	432		540	680
Sydney	90	107	156	123		144	220
Air Service	2	2	1	1	-	-	-
RANR	71	71	71	71	71	71	80
Medical	-	2	1	4	4	4	4
RAN College (Staff)	156	164	172	172(2)	136	118	126
RAN College (RAN)	120	116	100	85	?	?	?
Boys Training Ship	427	564	518	521	422	411	424
Citizen Naval Forces	4190	4359	3226	3307	1715	2167	3211
RAN Volunteer Reserves	-	-	-	500	500	500	500
Fleet Reserves	-	-	-	450	450	450	450
Radio Service	154	141	(1)	-	-	-	-
Naval Establishments	159	168	182	185	158	169	201
Naval Dockyard	121	188	220	(3)			

*Table 11 - Service and Civilian manpower for the period 1918-19 to 1924-25  
(Source: Parliamentary Papers on Receipts and Expenditure.)*

*Notes: (1) The wireless workshops were transferred to Repatriation Department.*

*(2) Reduced during second half of financial year by 31.*

*(3) Cockatoo Island manpower transferred to Prime Minister's Department.*

## Number of Officers for the RAN

On 31 May 1922 the Second Naval Member forwarded for Naval Board consideration a paper on the number of naval officers of lieutenant commander rank and lower to be maintained in the RAN. Five options were provided:

- peace requirements of the present fleet (125 officers)
- peace requirements plus the manning of *Kurumba* and *Biloela* (135 officers)
- war requirements under normal mobilisation; commissioning of ships in reserve and general measures for coast defence (145 officers)
- war requirements for normal mobilisation and provision for trade protection as suggested by the Admiralty (155 officers)
- war requirements including trade protection and a flotilla of six submarines (170 officers).

The rate of increase of officers then afloat or under training was such that the present fleet's requirements (excluding *Biloela* and *Kurumba*) would be met by the end of 1923 and that the excess above those requirements would be some 45 officers by about 1929. These estimates made provision for personnel under training, sick, or on leave. In addition, an annual wastage rate of 5 per cent was allowed. The Assistant Secretary for Personnel in a minute dated 30 May 1922 advised a range of measures that might be undertaken if it was decided that no more than the peacetime establishment of 125 was to be maintained. He suggested that the reduction should be applied principally to those officers who had not yet qualified for the rank of lieutenant, and that numbers should be adjusted to provide numbers remaining for each year approximately the same. In this way there would be some fairness in the chances of promotion between the various years. Overall, the measures proposed to achieve the necessary reductions were:

- cadets under training at the Naval College would reduce from 48 to 24
- acting sub-lieutenants and midshipmen serving in the RN would reduce from 41 to 24
- lieutenants and sub-lieutenants now qualifying in England would reduce from 45 to about 40.<sup>79</sup>

In considering the Second Naval Member's paper the Naval Board concluded that manning should be based on war requirements for normal mobilisation with provision for trade protection as outlined by the Admiralty. It also noted that no definite future naval policy had been laid down and that no immediate action for specifically reducing the number of officers seemed necessary.<sup>80</sup>

The RAN's treatment of the manpower provides some interesting comparisons with those of reductions to operational capability. In general it seemed to more readily accept a reduction in ship strength than a comparable cut in officer strength. This trend is evidenced by the Naval Board's apparent willingness to accept a proposal for a small contingent provision of officer strength while at the same time making more drastic reductions in ship strength. As with many other areas of activity, such as fuel and ammunition an appropriate relationship was needed between the various areas of investment in the RAN. There is little point in providing a reserve of capacity in one area if it cannot be used because there is not sufficient flexibility in other areas to enable its effective employment. For example, a surplus of officers is of little use if there are insufficient ships for their effective employment, or there are inadequate supplies of fuel or ammunition.

## Conclusion

A most striking feature was the similarity of issues Navy faced in 1919-23 with those of the early 1990s:

- reduced financial provisions coupled with decisions needed on activities or capabilities to be foregone
- increasing government commitments in an environment of reduced financial provisions
- a financial programming and planning system which does not readily lend itself to identifying the costs involved with specific functions or activities
- adoption of efficiency measures (revised Reserve force arrangements and tri-service training) which potentially impact on expansion capability
- the search for a stockholding policy
- the lack of a consistent approach to all areas of naval activity - typically operational assets were more heavily cut than support or administrative activities because the latter are less visible and tangible quantities
- the need for a new armament depot
- Treasury-Finance attempts to determine naval or defence policy
- difficulties in managing the naval refit program
- the need to strike an appropriate balance between operational capability and support infrastructure
- the impact of vested interests in the decision making process.



Naval administration in the period 1919-23 operated on a very distributed system and there does not appear to have been a significant effort to bring the various elements bidding for resources together in a coordinated manner. A consequence of this was the relative disparity in a number of activities that supported the Fleet. For example, manpower was in excess of basic needs, whereas shortages were constantly experienced in fuel and ammunition. On the other hand base and supporting infrastructure was planned to expand while the size of the Fleet was halved.

While the Naval Board was critical of the lack of a Government endorsed naval policy from which they could plan, they also failed to adopt a planning approach to the impending resource reductions. As a consequence they failed to specify the central objectives of the RAN and to assess reductions in that context. Rather, they adopted the traditional approach of cutting a little bit of everything. Nor was any attempt made to forecast potential reductions and plan how such reductions might best be managed in the medium or longer term.

Overall, in the period 1919-23 the RAN was faced with a series of significant financial cuts, most of which seem not to have been anticipated despite quite clear signals from Government. The RAN's approach to these cuts was essentially reactive, rather than planned and the axe fell mainly on operational areas, rather than in support. It was not until operational capability had been significantly cut that steps were taken to address efficiency measures or reduce supporting activities and infrastructure in any major way. Clearly a more even-handed and planned approach should have been adopted.

In many respects the Defence Reform Program of the mid-1990s has placed the Department of Defence in a similar situation to the RAN in the 1920s. The Defence Reform Program moved Defence from eight discrete programs to almost double that number, and with some of the new programs having cross program responsibilities. As a result Defence has ended up with a financial programming and planning system which does not readily lend itself to identifying the costs involved with specific functions or activities. If Defence is going to resolve its current financial programming and planning problems and to convince Government it is in control of its destiny, it will need to reduce the complexities of the current system and reorganise along much simpler functional lines.

## Notes

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- <sup>1</sup> Naval manpower data for this period is not consistent - the *Australian Year Book* quotes permanent strengths as 4258 for December 1914, 5407 for December 1918 and 5166 for December 1919, while different figures are quoted in Australian Parliamentary Papers. AW Jose, *The Royal Australian Navy 1914-19*, Angus and Robertson, Sydney, 1928.
- <sup>2</sup> Navy Finance and Civil Member minute of 15/9/19 on file 19/0197 MP 1049 series 1 box 46.
- <sup>3</sup> RL Borden (Office of the War Cabinet) letter of 15 August 1918 to Sir Eric Geddes (First Lord of the Admiralty) on file 18/0283 MP 1049 series 1 box 31.
- <sup>4</sup> *Report of Admiral of the Fleet Viscount Jellicoe of Scapa on Naval Mission to the Commonwealth of Australia (May-August 1919)*, Volume IV, pp 221-22.
- <sup>5</sup> *Jellicoe Report*, Vol I, pp. 23-24.
- <sup>6</sup> *Jellicoe Report*, Vol 1, p. 24.
- <sup>7</sup> Summary of Proceedings of Conference of Prime Ministers and Representatives of the United Kingdom, the Dominions and India, held in June, July and August 1921 - on file 1856/5/43 MP 1049 series 9 box 3.
- <sup>8</sup> S Roskill, *Naval Policy Between the Wars*, Collins, London, 1968, pp. 294-295.
- <sup>9</sup> Committee of Imperial Defence paper 176-C on file 1956/5/43 MP 1049 series 9 box 3.
- <sup>10</sup> Department of the Treasury letter of 17/9/19 on file 19/0197 MP 1049 series 1 box 46.
- <sup>11</sup> Minister for the Navy letter dated 18 September 1919 on file 19/0197 MP 1049 series 1 box 46.
- <sup>12</sup> Treasurer letter of 19 September on file 19/0197 MP 1049 series 1 box 46.
- <sup>13</sup> Finance and Civil Member minute of 15 September 1919 on file 19/0197 MP 1049 series 1 box 46.
- <sup>14</sup> Naval Board Minute No 588 of 1919 on file 19/0197 MP 1049 series 1, box 46 refers.
- <sup>15</sup> Robert Hyslop, *Australian Naval Administration 1900-1939*, Hawthorn Press, Melbourne, 1973, p. 76.
- <sup>16</sup> Naval Board Minute No 581 dated 29 September 1919 on file 19/0187 MP 1049 series 1 box 46.
- <sup>17</sup> Navy Office telegram of 30/10/1919 on file 19/0187 MP 1049 series 1 box 46.
- <sup>18</sup> Secretary of State for the Colonies cablegram of 28/11/1919 on file 19/0187 MP 1049 series 1 box 46.
- <sup>19</sup> Secretary of State for the Colonies cablegram of 5/12/1919 on file 19/0187 MP 1049 series 1 box 46.
- <sup>20</sup> Paraphrase of cablegram from Lord Jellicoe of 15/12/1919 on file 19/0187 MP 1049 series 1 box 46.
- <sup>21</sup> Secretary of the Naval Board Minute of 13/1/1920 on file 19/0178 MP 1049 series 1 box 46.

- 22 First Naval Member letter N. 19/061 of 18 February 1920 to the Minister for the Navy – copy held by the Sea Power Centre – Australia.
- 23 Minutes of the Council of Defence held on 12 April 1920 on file 19/0106 MP 1049 series 1 box 44.
- 24 First Naval Member letter of 21 April 1920 on file 20/0215 MP 1049 series 1 box 51.
- 25 First Naval Member letter of 21 April 1920 on file 20/0215 MP 1049 series 1 box 51.
- 26 Naval Board letter of 1 July 1920 on file 20/0215 MP 1049 series 1 box 51.
- 27 Secretary Prime Minister’s Department memorandum of 3 July 1920 on file 20/0215 MP 1049 series 1 box 51.
- 28 Secretary of State for the Colonies cablegram of 13 August 1920 on file 20/0215 MP 1049 series 1 box 51.
- 29 Naval Board minute of 19 August 1920 on file 20/0215 MP 1040 series 1 box 51.
- 30 Naval Board minute No 362 of 9 August 1920 on file 20/0215 MP 1049 series 1 box 52.
- 31 Naval Board minute of 13 August 1920 on file 20/0251 MP 1049 series 1 box 52 and Naval Board minute of 25 August 1920 on file 20/0215 MP 1049 series 1 box 51.
- 32 First Naval Member minute of 8 September 1920 on file 20/0215 MP 1049 series 1 box 51.
- 33 Naval Board minute No 444 of 1 September 1920 on file 20/0251 MP 1049 series 1 box 52.
- 34 Naval Board minute undated (possibly 8 September 1920) on file 20/0251 MP 1049 series 1 box 52.
- 35 Parliamentary Paper No 65 of 1920 Naval Defence, dated 23 September 1920.
- 36 Commonwealth of Australia, *Hansard, House of Representatives*, 9 September 1920, p. 4392.
- 37 Commodore Commanding Australian Squadron (CCAS) letter 761 A.F. 1400 dated 30 July 1920 on file 20/0247 MP 1049 series 1 box 52.
- 38 Secretary Naval Board letter 20/0247 of 6 August 1920 on file 20/0247 MP 1049 series 1 box 52.
- 39 CCAS letter 954/A.F. 1400 dated 4 September 1920 on file 20/0284 MP 1049 series 1 box 53.
- 40 CCAS letter 92/A.F. 1400 dated 7 September 1920 on file 20/0284 MP 1049 series 1 box 53.
- 41 Secretary to Naval Board letter 20/0248 dated 11 September 1920 on file 20/0248 MP 1049 series 1 box 53.
- 42 Naval Board minute dated 10 September 1921 on file 20/0251 MP 1049 series 1 box 52.
- 43 Secretary Naval Board letter of 31 October 1921 on file 20/0251 MP 1049 series 1 box 52.
- 44 Acting First Naval Member minute of 9 November 1921 on file 20/0251 MP 1049 series 1 box 52.
- 45 Parliamentary Paper No 145, General, Session 1920-21, Vol IV, Statement Explanatory of Estimates 1921-22.

- <sup>46</sup> Naval Board minute 22/0307 dated 6 April 1922 on file 22/0307 MP 1049 series 1 box 65.
- <sup>47</sup> Secretary Department of Defence minute of 11 April 1922 on file 22/0307 MP 1049 series 1 box 65.
- <sup>48</sup> Naval Board minute of 11 April 1922 of file 22/0307 MP 1049 series 1 box 65.
- <sup>49</sup> Naval Board minute of 26 April 1922 on file 22/0307 MP 1049 series 1 box 65.
- <sup>50</sup> First Naval Member minute of April 1922 on file 22/0307 MP 1049 series 1 box 46.
- <sup>51</sup> Finance and Civil Member minute of 27 April 1922 on file 22/0307 MP 1049 series 1 box 65.
- <sup>52</sup> Parliamentary Paper 1922-23 Session, Department of Defence, Estimates of Expenditure 1922-23, Explanatory Statement.
- <sup>53</sup> Jellicoe Report, p. 12 of covering letter dated 12 August 1919.
- <sup>54</sup> Minute by First Naval Member dated 2 September 1919 on file 19/0262 MP 1049 series 1 box 47.
- <sup>55</sup> Director of Naval Stores minute dated 2 September 1919 on file 19/0262 MP 1049 series 1 box 47.
- <sup>56</sup> Commodore Commanding HM Australian Fleet letter No 1032/A.F. 1400 dated 19 September 1920 on file 20/0295 MP 1049 series 1 box 53.
- <sup>57</sup> Naval Board Minute No 658 dated 8 November 1920 on file 20/0295 MP 1049 series 1 box 53.
- <sup>58</sup> See file 21/0130 MP 1049 series 1 box 57.
- <sup>59</sup> Naval Board Minute No 65 dated 27 January 1921 on file 20/0331 MP 1049 series 1 box 53.
- <sup>60</sup> First Naval Member minute dated 2 September 1919 on file 19/0262 MP 1049 series 1 box 47.
- <sup>61</sup> Naval Board minute No 527 dated 11 September 1919 on file 21/0398 MP 1049 series 1 box 61.
- <sup>62</sup> Director of Ordnance, Torpedoes and Mines minute dated 18 September 1920 on file 21/0398 MP 1049 series 1 box 61.
- <sup>63</sup> Naval Board minute No 491 of 20 September 1920 on file 21/0398 MP 1049 series 1 box 61.
- <sup>64</sup> First Naval Member minute dated 11 January 1921 on file 21/0398 MP 1049 series 1 box 61.
- <sup>65</sup> Naval Board Minute No 35 dated 19 January 1921 on file 21/0398 MP 1049 series 1 box 61.
- <sup>66</sup> Quoted in Secretary, Department of the Navy, letter of 28 April 1921 on file 21/0398 MP 1049 series 1 box 61.
- <sup>67</sup> Director of Ordnance, Torpedoes and Mines letter of 2 September 1921 on file 21/0398 MP 1049 series 1 box 61.
- <sup>68</sup> Director of Ordnance, Torpedoes and Mines letter of 27 October 1921 on file 21/0389 MP 1049 series 1 box 61.

- <sup>69</sup> Manuscript note by Rear Admiral Creswell dated 6 August 1919 on file 21/0275 MP 1049 series 1 box 60A.
- <sup>70</sup> Secretary to the Naval Board letter of 8 August 1919 on file 21/0275 MP 1049 series 1 box 60A.
- <sup>71</sup> Secretary to the Naval Board letter of 22 November 1919 on file 21/0275 MP 1049 series 1 box 60A.
- <sup>72</sup> Secretary Prime Minister's Department letter of 6 February 1920 on file 21/0275 MP 1049 series 1 box 60A.
- <sup>73</sup> Secretary to the Naval Board letter of 12 March 1920 on file 21/0275 MP 1049 series 1 box 60A.
- <sup>74</sup> Secretary to the Naval Board letter of 4 May 1921 on file 21/0275 MP 1049.
- <sup>75</sup> Prime Minister's letter of 11 December 1922 on file 21/0275 MP 1049 series 1 box 60A.
- <sup>76</sup> Second Naval Member's telegram of 10 June 1920 on file 20/0200 MP 1049 series 1 box 51.
- <sup>77</sup> Minute by Second Naval Member dated 29 June 1920 on file 20/0200 series 1 box 51.
- <sup>78</sup> Parliamentary Papers on Receipts and Expenditure.
- <sup>79</sup> Assistant Secretary for Personnel minute dated 30 May 1922 on file 22/0401 MP 1049 series 1 box 65.
- <sup>80</sup> Naval Board Minute No 272 dated 7 June 1922 on file 22/0401 MP 1049 series 1 box 65.

# SEMAPHORES

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*The pilots of the two Sea Furies, Lieutenants J R T Bluett and P F McNay replay thier victory for the camera (RAN)*

# RAN Aviation and Air Combat - First and Last?

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Dr David Stevens

HMA Fleet is strategically impotent and tactically inefficient owing to ... [the] absence of a Deep Sea Naval Flying Organisation without which no naval force can be tactically efficient, particularly on a station of a very large area, where intelligence on the whereabouts of an enemy force is more than usually important.<sup>1</sup>

Commodore J S Dumaresq, RN, 11 February 1921

The tactical advantages of possessing organic aviation at sea have long been recognised by the world's major navies. In the Royal Australian Navy's (RAN) case, attempts to establish an aviation policy began as early as 1913 and, although there have been occasional setbacks, organic air power continues to play an indispensable role in maritime operations. The helicopters of today's Fleet Air Arm (FAA) operate as an integral component of the parent ship's weapon and sensor suite, providing surveillance, reconnaissance, anti-submarine and surface warfare, maritime utility support, search and rescue, disaster relief and training support. One capability no longer included in the list is anti-air warfare, this being provided by a combination of ship-launched guided weapons and, when geography allows, friendly shore-based aircraft. Yet anyone with a passing knowledge of naval history will be aware that the Australian Navy has on occasion operated high-performance fighter aircraft. Less well known is that the RAN has achieved some memorable milestones in Australian air combat.

For instance, on 1 June 1918 a Sopwith 2-F1 Camel fighter from the light cruiser HMAS *Sydney* (I) destroyed a German fixed-wing reconnaissance machine, the first time in the history of air warfare that a ship-launched aircraft had achieved such a feat.<sup>2</sup> The Camel's pilot, Lieutenant AC (Cyril) Sharwood, Royal Air Force (formerly Flight Lieutenant, Royal Naval Air Service), was rewarded with a Mention-in-Despatches,<sup>3</sup> but some credit must also go to the foresight of *Sydney's* commanding officer, Captain J S Dumaresq, RN. An Australian by birth, Dumaresq had long advocated the use of aircraft from light cruisers to counter German aerial reconnaissance – a case strengthened when *Sydney* fought an inconclusive duel with the Zeppelin *L43* in May 1917.<sup>4</sup>

During *Sydney's* next refit Dumaresq arranged for the cruiser to receive a rotating flying-off platform just aft of her forward 6-inch gun. He not only supervised the fitting of the platform, but also was able to offer suggestions for its improved operation. Successful trials were carried out with a Sopwith Pup in December 1917, the machine becoming airborne after a run of little more than four metres.<sup>4</sup> Encouraged by the



results, Dumaresq pushed for the permanent allocation of an aircraft, and in February 1918 received on loan a Camel specifically designed for shipboard operations. Thereafter flying operations were conducted on a regular basis to gain experience, and by June 1918 four out of the five ships in *Sydney's* Second Light Cruiser Squadron (including HMAS *Melbourne* (I)) each had an aircraft.

Sharwood's victory came during an anti-minelaying sweep into the Heligoland Bight by elements of the British Grand Fleet. The Second Light Cruiser Squadron formed part of the supporting force, together with two aircraft carriers and the First Battle Cruiser Squadron. At 0933 on 1 June 1918, the force was closing its objective when three German reconnaissance aircraft passed over the cruiser screen and dropped five bombs among the battle cruisers. For such an emergency, Australia's official history records, Dumaresq had long since prepared:

*Sydney's* pilot was continuously on duty close to his aeroplane, a bugle-call summoned the despatching crew, and the machine could be away within two minutes (*Melbourne* of course had similar arrangements). So when the German aeroplanes returned, the machines from both Australian cruisers were in the air, climbing rapidly to intercept them.



*HMAS Sydney's Sopwith Camel ready for launch (RAN)*

*Melbourne's* pilot lost sight of his quarry as he passed through the scattered cloud, but Lieutenant Sharwood maintained contact and pursued what he later identified as a single-seater seaplane. Climbing to 10,000 feet he eventually reached a firing position on the enemy's tail. After several bursts of machine gun fire Sharwood saw the German machine shudder and then enter a spinning nose-dive. While following it

down he was 'bounced' by another German aircraft, which he engaged until one of his guns jammed and the other ran out of ammunition. With no choice but to break off the action, Sharwood endeavoured to return to *Sydney*, now more than 70 miles away. After a long and unsuccessful search he was almost out of fuel when he sighted several British cruisers and destroyers. A few rounds of anti-aircraft fire were directed at Sharwood's Camel before it was recognised, but thereafter he managed to ditch safely some 500 yards from HMS *Sharpshooter*. After another 20 minutes spent clinging to the Camel's handgrips he was rescued by the destroyer's sea-boat. The cruiser HMS *Canterbury* recovered the aircraft. Sharwood returned to *Sydney*, where Dumaresq's continued support led to some improvements in the administration and operational control of the squadron's aircraft. Following a promotion, Sharwood became commander of the flight of four Camels and designated Senior Naval Flying Officer Second Light Cruiser Squadron.

The Australian cruisers retained their flying-off platforms on their return from European waters, but without suitable aircraft, these facilities were soon removed. Subsequently, the requirements of naval aviation became a casualty of the acrimonious debate surrounding the distribution of limited funding between the three Australian Services. Between 1921 and 1944 the only aircraft operated from sea were Royal Australian Air Force (RAAF) amphibians, whose primary tasks were reconnaissance and gunnery spotting. A revived naval air combat capability had to await the 1948 formation of the FAA, centred on the acquisition of two *Majestic* class light fleet aircraft carriers.

The first of these vessels, HMAS *Sydney* (III), arrived in Australian waters in 1949. Just two years later the carrier and her air group were on active service during the Korean War. Although acquired to provide fighter protection for the fleet, *Sydney's* Hawker Sea Furies performed more than creditably in the ground support and interdiction roles in Korea. No opportunity arose to confront enemy aircraft during the war, but this was probably fortunate as the piston-engined Sea Furies would have likely been outclassed by the MiG 15 jets flown by the enemy. With aviation technology changing so rapidly the Sea Fury remained in front-line RAN service only until 1955, when it was replaced by the de Havilland Sea Venom. Nevertheless, the aircraft had one further opportunity to cement its reputation as an air interceptor, for in that year two Sea Furies became the last Australian fighters to shoot down another aircraft.

This incident began on the morning of 30 August 1955 at Bankstown airport, when an Auster light aircraft suffered an engine failure while on a practice circuit. Safely landing the aircraft in the middle of the airstrip, the pilot climbed out and attempted to restart the engine by swinging the propeller by hand. The engine sprang to life, but the brake failed to hold, and without its pilot the Auster began gathering speed. Already well-trimmed the aircraft took off and began climbing. A series of circuits followed with the Auster gradually gaining height and drifting in a north-easterly direction over Sydney's suburbs. Fearing where it might crash, aviation authorities broadcast a general alarm to all aircraft as well as the Defence forces, police and emergency services.

One of those alerted was an RAN Auster on its way to Naval Air Station (NAS) Schofields. The naval aircraft made contact with its civilian sister at around 0900 and, having confirmed that it was unoccupied, remained in pursuit as it passed over the city centre. An hour later the runaway Auster was at 5000 feet and passing over Vaucluse, but no armed aircraft was yet available to bring it down. Finally, at 1020 a Wirraway trainer from RAAF Base Richmond made contact some two and a half miles offshore. But even then it was ordered not to open fire until the target had doubled this distance. Another 25 minutes passed, by which time the Auster had climbed to more than 10,000 feet. Using a hand-held Bren from the open rear cockpit the Wirraway made two firing passes without noticeable effect. A further attempt proved impossible as the 5°C air temperature meant that the gunner could not change the magazine as his hands were sticking to the gun.

The Wirraway and RAN Auster returned to their respective bases, but not before the arrival of a Meteor jet fighter from RAAF Base Williamtown. The Meteor managed just a few rounds, however, before both its cannons jammed. The RAAF called in two more Meteors, but these were beaten to the scene by a pair of Sea Furies from 805 Naval Air Squadron based at NAS Nowra. The first Sea Fury approached from astern and fired a short four-cannon burst, while the second made a beam-on attack. The Auster erupted into flame and 90 seconds later came down in the sea off Broken Bay. The incident may not have involved a determined enemy, but unsurprisingly it raised many questions about contemporary Defence readiness. Fifty-two years later, with memories of 11 September 2001 still fresh, the requirement to quickly intercept a rogue aircraft still resonates.

Navy operated and maintained fixed-wing aviation is no longer part of the Australian Defence Force's (ADF) force structure. Future naval aerospace capability will nevertheless deliver greater operational flexibility and enhanced battlespace awareness to the maritime task force commander. In particular, developments in uninhabited aerial vehicles (UAVs) are likely to provide increased time on task and greater stand-off range from the task force without risk to aircrew. With advances in force-networking there is no special reason why the ADF's maritime UAVs could not also act as carriers for a wide variety of munitions. Given the pace and scale of UAV development perhaps we have not yet seen the last of air combat in the RAN.

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## Notes

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- <sup>1</sup> Cited in D Stevens (ed), *In Search of a Maritime Strategy*, Canberra Papers on Strategy and Defence No 119, Strategic and Defence Studies Centre, The Australian National University, Canberra, 1997, p. 173.
- <sup>2</sup> On 21 August 1917, a Sopwith Pup launched from HMS *Yarmouth* brought down the German Zeppelin *L23*.
- <sup>3</sup> *London Gazette*, 20 September 1918.
- <sup>4</sup> The airship was able to rise out of range of the warship's guns, while the cruiser proved too manoeuvrable a target. The engagement ended with both opponents having expended all their ammunition.
- <sup>5</sup> Recovery was more problematic, with the aircraft either forced to ditch or land at the nearest friendly aerodrome.
- <sup>6</sup> AW Jose, *The Royal Australian Navy*, Australian War Memorial, Canberra, 1928, p. 305.



*HMAS Australia (II) the epitome of  
Australian sea power during World War II (RAN)*

# The Maritime Defence of Australia, 1942

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Dr Gregory P Gilbert

Since the late 1980s much of the debate on Australia's defence strategy has been focused on the need to ensure the Defence of Australia (DoA) and its direct approaches.<sup>1</sup> But when it comes to defending Australia, its interests and its values, there appears to be as many visions of what DoA involves as there are observers.

The Australian Defence Force (ADF) is currently required to meet its DoA strategic objective in combination with four other objectives: to foster the security of our immediate neighbourhood, to promote stability and cooperation in South East Asia, to support strategic security in the wider Asia-Pacific region, and to support global security.<sup>2</sup> In reality, these strategic objectives are not mutually exclusive - the forces required to ensure the DoA are almost identical with those required to achieve the other four objectives. For example, the ADF needs to be expeditionary; whether it is to operate in the remote north of Australia, to support our near neighbours, to assist when natural and man-made disasters strike, or to defend Australia's interests and international order in any of the world's trouble spots. In essence, the DoA requires a joint and networked ADF using a maritime strategy that is capable of achieving sea control, projecting power from the sea, and defending our sea lines of communication. The perception that the DoA is a continental strategy, protecting the coastline in a last ditch effort to drive away foreign invaders is not supported by the historical evidence.



*Three wartime Australian Prime Ministers:  
John Curtin, Arthur Fadden and Robert Menzies (Argus Melbourne)*<sup>3</sup>

Perhaps it is best to deconstruct the continental DoA view by critically examining the events of 1942, when Australia was under serious threat from Japanese forces. By examining the maritime defence of Australia during 1942 we will be in a better position to develop and test our contemporary views in the national security debate. The following radio broadcast was written and presented by Australia's ex-prime minister, the Right Honourable Robert Gordon Menzies, on 18 September 1942. This broadcast was given at a time when Australia was no longer directly threatened by a potential Japanese invasion, but when the very survival of the country was still in the balance.<sup>4</sup>

The influence of sea power on British history has been profound. That a small island in the North Sea, about the size of the State of Victoria, should in the days of Elizabeth, with a population substantially less than that of Australia today, have taken the first momentous steps in a great movement which in two hundred years was to put a ring of colonies around the world seems miraculous, until you remember that this achievement was mainly due to the mariners of England. The story of British expansion is primarily linked with the names of sailormen - of Raleigh, Drake, Frobisher, Cook, Nelson. We sailed wherever ships could sail. We founded many a mighty state.

Our sea power has won our modern wars for us. It has in turn defeated Spain and Holland and France and Germany. Earlier in the present war it became the fashion to dismiss sea power as something outmoded and to concentrate all attention on the air. I shall be the last to minimise the heroism, the efforts, or the importance of the air force. But extreme views are very seldom correct, and we now find ourselves coming back to a balanced judgment which shows that those who thought about these things before the war were not a mile out when they decided that all three arms must be brought up to a reasonable degree of co-ordinated preparedness.

But tonight I want to emphasise to you the importance of the sea - not its diminishing importance, but its growing importance. I believe that it can be established that some of our major setbacks in this war have been caused by our failure to maintain sea power, and that ultimate victory in the war depends upon sea power to a most astonishing extent.

Let me make two things clear. The first is that by sea power I mean strength in both naval and merchant shipping. The second is that I regard as an essential ingredient in any modern fleet a large provision of aircraft carriers and of naval aircraft, since it is abundantly plain that

large ships without spotting and bombing and fighting aircraft would be as great an anomaly as large ships without long-range guns. I said just now that some of our reverses were due to our failure to maintain sea power. For an example of this we do not need to go very far from home. Can anybody doubt that the terrible blow delivered to the American fleet at Pearl Harbor and the sinking of our own battleships in the Gulf of Siam gave to Japan in the Western Pacific a degree of naval superiority which made it easy for her to invade Malaya, the Philippines, the Netherlands East Indies, Rabaul, New Guinea, and which was beyond question the biggest factor in Japan's swift success?

I know that somebody will retort to this that it was Japanese air power that did it, but my reply is to point out that it was the Japanese naval air arm which attacked Pearl Harbor and sank our battleships, and that without naval supremacy in these Far Eastern waters Japanese land-based aircraft might never have been able to establish themselves, with military forces to defend them, in key strategic points.

Let us look farther afield and glance briefly at the future. Wherever we look we will see that the great problem is shipping - sea power and shipping: numbers of ships, tonnage of ships, quick loading of ships, quick work and turn-around in ports, the protection of ships against the enemy in the air and on the water and under the water.

Great Britain must be fed and supplied, not only as the last stronghold of resistance on the west coast of Europe, but as the vital spearhead for the counter-attack which must precede victory. She can be fed and supplied only by sea, and the great and continuing and bitter battle of the Atlantic is therefore not only her vital struggle but that of the world. Russia must be aided. The only way in which direct aid can be sent into Russia is by water, and the sinking of many a British merchant ship and warship engaged in the dangerous and indeed deadly task of helping Russia is the best proof of the importance which attaches to it. Take the other method of helping Russia so much advocated today - the opening of a second front. The biggest of many big problems which arise in relation to a second front is the problem of shipping. When you remember how many hundreds and hundreds of vessels were required for the evacuation of a relatively small army from Dunkirk without equipment, you may well imagine how staggering would be the force of ships, both civil and military, needed for the transport of a large army with equipment to a hostile coast.



Then consider the Middle East. Every now and then we read of some gallant and battered convoy, with half its ships gone, arriving at Malta or Alexandria. We may also think of the score of ships that must round the Cape to go into the Middle East by the back door. The shipping strain is tremendous. It must all be accepted for the maintenance of a military position which is of far-reaching importance. And yet we are occupying on the western approach to Egypt only a very small German force, merely a trifling fraction of the great German force which is being occupied on the Russian frontier.

And the Far East. The problem of American aid to Australia is mostly a problem of shipping. Our own transport problems in Australia are largely those of shipping. So that, wherever we look, shipping is the great problem. When I was in England last year, the democratic world was losing far more ships than it was building. It is indeed comforting to know that today the United States and Great Britain are somewhat more than overtaking their losses. But we cannot be saved merely by holding our own. The construction, equipping and manning of ships must go on to a point where overwhelming carrying and fighting capacity on the water is developed.

That the United Nations will out-produce the Axis Powers in aircraft and guns and tanks and bombs I do not doubt. The almost incredible industrial resources of the United States alone would guarantee this. But the grim truth remains that you win wars in the long run by bringing superior forces and equipment to the point of battle. Fifty thousand tanks in the United States will not defeat Germany so surely as will five thousand shipped to and actually engaged in Europe. We read of enormous aircraft production in the United States. The output of a week or two shipped to this theatre would give to Australia an impregnable strength to resist Japanese attack.

Any conception of this war is inadequate which envisages a state of affairs in which each Allied country is so furnished with men and equipment that it cannot successfully be attacked, but in which each of them is also without that overwhelming equipment for the sea which will enable it to move to the offensive. It is elementary sense that we cannot begin to win the war - and we have certainly not begun to win it yet - without getting on to the offensive. But to talk of the offensive is mere meaningless chatter unless we have the vital means for conducting the attack. And in this world, with its map reshaped as it has been in the last three years, the essential for the attack is power on the sea.

And so I come back to the conclusion that, once more, the winning of a great war for survival is inextricably bound up with naval power, and with the skill, tenacity and courage of those who 'go down to the sea in ships'.

While global alliances and technology have changed, the essential elements of Sir Robert Menzies' speech are enduring. The flexible and adaptable nature of sea power and maritime trade protection remain fundamental to the defence of Australia, its interests, and its values. The reach of the ADF has necessarily remained expeditionary and global. Despite determined philosophical efforts to deny that Australian interests need to be defended outside our direct approaches, our natural security and prosperity has always been associated with the sea and our global maritime links. In this context then it is difficult to sustain a case for a strategy of isolation.

*Published as Semaphore Issue 3, 2008*

## Notes

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- <sup>1</sup> Department of Defence, *Defence 2000, Our Future Defence Force*, Defence Publishing Service, Canberra, 2000, p. 30.
- <sup>2</sup> *Defence 2000, Our Future Defence Force*, pp. 30-32.
- <sup>3</sup> Source: P Hasluck, *The Government and the People 1939-1941*, Australian War Memorial, Canberra, 1952, facing p. 494.
- <sup>4</sup> Originally published as 'Chapter 28 Sea Power' in RG Menzies, *The Forgotten People: and other Studies in Democracy*, Angus and Robertson, Sydney, 1943.



*Participants in Exercise CASSOWARY 2006, the primary bi-lateral maritime exercise conducted between the RAN and the Indonesian Navy (Defence)*

# RAN International Engagement

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Captain Peter Leavy, RAN  
and Mr Andrew Forbes

The combat capability provided by the Australian Defence Force (ADF) can be viewed as an insurance policy, both as a deterrent to aggression and as a form of protection in times of war or conflict. While maintenance of this combat capability is clearly the primary focus of ADF activity, the skills developed and maintained for combat operations provide the ADF with valuable utility across a wider diplomatic spectrum.

A key component of Australia's military strategy is shaping the strategic environment in order to minimise threats to Australian - and regional - interests. This requires effectively communicating our interests, objectives and intentions to others and engaging with the international community to undertake activities that support and reinforce those interests. The ADF's regional engagement role helps this process by building confidence, understanding and transparency between nations, while allowing our respective defence forces to work together to achieve common security goals.

Within the ADF, the Royal Australian Navy (RAN) provides the Government with a valuable range of options to support engagement with other nations on a regular basis and to help shape our strategic environment. The unique attributes of maritime forces are well detailed in the RAN's maritime doctrine, and these attributes - particularly flexibility, adaptability, reach, poise and persistence - mean that warships are very well suited for engaging with regional neighbours in a variety of constructive ways.<sup>1</sup> By their very nature, naval vessels operate overseas, conduct port visits and regularly interact with the militaries of other countries. In doing so they are constantly shaping the way the RAN, ADF and Australia is viewed by those countries.

The RAN conducts its international engagement at three broad levels: strategic, operational and tactical. At the strategic level, the Chief of Navy undertakes 'Counterpart Visits' with other navy chiefs. These visits provide a forum for one-on-one discussions and the chance to build a personal rapport. They allow each service chief to brief his own government on regional concerns and to gain a first-hand appreciation of how other countries might react to particular events. Moreover, with the mutual trust gained from these talks the service chiefs are better placed to deal with each other in times of crisis.

The Chief of Navy also hosts a range of international symposia and activities, most prominently the biennial RAN Sea Power Conference, held as part of the biennial Pacific Maritime Congress and Exposition. He also attends similar overseas events, notably the International Seapower Symposium (a biennial forum for world navies

hosted by the United States (US) Navy);<sup>2</sup> the Western Pacific Naval Symposium (WPNS) which aims to promote naval professionalism, maritime understanding and naval cooperation in the western Pacific region;<sup>3</sup> and the recently instigated Indian Ocean Naval Symposium, a consultative forum for the littoral states of the Indian Ocean Rim to discuss maritime security issues.<sup>4</sup> Such fora have proved extremely useful in both standardising procedures between navies and, importantly, setting the tone for overall relations between them.

Also at the strategic level, formal 'Navy to Navy' talks are undertaken at the one/two star level, where a range of issues of mutual concern are discussed and the interaction objectives for our navies are developed. These discussions tend to focus on broader strategic, organisational, managerial, personnel, training and operational issues. The RAN currently undertakes formal 'Navy to Navy' talks with 12 countries: Canada, France, India, Indonesia, Japan, Malaysia, New Zealand (NZ), the Republic of Korea, Singapore, Thailand, the United Kingdom (UK) and the US. The number of such talks has grown significantly in recent years and modest increases are expected.

At the operational level of engagement the RAN is regularly involved in a large number of international exercises and operations, often including reciprocal visits between the Fleet Commander and various counterparts.<sup>5</sup> These activities are critical to the development and maintenance of mariner and interoperability skills, along with practicing the combined command and control arrangements necessary to operate in effective coalitions. As well as promoting technical proficiency, international exercises help in shaping our strategic environment and building trust and confidence between participants. Some examples of key RAN exercises are:

**RIMPAC.** The RAN is a regular participant in the RIMPAC exercise series held biennially off Hawaii. RIMPAC is among the largest multinational naval exercises in the world and provides valuable opportunities for the RAN to work with other major naval powers that border the Pacific Ocean (although interest is increasingly shown from nations further afield). The exercise practices high-end warfare and command and control skills, using advanced weapons ranges to record and analyse performance. Australia is one of only three countries that has participated in every RIMPAC exercise since its inception in 1971 - the others being the US and Canada. RIMPAC 2008 had ten participating countries: US, UK, Canada, Australia, Japan, South Korea, Chile, Peru, Singapore, and the Netherlands - with a number of other nations sending observers.

**TALISMAN SABRE.** This is a biennial exercise involving Australia and US forces, held off the Northern Territory and Queensland coasts, and aimed at honing crisis action planning and high end warfighting skills. In terms of Australian participation TALISMAN SABRE is the

largest exercise the ADF conducts with over 8000 ADF personnel participating in 2007.

**BERSAMA PADU/LIMA.** The defence forces of the UK, Singapore, Malaysia, Australia and NZ regularly exercise under the auspices of the Five Power Defence Arrangements (FPDA) in a series known as BERSAMA LIMA or BERSAMA PADU, depending on the year. The series is a joint and combined multi-threat exercise and was originally aimed at the defence of peninsular Malaysia and Singapore, but has evolved to include defence against a range of mutual maritime threats, such as piracy and protection of vital sea lines of communication.

These examples consist of large exercises involving multi-threat operations, however, the RAN also participates in a wide range of smaller exercises targeting specific skill sets. For example a number of diving and mine warfare exercises have been held under the auspices of the WPNS. Due to the non-offensive nature of mine countermeasures exercises, and the fact that they are aimed at a common threat, these activities are particularly well suited to bringing regional countries together.

These examples demonstrate that the scope and capabilities practiced in each exercise can vary considerably and help shape our environment in different ways. Some focus on basic seamanship and surveillance tasks, while at the other end of the spectrum RIMPAC and TALISMAN SABRE hone the high level warfighting skills and associated interoperability. However the underlying intent of each is to establish and maintain all-important confidence, mutual understanding, transparency and capacity building between participants.

In addition to military exercises the RAN has also sponsored some very successful engagement programs aimed at building regional maritime capacity. One outstanding success has been the Pacific Patrol Boat program which is detailed in Semaphore 2 of 2005.<sup>6</sup> This program did not simply deliver patrol boats to Pacific Island nations, but provided ongoing logistic support and crew training. The RAN maintains operational and technical advisors in each of the recipient countries to assist with operation and maintenance of these vessels, as part of an increasingly cooperative regional network of national surveillance and enforcement capabilities.

The lowest, 'tactical', level of engagement occurs in a number of ways. A passage exercise (PASSEX) occurs when warships transit an area and take the opportunity to exercise with adjacent naval forces. Often conducted at short notice and on an opportunity basis, they are usually restricted to navigation, seamanship and low level warfare activities. Being relatively simple and short, they can be organised with little lead time and optimise benefits of participating elements being in the same area at the same time.

Vital engagement also occurs with every overseas visit by a warship. The RAN conducts frequent port visits to most regional countries and maintains a deployment program that ensures a visible presence further afield at regular intervals. The aims of these visits are many, but importantly they 'show the flag', demonstrating the Australian Government's friendship with the country visited, and allowing a direct interaction between our nations. They provide an opportunity for locals to visit the ship and talk to the sailors. Equally importantly, they allow our officers and sailors to gain a first-hand appreciation of the country visited; a critical factor in building mutual understanding and respect.

Routine activities such as open days, receptions and industry sea days all help promote Australian interests and shape the way Australia is seen in the country visited. Indeed, for many foreign nationals, their only direct interaction with Australians may be the sailors on a visiting RAN ship. In this sense, every deployed member of the RAN is an ambassador for Australia. While not deployed specifically for the purpose, RAN ships can also provide a platform to showcase Australian industry overseas. Such activities all play a part in promoting Australia and shaping how our nation is perceived.

While the most visible aspect of the RAN's regional engagement involves ship visits and exercises, there are other interactions that also promote capacity building, understanding and cooperation between nations. The provision of training, exchange officers and reciprocal attendance at staff courses are all key components of building understanding and trust. Australia provides 'individual training' where foreign personnel attend courses in Australia and RAN personnel do likewise overseas. The RAN also hosts 'operational training' where foreign personnel are attached to our ships. Over 200 foreign naval personnel train in Australia each year, with most coming from regional countries. Importantly many senior officers from regional countries have undertaken training in Australia and the personal contacts they have gained can assist when dealing with sensitive issues.

The diplomatic role is one that navies across the world have engaged in for centuries. The attributes of maritime forces make RAN ships - large and small - ideally suited to visit and engage with regional countries to promote Australia's security and national interests as a normal part of their operational activity. This engagement helps build practical skills together with mutual understanding and respect, and remains a key component of shaping our strategic environment.

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## Notes

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- <sup>1</sup> These are explained in detail in Royal Australian Navy, *Australian Maritime Doctrine*, Sea Power Centre - Australia, Canberra, 2000, pp. 48-51.
- <sup>2</sup> The International Seapower Symposium is arguably the world's major gathering of senior navy leaders, often hosting 40-50 chiefs of navy. The last symposium was in October 2007.
- <sup>3</sup> See Andrew Forbes, 'The Western Pacific Naval Symposium', in Andrew Forbes and Michelle Lovi (eds), *Australian Maritime Issues 2006: SPC-A Annual*, Papers in Australian Maritime Affairs No 19, Sea Power Centre - Australia, Canberra, 2007, pp. 183-188.
- <sup>4</sup> The Indian Ocean Naval Symposium was inaugurated on 15 February 2008 in New Delhi, see <[www.indiannavy.gov.in/ion.htm](http://www.indiannavy.gov.in/ion.htm)> (16 February 2008).
- <sup>5</sup> Details of some key RAN exercises will be covered in a future Semaphore.
- <sup>6</sup> 'See Steven Bell, 'The Pacific Patrol Boat Project', in Gregory P Gilbert and Robert J Daviit, *Australian Maritime Issues 2005: SPC-A Annual*, Papers in Australian Maritime Affairs No 16, Sea Power Centre - Australia, Canberra, 2005, pp. 95-98.





*Seasick soldiers in SS Euripides. The need for troops to acclimatise to the maritime environment remains an important planning consideration in any expeditionary operation (RAN)*

# Australian Sea Transport, 1914

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Dr David Stevens

The basic fact of seapower is that it is much easier to move anything heavy by sea ... for heavy weights the sea is still, and is likely to remain, the only efficient means of transportation between the continents.<sup>1</sup>

Norman Friedman

One of the more remarkable Australian operations during the opening months of World War I (WWI) took place neither at sea nor on the battlefield but within our national shipyards. When, on 3 August 1914, Prime Minister Joseph Cook informed Great Britain that Australia was anxious to send an expeditionary force, 20,000 men strong, to any destination desired, little thought had actually been given to the question of how to transport the volunteers of the Australian Imperial Force (AIF) and all their equipment. Indeed, on 5 August the Australian Commonwealth Naval Board was forced to ask the military authorities whether the Board was needed to prepare a scheme for taking up troopships, and if so 'from what ports, and to carry what numbers, what arms and what horses?'<sup>2</sup>

To deal with the transport problem the Naval Board set up a joint service committee, with the Third Naval Member, Engineer Captain W Clarkson, RAN, as chairman, and thereafter the Royal Australia Navy (RAN) maintained an extremely close watch on all aspects of the proceedings. A first task was to prepare a list of all merchant ships in port or approaching the Australian coast to allow for their inspection and measurement by a Naval Transport Officer. Conversion plans were prepared as soon as a ship had been assessed as suitable, so that once her current cargo had been discharged fitting out of the vessel could begin immediately. Modification work entailed the gutting of all passenger accommodation, and the addition of galleys, latrines, hospitals, troop deck fittings and horse stalls. To save time and expense the main features were standardised, but still required major changes to each ship's electrical and water systems.

Speed of conversion grew with experience.<sup>3</sup> Even so, the fitting out of the first 28 vessels to be requisitioned proceeded astonishingly quickly, with the last transport completely equipped by 27 September 1914. Nine of these ships were over 10,000 tons, with the largest being *SS Euripides*, an Aberdeen White Star liner of 15,000 tons. Given the official number 'A.14', *Euripides* was one of three transports to be fitted out in Brisbane. When completed on 18 September she had berths for 136 officers and 2204 other ranks, and stalls for 20 horses.

Although the troopships were ready for embarkation, the whereabouts of several German warships was uncertain, as such imperial authorities remained unwilling to

risk their passage across the Indian Ocean until a sufficiently powerful naval escort could be assembled. *Euripides*, for example, did not embark her first troops at Sydney until 19 October. Soon, however, she had onboard the Headquarters of the 1st Infantry Brigade, the 3rd and 4th Battalions and the 1st Field Ambulance. No one embarked yet knew where they were going, but the scale of the undertaking was obvious to all. As William McKenzie, a chaplain in the expeditionary force, observed in his diary, 'Never before have so many troops left Australia in one single ship'.<sup>4</sup>



*View from the mainmast of SS Euripides with a variety of lectures and drills underway on the upper decks (RAN)*

*Euripides* made a quick passage of the Great Australian Bight, and after waiting in Albany for the remainder of what was now known as Convoy 1 to assemble, sailed with the fleet from Western Australia on 1 November. Joining with the 26 Australian transports were another 10 from New Zealand with an escort provided by the cruisers HMS *Minotaur*, HMAS *Melbourne* and HMAS *Sydney*. Weather conditions for the departure were ideal with hundreds of onlookers lining the surrounding hills to see 'the awe-inspiring sight'.<sup>5</sup>

The Australian transports sailed in three columns with the New Zealand vessels following behind in two columns of their own. *Euripides* led the convoy's 3rd Division comprising the fastest vessels, but *Southern*, the formation's slowest ship actually set the pace. Even with heavy stoking she could barely average 10 knots. Leading the middle column was SS *Orvieto* with Captain A Gordon-Smith, RN, Second Naval Member of the Naval Board, embarked. Acting as the convoy's Principal Transport Officer, he would remain in charge of the fleet until it reached Egypt. Two days after sailing the force grew larger still with the arrival of the Japanese armoured cruiser *Ibuki* and two more transports she had picked up in Fremantle. The convoy now covered an ocean area some 14-15 miles long and 10-12 miles wide, with the four escorts patrolling stations ahead, astern and on either wing.<sup>6</sup> During the night the lines of ships would tend to string out and each morning the force had to allow the laggards to catch up.

In all, the transports carried almost 30,000 men and 8000 horses. For such a force, the screening cruisers provided great comfort, but in the days before radar, the risks from both collision and enemy action remained very real. Describing the convoy's slow progress, one French author eloquently laid out the dangers:

Thirty-eight merchantmen! What a mob! Think of it - all their lives these merchant-skippers have sailed one by one on their own, each man choosing his own route, each regulating his speed by the pressure of his boilers. All of a sudden they are ordered to sail in convoy at fixed intervals, regulating their speed to the quarter-turn of the screw; they are subjected to a discipline so strict, and so necessary, that naval men attain it only by long practice in exact observation and continuous watchfulness.

At night it is worse. They are much more afraid of running into each other than of being attacked by an enemy; each keeps well away from his neighbours...

...Imagine the sudden attack of a raider at midnight on this shapeless mass. She would have no doubts; every ship would be an enemy; she would use gun and torpedo indiscriminately on the mob, and then disappear in the darkness. The escorting cruisers, afraid of firing on their convoy, would be almost unable to reply. And that would mean disaster - perhaps 20,000 men drowned.<sup>7</sup>

The raider most feared was the German light cruiser SMS *Emden*. Her captain, Karl von Müller, had rapidly established a reputation for skill and daring, having in just two months of operations captured or sunk 25 Allied steamers, a Russian cruiser and a French destroyer. The story of *Sydney*'s release from the convoy on 9 November to investigate reports of a suspicious warship off the Cocos Islands, and her subsequent triumph over *Emden*, has been told many times. It is not necessary to repeat the details here.<sup>8</sup> Although trumpeted as Australia's first naval victory - made all the more newsworthy because it was achieved against a brilliant and cunning foe - far more important were the strategic consequences.

Writing at the beginning of the 20th century the British naval strategist Sir Julian Corbett argued that the object of naval warfare was the control of communications, and not, as in land warfare, the conquest of territory.<sup>9</sup> From this followed his maxim: 'The primary object of the fleet is to secure communications, and if the enemy's fleet is in a position to render them unsafe it must be put out of action.'<sup>10</sup> The combined naval operations conducted against the German Navy in the Pacific and Indian Oceans in the war's first months successfully removed the only immediate threats to Australia's sea communications. This result was achieved at minimal cost, and in direct consequence AIF troop convoys were able sail without escort for the next two years of the war. For her part, *Euripides* carried out another nine voyages from Australian ports, in total carrying safely more than 13,000 officers, men and nurses to the battlefields of the Middle East and Europe.

The Transport Branch of the Navy Department eventually arranged for the requisition of 74 troop transports and, over the course of WWI, 44 convoys ferried some 337,000 men and 27,000 horses from Australia to the European theatre.<sup>11</sup> None of those carried was ever lost to enemy action while on passage. Without doubt it was among the most important services controlled by the Australian Naval Board, and an important demonstration of the mobility of resources conferred by Allied sea power.

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## Notes

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- <sup>1</sup> N Friedman, *Seapower as Strategy*, Naval Institute Press, Annapolis, 2001, p. 40.
- <sup>2</sup> Telephone conversation, cited in A W Jose, *The Royal Australian Navy*, Angus and Robertson, Sydney, 1935, p. 406.
- <sup>3</sup> By June 1915 it was found possible to equip fully a transport for 1500 troops in just 60 hours.
- <sup>4</sup> Cited in P Plowman, *Across the Sea to War*, Rosenberg, Dural, 2003, p. 42.
- <sup>5</sup> Cited in Plowman, *Across the Sea to War*.
- <sup>6</sup> T Gellel, 'Unlikely Partners: the destruction of the Emden and the paradox of Japanese naval cooperation with Australia during the First World War', paper delivered at the King-Hall Naval History Conference, 26-27 July 2007.
- <sup>7</sup> C Farrère, *Combats et Batailles Sur Mer*, 1914, pp. 110-111, cited in Jose, *The Royal Australian Navy*, p. 410.
- <sup>8</sup> For readers seeking a fuller account see Jose, *The Royal Australian Navy* or <[www.navy.gov.au/spc/history/ships/sydney1.html](http://www.navy.gov.au/spc/history/ships/sydney1.html)> (28 March 2008).
- <sup>9</sup> E Grove (ed), J S Corbett, *Some Principles of Maritime Strategy*, Naval Institute Press, Annapolis, 1988, p. 94.
- <sup>10</sup> 'Notes on Strategy', in Grove/Corbett, *Some Principles of Maritime Strategy*, p. 343.
- <sup>11</sup> G Tregarthen, *Sea Transport of the AIF*, Naval Transport Board, undated.



*Commodore Allan du Toit looking out over the North Arabian Gulf while in command of CTF 158 (Defence)*

# Offshore and Out of Sight: The RAN in the North Arabian Gulf

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Captain Peter Leavy, RAN

Recent media discussion regarding the role of the Australian Defence Force (ADF) in Iraq has tended to focus on the departure of our combat troops from the Al Muthanna and Dhi Qar Provinces in the south of the country.<sup>1</sup> But this does not mark the end of Australia's military commitment, as just under 1000 personnel will continue to support Operation CATALYST, the ADF's contribution to developing a secure and stable environment in Iraq, and assist in national recovery programs. Although one of the least publicised aspects, the Royal Australian Navy's (RAN) role in the North Arabian Gulf (NAG) as part of Combined Task Force 158 (CTF 158) remains one of the most important components of this ongoing commitment.<sup>2</sup>

The exact composition of CTF 158 varies, but generally comprises eight ships, drawn from the RAN (in June 2008 HMAS *Stuart*), the United States (US) Navy, the United States Coast Guard, the Royal Navy and the Iraqi Navy, and anywhere from 800-1300 personnel.<sup>3</sup> The activities of CTF 158 take place offshore and out of sight, both literally and figuratively, yet its core mission is critical: protecting the vital oil terminals and infrastructure through which flows the oil which earns over 90 per cent of Iraq's foreign exchange. The strategic and economic importance of these assets is clear. Without the income from oil exports, Iraq's national stability would be further compromised, the situation throughout the country would be significantly worse than it is today, and prospects for improvement would be dubious. The CTF 158 mission is thus easily recognised as one of the most crucial allied operations in support of the rehabilitation of Iraq, but at the same time it is probably the least understood.

*Stuart's* arrival in the Gulf in April 2008 marks the 40th separate RAN ship deployment to the region since Iraq invaded Kuwait in August 1990, and thereby represents the ADF's most significant long-term investment in the Middle East. The first RAN deployment consisted of three ships (HMA Ships *Adelaide*, *Darwin* and *Success*) which sailed from Sydney with just 72 hours notice. The despatch of this task group, the core Australian response to the invasion, was a perfect demonstration of the readiness, flexibility, reach and responsiveness of maritime forces. Despite an initial degree of uncertainty over the task group's tasking, many years of experience operating with our allies and a common doctrinal understanding enabled the initial ad hoc coalition to work together very effectively. The RAN thereafter remained engaged throughout Operations DESERT SHIELD and DESERT STORM, providing escort and logistic support during combat operations to expel Iraqi forces from Kuwait.



For the next decade the RAN maintained a regular, though not continuous, presence under Operation DAMASK, forming part of the Multinational Interception Force which maintained United Nations sanctions on Iraq as part of the ceasefire arrangements. This maritime embargo proved extremely effective in controlling the flow of prohibited goods into and out of Iraq and denying Saddam Hussein the ability to re-equip or effectively train his military. The success of the sanctions only became fully apparent when Operation IRAQI FREEDOM began in March 2003, with Iraq's conventional military forces crumbling far quicker than most analysts expected.

HMAS *Anzac* was in the region as part of DAMASK X (the tenth rotation of RAN ships) when the United States was attacked on 11 September 2001. Her deployment was immediately extended and the RAN has since maintained a continuous presence of between one and three ships in the Gulf. Prior to the start of hostilities in 2003 the RAN was directly involved in enforcement operations, dealing with a very dynamic situation and facing a range of asymmetric and conventional threats. Obviously, the naval role has changed considerably over time, but the flexible nature of maritime forces, particularly surface warships, allowed the same RAN units to adapt to meet all emerging challenges.



*HMAS Anzac on patrol off Iraq's KAAOT in late 2007 (US Navy)*

*Anzac* was back in the Gulf along with HMA Ships *Kanimbla* and *Darwin* when the 2003 Iraq War began. At that stage Captain Peter Jones, RAN, commanded the multinational interception operations in the NAG and had under his control ships from Australia, the US, the United Kingdom and Poland. Captain Jones led the forces during their transition from a boarding and inspection focus to combat operations.

These three RAN ships, together with Australian Clearance Diving Team 3, were key elements in the Coalition effort to gain and maintain security of the NAG and the Khawr Abd Allah waterway providing access to the Iraqi port of Umm Qasr. They provided naval gunfire support to the Royal Marine assault on the Al Faw Peninsula, thwarted a covert Iraqi attempt to mine the NAG, cleared the port area of unexploded ordnance, discovered a major weapons cache, and dealt with the threat of surface, sub-surface and missile attacks. The major objective was to open up Umm Qasr to the flow of humanitarian aid. This objective was met just 10 days into the campaign when the first Coalition logistic ship berthed in the re-opened port. Throughout the combat phase, RAN ships were operating as far north in the Gulf as they could, usually in constrained navigational circumstances and well inside Iraqi territorial waters.

Upon completion of hostilities RAN forces transitioned seamlessly from combat operations to working with the new Iraqi regime to ensure the security of the nation's maritime interests, thereby helping to establish the environment necessary for rebuilding and recovery. Today, CTF 158 continues this vital work with a wide ranging remit: to set the conditions for security in the NAG; to help build the new Iraqi Navy's capabilities and experience level to allow them to assume control; and, to protect key infrastructure critical to Iraq's economic development. Command of the Task Force has been regularly rotated between Australia, the US and the United Kingdom in a well practiced and very effective manner. Commodore Allan du Toit, RAN, was the most recent Australian naval representative, remaining in theatre from September 2007 until March 2008 when he handed over command to the Royal Navy.

As already noted, one of the most important of CTF 158's tasks is the protection of the Khawr Al Amayah and Al Basrah oil terminals - usually referred to as KAAOT and ABOT respectively. These terminals are located in Iraqi waters about 15km south of the Al Faw Peninsula. They are fed via an underwater pipeline from a pumping station on the peninsula's tip. While the strategic importance of keeping the oil flowing is clear to the new Iraqi regime, it is just as well understood by insurgent forces. The terminals have already been subject to both deliberate terrorist attack and accidents, with consequent loss of earnings for the Iraqi economy. Although unsuccessful, a coordinated sea-borne terrorist attack on 24 April 2004 led to a two-day shut down of the facilities with a direct cost to Iraq of some US\$28 million. Even more significant to world markets, the attack caused the price of oil to spike resulting in a further loss to the global economy estimated to be at least US\$6 billion. Subsequently, the existing two

mile security zone around KAAOT and ABOT was supplemented with a three kilometre warning zone and a two kilometre exclusion zone.<sup>4</sup>

The RAN's deployed ships, officers and sailors have been intimately involved with enforcing these security measures. Indeed, during the 2004 attack Stuart was acting as the Maritime Security Operations Commander in the NAG. The incident began when a boarding party from USS *Firebolt*, a patrol vessel under *Stuart's* control, investigated one of the numerous dhows which had entered the security zone that day. As the boarding party approached the dhow to warn it to stay away, its occupants detonated an explosive device, killing three members of the US Navy boarding party and seriously injuring a further four. Within minutes another two small boat attacks were successfully thwarted by Iraqi security detachments on the oil terminals. *Stuart's* helicopter was first on the scene and her command team coordinated the response and managed the subsequent rescue and evacuation operations.

A critical point to note is that hundreds of fishing and trading vessels routinely operate in the area surrounding the oil terminals. It is only through continued presence and active patrolling that Coalition maritime forces can build and maintain a high degree of situational awareness and an understanding of normal traffic patterns. It is this knowledge which allows deviations from the norm to be detected early and appropriate reactions taken. This work is time consuming, constant and generally conducted without fanfare - but it is absolutely essential. While the *Firebolt* casualties in the frustrated attack were tragic, the layered defence and quick and decisive response by Coalition forces ensured the primary target - the oil terminals - were not damaged.

CTF 158 has also been very successful in helping to train the Iraqi Navy to enforce national sovereignty in their coastal waters. The Iraqis have been equipped with new patrol boats and, despite starting from a very low skill level, have made significant progress in the development of their maritime professionalism and capabilities. A naval mentoring program is also underway allowing Iraqi officers to gain exposure to operations from a frigate-size ship, and enabling them to further broaden their experience base.

The constant vigilance of the maritime forces assigned to CTF 158 has ensured the protection of the single most important element of Iraq's economic infrastructure. This does not in any way downplay the extreme difficulties faced by the Coalition's land forces who have suffered a much higher casualty rate. However, it is important to appreciate how challenging the overall situation would be without the foreign currency earned by the oil exports from KAAOT and ABOT. The professionalism and awareness of the Coalition's maritime forces, and their readiness to react to any developing situation, continues to be instrumental in allowing for the further development of Iraq's oil exporting industry and preparing the Iraqi Navy for the day when it will assume full security responsibilities. Thus, despite the recent withdrawal of combat troops from Iraq, Australia continues to demonstrate its support for friends and allies in the Middle East. This includes a valuable RAN presence.

*Published as Semaphore Issue 6, 2008*

## Notes

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- <sup>1</sup> Department of Defence Media Release CP155/08, 'Diggers cease operations in Southern Iraq', 2 June 2008, <[www.defence.gov.au/media/DepartmentalTpl.cfm?CurrentId=7803](http://www.defence.gov.au/media/DepartmentalTpl.cfm?CurrentId=7803)> (4 June 2008).
- <sup>2</sup> Department of Defence web page 'About Operation Catalyst', <[www.defence.gov.au/opcatalyst](http://www.defence.gov.au/opcatalyst)> (4 June 2008).
- <sup>3</sup> See the Royal Navy's web page 'Combined Task Force 158' at <[www.royalnavy.mod.uk/server/show/nav.00h00400100500700e002](http://www.royalnavy.mod.uk/server/show/nav.00h00400100500700e002)> (4 June 2008).
- <sup>4</sup> JC Daly, 'The Threat to Iraqi Oil', *Terrorism Monitor* Vol 2, Issue 12, 17 June 2004. Navy Newsstand, *Coalition Maritime Forces Revise Iraqi Oil Terminal Protection Procedures*, Story Number NNS040506-08, 6 May 2004, <[www.navy.mil/search/display.asp?story\\_id=13177](http://www.navy.mil/search/display.asp?story_id=13177)> (28 September 2007); and *Warning and Exclusion Zones at Khawr Al'Amaya Oil Terminal (KAAOT) and Al Basra Oil terminal (ABOT)*, US Maritime Liaison Office, Bahrain, 6 May 2004.



*US Navy DSRV with HMAS Rankin in  
the background in Hawaii (RAN)*

# Submarine Escape and Rescue: A Brief History

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Mr Nick Stewart

The disaster which befell the Russian submarine *Kursk* in August 2000 caught the world's attention and became a galvanising event in drawing renewed focus on submarine safety in the new century. Public empathy worldwide seemed to be driven by the belief that when a submarine goes down there is little that can be done for the crew. However, the history of successful submarine escape and rescue is as long as the history of the submarine itself.

As submarine capabilities were gradually introduced in various navies around the world, a common question also emerged: what can be done in the event of a submerged accident that disables the submarine and prevents it returning to the surface? Essentially the answers remain the same.

There are two options available for the crew of a submerged disabled submarine (DISSUB); escape or rescue. Escape is the process where the DISSUB's crew leaves the boat and reaches the surface without external assistance; while rescue is undertaken by outside parties who remove the trapped crew from the submarine.

At the dawn of the submarine age the initial focus was given to escape. Appearing around 1910 the first escape systems were derived from the breathing apparatus used by coal miners. These used a soda-lime cartridge which binds large quantities of carbon dioxide, cleaning the air breathed. The system utilised in the first submarine escape was the German Dräger breathing apparatus, used when the submarine *U3* sank in 1911.<sup>1</sup> A number of similar systems followed; with the Davis Submarine Escape Apparatus (DSEA) being adopted by the Royal Navy in 1929 and the Momsen Lung used by the United States (US) Navy until 1957.

These escape systems remained prevalent until 1946 when the Royal Navy held an inquiry into escape from sunken submarines. The inquiry found no difference in survival rate between those who used a DSEA to escape and those that did so unaided.<sup>2</sup> As a result the DSEA was replaced with the 'free ascent' or 'blow and go' technique. Free ascent involved the crew member beginning the ascent with compressed air in their lungs. During the ascent the submariner breathed out at a controlled rate, allowing air to escape. This was a continual process, as the air expanded in the lungs due to the decreasing pressure experienced en route to the surface. To limit the chance of being affected by decompression sickness, the escapee would use the bubbles of expelled air to judge the ascent by staying behind the smaller bubbles. To aid in the escape, a crew member might also use a life jacket or buoyant ring. In this case the rate of

ascent was faster, which required the submariner to blow more rapidly throughout the journey to the surface. Buoyancy assisted free ascent continues to be practiced by Royal Australian Navy (RAN) submariners at the Submarine Escape and Rescue Centre at HMAS *Stirling* in Western Australia.

After a brief flirtation with free ascent, the US Navy implemented the Steinke Hood in 1962. Literally a hood with a plastic face mask attached to a life jacket, the Steinke Hood allowed the crew member to breath air trapped in the hood on their ascent following escape. Breathing in the trapped air reduced the chances of contracting the bends if the user breathed normally.

Free ascent and the Steinke Hood were favoured for their ease of use, but both systems had one glaring flaw: they failed to provide protection from the elements once the submariner reached the surface. This was apparent in 1950, when HMS *Truculent* sank following a collision with a merchant vessel within sight of the British shore. All of the 72 crew made it to the surface but only 15 survived with the rest swept out to sea by the tide and lost. These shortcomings were again evident with the *Kosmoslets* disaster in 1989. Of the Soviet submarine's 69 crew, 34 of those who made the ascent to the surface later died from hypothermia, heart failure or drowning.

In the 1990s a large percentage of the world's navies operating submarines, including the RAN, replaced their existing escape systems with either the British developed Submarine Escape Immersion Ensemble (SEIE) or local versions of that design. Using trapped air, similar to the Steinke Hood, the SEIE covers the user completely and importantly, provides thermal protection. Further, the suit has an inbuilt life raft that, once on the surface, can be linked, when inflated, to other life rafts. The suit allows for an escape from 185 metres.

Prior to 1939 it was generally considered that if the crew could not escape the DISSUB then there was little that could be done to rescue them. During the 1920s some navies, in particular the US Navy, used salvage type operations with some success. However, these early rescue operations were conducted with the help of ideal weather conditions, which would rarely be the case in practice. Often the amount of damage suffered by the submarine was unknown, which meant the submarine could not be moved as it might break apart in the process. Time was also a factor as the crew would have only three days of air at the most. Unfavourable conditions on the surface would prevent a salvage operation being carried out, as was the case in 1927 with the American submarine *S-4* when gale force winds prevented the rescue from commencing in time. Due to the difficulties involved, salvage was abandoned as a means of rescue.<sup>3</sup>

Thinking on submarine rescue changed dramatically in 1939 with the sinking of USS *Squalus*. During seagoing trials an equipment failure resulted in the flooding of *Squalus*' aft torpedo room, engine rooms and crew's quarters killing 26 of the boat's 59 crew instantly. Quick work by the remaining submariners prevented further flooding but

the boat, now disabled, came to rest 74 metres below the surface. Since *Squalus* was carrying out the exercise in company with her sister ship, USS *Sculpin*, the DISSUB was quickly located and the alarm raised. What followed was the first true and, to this day, only successful submarine rescue.

The submarine rescue ship *Falcon* arrived on site with submarine salvage and rescue expert Lieutenant Commander Charles B 'Swede' Momsen, USN, on board. Momsen, the man who invented the Momsen Lung, employed the newly developed McCann Rescue Chamber to great effect. The chamber was a large steel bell that was lowered from a surface vessel to cover the submarine's escape hatch. Once attached it was possible to reduce air pressure and open the hatch to allow the trapped submariners to climb aboard. Using the chamber the 33 surviving crew members were rescued in four trips. The McCann Rescue Chamber System remains in service in several contemporary navies, including the US Navy and the Turkish Navy.

Submarine rescue philosophies evolved further in the 1960s following the loss of two American nuclear powered submarines, US Ships *Thresher* and *Scorpion*, despite both boats being lost in waters that precluded escape or rescue. After considering a variety of options, including submarines with in-built escape pods (similar to the Russians) and submarines with front ends that could be blown to the surface, the US Navy developed the Deep Submergence Rescue Vehicle (DSRV). Entering service during the 1970s the DSRV, a manned mini-sub that mates with a DISSUB's hatch and could carry 24 people at a time, offered great flexibility. With two built, one is maintained in an operational state so it can be flown in a C-5 cargo plane to a port nearest the DISSUB. It can then be placed onboard either a modified US or allied submarine. Operating from a submarine means that rough conditions or ice on the surface is less likely to adversely affect rescue operations.

Other navies followed the lead of the US Navy and developed their own portable rescue capabilities. The Royal Navy's LR5 Submarine Rescue Vehicle (SRV) is similar to the DSRV in most aspects but instead of using a modified vessel the LR5 uses a ship of opportunity as the Mother Ship. The LR5 is part of the UK's multifaceted Submarine Rescue Service which also includes the Submarine Parachute Assistance Group (SPAG) and the Scorpio Remotely Operated Vehicle (ROV). Composed of selected staff members from the submarine escape training tank and rapidly deployable, the SPAG functions as a first-on-site capability that provides assistance to a DISSUB or to those who have escaped. The obvious benefit of the SPAG is that timely assistance and coordination can be provided in order to avoid another *Truculent* or *Kosmsomlets*. The primary function of the Scorpio is to inspect and survey the DISSUB on the ocean floor. It can also clear debris from the site and record data such as water temperature, which is then used to assist in deciding on a suitable rescue strategy.



Both the LR5 and DSRV are nearing the end of their lives with each expected to be replaced by new systems by the end of 2008. The LR5 will be replaced by the NATO Submarine Rescue Service, a system developed jointly by Britain, France and Norway, while the US Navy is developing the Submarine Rescue Diving and Recompression System. Both systems are similar and will carry out rescue operations in three phases; reconnaissance, rescue and crew decompression. The reconnaissance stage will involve an ROV locating the DISSUB and recording data before a manned vessel conducts the rescue. The final stage, crew decompression, will involve a Transfer Under Pressure (TUP) chamber which enables the rescued submariners to be transferred from the rescue vehicle directly to a decompression chamber, thus preventing exposure to any unsafe atmospheric changes.

While many of the developments in submarine rescue have been driven internationally, the RAN has taken the initiative in designing its own rescue system. Prior to 1995 the RAN had no organic submarine rescue system but did have a standing agreement with the US Navy for use of a DSRV in any emergency situation involving an RAN *Oberon* class submarine. The introduction of the *Collins* class coincided with the development of the Submarine Escape and Rescue Suite which includes the Australian SRV Remora, the SRV's launch and recovery system, and decompression chambers with a TUP capability.

The capability to conduct a rescue is vital but counts for little if nations are unable to employ elements of another's rescue capability, where that equipment might be better suited than their own. This was revealed in the post-*Kursk* disaster analysis. In the disaster's aftermath the International Submarine Escape and Rescue Liaison Organisation (ISMERLO) was formed, with the primary objective to help coordinate future submarine rescue missions. Through its website, a nation with a DISSUB can note what assets are available, while nations that are capable can respond. With over 40 countries now operating submarines the role of ISMERLO is critical. This is reflected in the fact that the organisation is an intrinsic part of submarine rescue exercises around the world, such as the NATO-sponsored BOLD MONARCH. The RAN also helps to promote regional cooperation on submarine rescue through its participation in Exercise PACIFIC REACH, the triennial Asia-Pacific submarine rescue exercise.

In summary, early submarine operations relied on escape as the preferred method of recovering submariners from a disabled submarine. However, accidents and practical experience proved that rescue was also necessary. Momsen and other advocates of submarine rescue championed advancements in rescue systems, life support and recovery coordination. So if the unthinkable happens today, the chances of a successful rescue are significantly greater than they have ever been.

## Notes

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- <sup>1</sup> A Jensen, 'Why the best technology for escaping from a submarine is no technology', <[www.americanheritage.com/articles/magazine/it/1986\\_1\\_44\\_print.shtml](http://www.americanheritage.com/articles/magazine/it/1986_1_44_print.shtml)> (4 July 2008).
- <sup>2</sup> FW Lipscomb, *The British Submarine*, Conway Maritime Press, Greenwich, 1975, p. 186.
- <sup>3</sup> F Owen, 'Submarine escape and rescue: The Australian solution', <[www.idpm.biz/downloads/submarine\\_escape.pdf](http://www.idpm.biz/downloads/submarine_escape.pdf)> (2 July 2008).



*US Navy bluejackets coming ashore at Melbourne 29 August 1908*  
(US Naval Historical Center)

# The Great White Fleet's 1908 Visit to Australia

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Dr David Stevens

We live in hopes that from our own shores some day a fleet will go out not unworthy to be compared in quality, if not in numbers, with the magnificent fleet now in Australian waters.<sup>1</sup>

Prime Minister Alfred Deakin, August 1908

On 20 August 1908 well over half a million Sydneysiders turned out to watch the arrival of the United States (US) Navy's 'Great White Fleet'. For a city population of around 600,000 this was no mean achievement. The largest gathering yet seen in Australia, it far exceeded the numbers that had celebrated the foundation of the Commonwealth just seven years before. Indeed, the warm reception accorded the crews of the 16 white-painted battleships during 'Fleet Week', was generally regarded as the most overwhelming of any of the ports visited during the 14 month and 45,000 mile global circumnavigation. The NSW Government declared two public holidays, business came to a standstill and the unbroken succession of civic events and all pervading carnival spirit encountered in Sydney (followed by Melbourne and Albany) severely tested the endurance of the American sailors. More than a few decided to take their chances and stay behind when the fleet sailed!



*The Great White Fleet arrives at Sydney 20 August 1908.*  
(US Naval Historical Center)

One man undoubtedly well pleased with the visit's success was Australia's then Prime Minister, Alfred Deakin, who had not only initiated the invitation to US President Theodore Roosevelt, but had persisted in the face of resistance from both the British Admiralty and the Foreign Office. By making his initial request directly to American diplomats rather than through imperial authorities Deakin had defied protocol, but he was also taking one of the first steps in asserting Australia's post-colonial independence. His motives for doing so were complex. He was, after all, a strong advocate for the British Empire and Australia's place within it, but he also wished to send a clear message to Whitehall that Australians were unhappy with Britain's apparent strategic neglect.

The security of the nascent Commonwealth might still ultimately depend on the Royal Navy's global reach, but the ships of the small, rarely seen and somewhat obsolescent Imperial Squadron based in Sydney did not inspire confidence. As an officer in the US flagship, observed during the visit: 'These vessels were, with the exception of the *Powerful* [the British flagship], small and unimportant ... Among British Officers this is known as the Society Station and by tacit consent little work is done'.<sup>2</sup> Equally galling to local opinion, the passage of the unpopular *Naval Agreement Act, 1903* had meant that although Australia contributed £200,000 per annum for its upkeep, the Squadron could be withdrawn in times of danger to fulfil imperial priorities. To many commentators this simply represented taxation without representation, but for those looking deeper the implications were rather more disturbing. During even a transitory enemy cruiser raid, Australian commerce might face the choice of being driven into harbour or destroyed, while local ports could readily be threatened and held to ransom.

Feeling both isolated and vulnerable, it was easy for the small Australian population to believe that Britain was ignoring its antipodean responsibilities. The 1902 Anglo-Japanese Alliance (renewed in 1905), which had allowed the Royal Navy to reduce its Pacific presence, did little to alleviate these fears. Remote from the British Empire's European centre, Australians had no confidence that their interests, and in particular their determination to prevent Asiatic settlement, would be accommodated in imperial foreign policy. Japan's evident desire for territorial expansion, its decisive naval victory over the Russians at Tsushima in 1905, and its natural expectation of equal treatment for its citizens all seemed to reinforce the need for Australia to explore alternative security strategies.

Staunchly Anglophile, Deakin was not necessarily seeking to establish direct defence ties with the United States, but more than a few elements in Australian society were prepared to see in America the obvious replacement for Britain's waning regional power. A new and evidently growing presence in the Pacific, the United States possessed a similar cultural heritage and traditions, and as even Deakin took care to note in his letter of invitation: 'No other Federation in the world possesses so many features [in common with] the United States as does the Commonwealth of Australia'.<sup>3</sup> Attitudes towards Asiatics, and more particularly hostility towards Japan, seemed likewise to be

shared, particularly after a rise in Japanese immigration to the US West coast sparked riots in California and the passing of discriminatory legislation.

President Roosevelt had initiated the deployment of the US Atlantic Fleet to the Pacific – the first such movement of great battleships – to test his Navy's professionalism, arouse popular interest in and enthusiasm for the navy, and demonstrate that the United States had arrived as a world power. Wanting foreign nations to accept that the fleet should from time to time gather in one ocean just as much as it should in another, Roosevelt claimed publicly that the cruise was not directed against Japanese interests. Nevertheless, for most Australians the visit became an unmistakable expression of Anglo-Saxon solidarity; an 'essentially peaceful' mission, but simultaneously 'an armed assertion that the White Race will not surrender its supremacy on any of the world's seas'.<sup>4</sup> Unsurprisingly, the epithet 'Great White Fleet' only came into popular usage during the visit to Australia, and referred as much to race as it did to paint schemes.

No British battleship, let alone a modern fleet, had ever entered Australasian waters. So with the arrival of the American vessels locals were treated to the greatest display of sea power they had ever seen. While the public admired the spectacle's grandeur, for those interested in defence and naval affairs it was an inspiration. This too was a part of Deakin's plan, for although he was a firm believer in Australia's maritime destiny, where defence was concerned national priorities still tended towards the completion of land rather than maritime protection. The Prime Minister's own scheme for an effective local navy was making slow progress, and like Roosevelt he recognised the need to rouse popular support.

In this, the visit of the Great White Fleet played a crucial role, for it necessarily brought broader issues of naval defence to the fore, and made very plain the links between sea power and national development. Americans clearly had a real sense of patriotism and national mission. Having been tested and hardened in a long and bitter civil war they were confident that the United States was predestined to play a great part in the world. Australians, on the other hand, still saw Federation as a novelty and their first allegiance as state-based. One English traveller captured well the prevailing mood. 'Australia', he wrote, 'presents a paradox. There is a breezy buoyant Imperial spirit. But the national spirit, as it is understood elsewhere, is practically non-existent'.<sup>5</sup>

Aiming to foster both national unity and spirit, Deakin (a Victorian not overtly popular in Sydney) used the Great White Fleet's visit to demonstrate the community of feeling between the two nations as well as provide context for his own vision for a recognisably 'Australian' navy, one which he felt must be capable of announcing the nation's entry as a credible player on the world stage:

But for the British Navy there would be no Australia. That does not mean that Australia should sit under the shelter of the British Navy – those who say we should sit still are not worthy of the name Briton. We can

add to the Squadron in these seas from our own blood and intelligence something that will launch us on the beginning of a naval career, and may in time create a force which shall rank amongst the defences of the Empire ...<sup>4</sup>

Deakin's party lost power before his plan could be set fully in motion, but he had laid the groundwork and established many of the essential elements. Most importantly, he had obtained Admiralty agreement to allowing full interchange of personnel between the British and Australian naval services. Without such unfettered access to technology and doctrine a local fleet would most likely become a wartime liability; with it the Australian Navy would achieve major economies in infrastructure and training.

In February 1909 the new Prime Minister, Andrew Fisher, placed orders in Britain for three 700-ton destroyers, the first of up to 24 similar vessels which would allow Australia to take responsibility for its own coastal defence. The unsettled nature of local politics always made the completion of this plan unlikely, but in the event it was overtaken by a far more daring scheme. In July, the British First Sea Lord, Admiral Sir John Fisher, proposed that Australia acquire a 'Fleet Unit'. Comprising a battlecruiser, several supporting light cruisers, and a local defence flotilla of destroyers and submarines, the 'Fleet Unit' represented an ideal force structure; small enough to be manageable by Australia in times of peace, but in war capable of efficient action with the imperial fleet. Moreover, alone it would be strong enough to deter all but the most determined adversary in local waters.

The Director of Commonwealth Naval Forces, Captain William Creswell, had argued for years that the nation's 'sea efficiency' was 'the first and most urgent call upon responsible authority'.<sup>7</sup> Australia now stood poised both to accept this responsibility and to take an active part in the collective security of the Empire. 'In my judgement', Defence Minister Joseph Cook argued before the House, 'we are in these proposals, beginning, almost for the first time, to realize the promise of Federation ... we shall turn over a new leaf in the book of our evolution. Our tutelary stages are past, our time of maturity is here.'<sup>8</sup>

Parliament accepted the proposals and great efforts were thereafter expended to ensure that the navy would be a thoroughly and recognisably Australian force. On 4 October 1913 the first flagship, the battlecruiser HMAS *Australia*, and her escorts sailed into Sydney Harbour to a welcome no less enthusiastic than that accorded the Great White Fleet five years before. Just ten months later the fleet set out to face the harsh test of a brutal global war and its professionalism was not found wanting. For a newly acquired fleet it was a remarkable achievement, and one which owed much to Deakin's foresight.

## Notes

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- <sup>1</sup> Cited in AW Jose, *The Royal Australian Navy*, University of Queensland Press, 1987 (reprint of 1928 edition), p. lviii.
- <sup>2</sup> Cited in JR Reckner, '“A Sea of Troubles” The Great White Fleet’s 1908 War plans for Australia and New Zealand’ in D Stevens & J Reeve (eds), *Southern Trident*, Allen & Unwin, Sydney 2001, p. 191.
- <sup>3</sup> Cited in JR Reckner, *Teddy Roosevelt’s Great White Fleet*, Naval Institute Press, Annapolis, 1988, p. 76.
- <sup>4</sup> *The Lone Hand*, 1 August 1908, p. 352.
- <sup>5</sup> J Fraser, *Australia: The Making of a Nation*, Cassell, London, 1911, p. 11.
- <sup>6</sup> Cited in Jose, *The Royal Australian Navy*, p. lvii.
- <sup>7</sup> Cited in GL Macandie, *The Genesis of the Royal Australian Navy*, Government Printer, Sydney, 1949, p. 252.
- <sup>8</sup> Commonwealth Parliamentary Debates, House of Representatives, 24 November 1909, p. 6251.





*The newly upgraded HMAS Sydney (IV) fires an Evolved Sea Sparrow Missile, September 2007 (Defence)*

# The Economic Benefits of Ship Building

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Mr Andrew Forbes

Although the extent of the cost differential between local versus overseas naval shipbuilding must always be taken into account, Australia has often more to gain than a simple direct comparison of contracted price might suggest. Our long involvement with warship construction has always had several purposes, linked to the primary aim of providing the Royal Australian Navy (RAN) with the most effective vessels possible. Perhaps more important to many outside the Service has been the creation and maintenance of a robust and efficient local shipbuilding industry. Naval shipbuilding is not only a fundamental component of Australian sea power, but also of direct benefit to the wider economy, generating growth in, among other areas, the manufacturing, heavy engineering and information technology sectors of Australian industry.

Beginning in earnest in 1912 and reaching a peak during World War II, local naval construction was marred after 1945 by lengthy delays and cost overruns. Causes were many, and included foreign exchange difficulties; funding rescheduling; an inability to source technology, tools and equipment; inadequate investment in infrastructure; skills shortages; labour disputes; poor management; and the splitting of build orders between two government dockyards. During the 1960s and 1970s these seemingly intractable problems led to decisions to build some RAN vessels in foreign yards. The three *Perth* class guided missile destroyers were ordered from the United States, as were the first four *Adelaide* class guided missile frigates, while the six *Oberon* class submarines were built in the United Kingdom. To partially ameliorate this foreign expenditure, in late 1969 the Government introduced an offsets program whereby foreign companies had to sub-contract 20 per cent of work to Australian industry either within the specified project or any other defence project where local industry could supply the relevant items.<sup>1</sup>

Election of the Hawke Government in 1983 led to revitalised industry policies and a specific policy for Defence industry through a new Australian Industry Involvement program. Thereafter, elements of an item being procured had to be manufactured, assembled, tested or set to work in Australia, or at least 30 per cent of the work had to be undertaken by local companies to encourage technology transfer.<sup>2</sup> Equally important were productivity improvements following the privatisation of the naval dockyards and the introduction of new management arrangements.<sup>3</sup> Williamstown, for example, saw the end of demarcation disputes as the number of unions dropped from 23 to 3, union awards from 30 to 1, pay classifications from 390 to 2, and on-site allowances from 180 to 0.<sup>4</sup> The final plank of this revitalised shipbuilding policy was a significant RAN re-equipment program, beginning in the late 1980s. For the next 20 years local content was set at approximately 70 per cent, and all ships were built in Australia.

Beginning in 1987, the Government signed a \$3.9 billion contract with the Australian Submarine Corporation (now ASC) to build six *Collins* class submarines in Adelaide. This project involved a 'section' build of the submarine, introduced advanced welding techniques to Australia, and has been compared in complexity to the building of the space shuttle. A \$3.6 billion contract with Tenix followed in 1989, which saw ten *Anzac* class frigates built at Williamstown, and introduced local industry to modular warship construction. Five years later, a \$917 million contract with Australian Defence Industries resulted in the building of six *Huon* class minehunters at Newcastle. This project introduced advanced fibreglass construction to Australia, and although the first hull was produced in Italy, the remaining five, plus systems integration occurred locally. Following on from construction of 14 *Fremantle* class patrol boats in the 1980s, a \$175 million contract with NQEA in Cairns in 1996 produced two *Leeuwin* class hydrographic ships. This project involved the integration of multi and single beam echo sounders, towed and forward-looking sonars, and satellite and terrestrial position fixing equipment into a complex survey system suite. Finally, in 2003 a \$553 million contract was signed with Defence Maritime Services (DMS) for 12 (later 14) *Armidade* class patrol boats. Sub-contracted to Austal at the Australian Marine Complex (AMC) at Henderson, WA, these vessels were built using civilian rather than military specifications, and introduced the notion of contractor provided, long-term logistic support to the RAN.



*Five Anzac class frigates under construction  
at the Tenix shipyard at Williamstown, Victoria (Tenix)*

It is difficult to accurately determine the specific economic impact of each of these shipbuilding endeavours, but an independent analysis has been undertaken of both the *Anzac* and *Huon* projects. Using both short and long run general equilibrium analysis models, the *Anzac* project was estimated to have increased Australia's gross domestic product (GDP) by at least \$3 billion over its 15 year construction phase, increased consumption by at least \$2.2 billion over the same period, and created 7850 full time jobs.<sup>5</sup> For the *Huon* project the figures were respectively: \$887 million over nine years, \$491 million and 1860 jobs.<sup>6</sup> Importantly, much of this economic benefit flowed directly to the regions where the shipyards were located or components were sourced. The *Huon* project, for example, awarded \$160 million worth of contracts to companies in the Newcastle region,<sup>7</sup> while the *Anzac* project involved over 1300 companies in Australia and New Zealand, with over 90 per cent being small to medium enterprises.<sup>8</sup> Given the 70 per cent local content requirement, the *Collins*, *Leeuwin*, *Armidale* projects would have delivered similar benefits proportional to their cost. Furthermore, the *Collins* and *Huon* projects were predicated on creation of greenfield sites, with purpose built infrastructure. This was not only used for the construction phases of each build, but may be used for maintenance and support of the ships during their service life. This investment in infrastructure, technology transfer, the skilling of personnel, and continued work for sub-contractors and dockyard staff all provides a residual capacity in defence industry that assist bids for further shipbuilding contracts.

The impact of all these shipbuilding projects on Australian defence industry has been significant. First (and where applicable), military specifications for parts are more robust than civilian specifications. In order to deliver a higher quality product, companies have been required to improve their business practices, strategic planning, research and development, staff training, manufacturing equipment, and quality assurance.

As noted, there has also been significant technology transfer, which may occur in a number of ways. At the high-end, foreign firms have either set up business in Australia to fill a local capability gap or formed strategic partnerships with local industry. On occasion local firms have also obtained a licence to produce 'foreign' equipment. For less complex items, local companies might conduct original research and development to gain access to, or generate, new technology.

Finally, improved business and management techniques have provided opportunities for local companies to improve the quality of their processes and products. By promoting a culture of continuous improvement, they have increased both Defence-related and non-Defence sales, opening up new domestic and export markets, while increasing productivity and lowering production costs.

Export opportunities for ships built to the RAN's specifications have generally been limited, and although successful modernisation and upgrade designs have been developed within Australia, critically we still lack the complete design capacity needed

to be a true naval shipbuilding nation. Progress has been made nevertheless, and local industry is now designing or building warships for the Philippines, New Zealand and the United States. As a result, the product lines of the companies involved have expanded and they have improved their export potential.

Often forgotten in considerations of naval shipbuilding are the logistic support, maintenance, and modernisation of these ships. A local build, combined with the retention of industrial capacity normally allows for through life support at a lower cost than if the vessels had been built overseas; primarily because the parts and expertise are located in Australia and can be provided much faster than from an overseas supplier. As noted earlier, DMS has a contract to provide logistic support to the *Armidale* patrol boats throughout their service life. In December 2003, ASC signed a \$3.5 billion contract for 25 years for through life support for the *Collins* submarines.<sup>9</sup> Meanwhile, the logistic support arrangements for the *Anzac* frigates are based on a 70 per cent local content requirement. With a ship's lifespan likely to exceed 30 years, there will obviously be ongoing work for Australian industry.

There are clear inter-relationships between the commercial and naval shipbuilding sectors. Thus, while the AMC focuses largely on commercial shipbuilding, it still undertakes repair and maintenance for RAN vessels worth about \$100 million annually. This includes such complex undertakings as the refits of *Anzac* frigates and intermediate dockings for the *Collins* submarines.<sup>10</sup> Important links with Australia's research and development sector are encouraged particularly in Adelaide, which is now a defence industry hub in close proximity to the Defence Science and Technology Organisation in Salisbury.

In late 2007, the Government signed two major contracts to begin the next phase of Australian naval shipbuilding. First, an \$8 billion contract was signed with ASC and Raytheon to build three *Hobart* class Air Warfare Destroyers (AWDs) in Adelaide. Although the ship's AEGIS-combat system has been purchased from the US, there will be at least 55 per cent Australian industry involvement in the project.<sup>11</sup> Second, a \$3 billion contract was signed with Tenix for two *Canberra* class amphibious ships (LHDs). Although the hulls will be built in Spain, about \$500 million will be spent in Williamstown on superstructure construction and fitout, while up to \$100 million will be spent in Adelaide on combat system design and integration work, employing more than 2500 people directly and indirectly.<sup>12</sup>

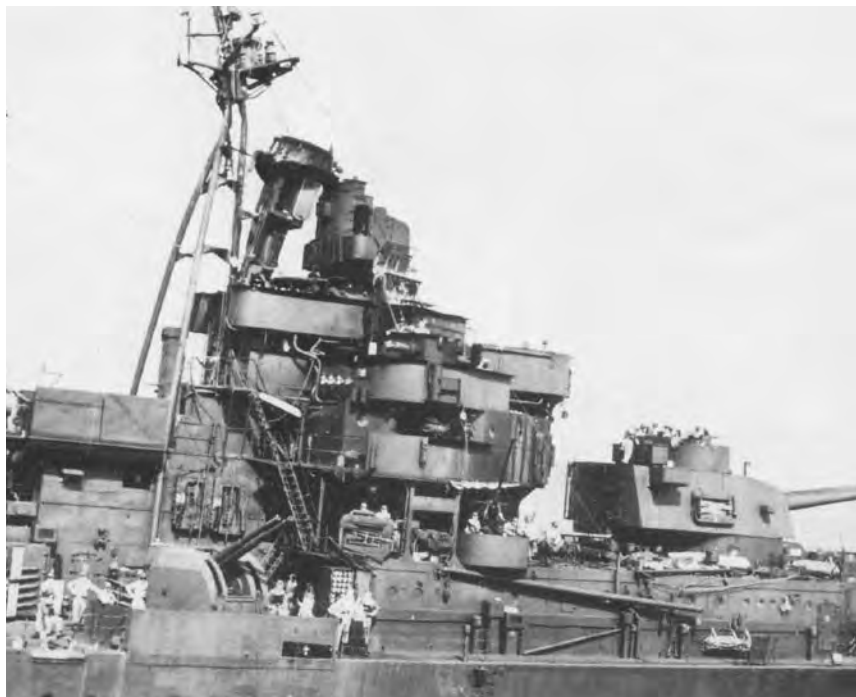
Naval shipbuilding brings great economic benefits to the nation. The policy of building locally where possible results in increased GDP from capital investment; new infrastructure, employment and enhancement of the labour market; extensive technology transfer; export potential of parts and services; contributions to through life logistic support; and, increased self reliance for repair and maintenance.<sup>13</sup> While \$8 billion for the AWD project may seem expensive, we must remember that a large percentage of the expenditure remains in Australia, generating and maintaining jobs, skills and expertise that improves our defence self-reliance and provides benefits to all Australians.

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## Notes

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- <sup>1</sup> M Thomson, 'Competition in Australian Defence Procurement', in Committee for Economic Development of Australia (CEDA), *Growth 57: The Business of Defence - Sustaining Capability*, Melbourne, 2006, p. 35.
- <sup>2</sup> Department of Defence, *The Defence of Australia 1987*, Australian Government Publishing Service, Canberra, 1987, p. 80.
- <sup>3</sup> An incentive for the purchaser of Williamstown Naval Dockyard was a contract signed in 1984 to build two FFGs.
- <sup>4</sup> Defence Industry Committee, *The Australian and New Zealand Ship Construction and Repair Industry*, Canberra, 1995, p. 159.
- <sup>5</sup> Tasman Asia-Pacific, *Impact of Major Defence Projects: A Case Study of the Anzac Ship Project - Final Report*, Canberra, February 2000, p. 47.
- <sup>6</sup> Tasman Economics, *Impact of Major Defence Projects: A Case Study of the Minehunter Coastal Project - Final Report*, Canberra, January 2002, p. 75.
- <sup>7</sup> Tasman Economics, *A Case Study of the Minehunter Coastal Project*, p. 89.
- <sup>8</sup> Tasman Asia-Pacific, *A Case Study of the Anzac Ship Project*, p. v.
- <sup>9</sup> B Wylie, 'Supplying and Supporting Australia's Military Capability', in CEDA, *Growth 57*, p. 57.
- <sup>10</sup> Department of Industry and Resources, *Australian Marine Complex*, 2006, p. 5.
- <sup>11</sup> 'Air Warfare Destroyers - The Foundation Laid', Minister for Defence Media Release 113/2007 of 4 October 2007.
- <sup>12</sup> '\$3 Billion Amphibious Ships Will Strengthen ADF, Boost Australian Industry', Minister for Defence Media Release 060/2007 of 20 June 2008.
- <sup>13</sup> Standing Committee on Foreign Affairs, Defence and Trade, *Blue Water Ships: Consolidating Past Achievements*, Canberra, 2006, p. 209.



*During the invasion of Lingayen in January 1945, HMAS Australia (II) endured five kamikaze hits. Except for the casualties among her anti-aircraft gun's crews, her fighting efficiency was not impaired beyond the capacity of temporary repairs (RAN)*

# Warship Survivability

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Dr Gregory P Gilbert

Something more than courage – know how – was required to conquer fires such as those that raged in [USS] *Franklin*. Neither she nor many of the other ships crashed by kamikazes... could have been saved but for the fire-fighting schools and improved techniques instituted by the [US] Navy in 1942-43.<sup>1</sup>

Rear Admiral Samuel Eliot Morison

For some reason a number of Defence commentators still maintain that surface warships, by their very nature, are excessively vulnerable.<sup>2</sup> This is simply not true. Survivability is an integral part of a warship's design, with the key elements in the equation recognised as susceptibility, vulnerability and recoverability.<sup>3</sup> As such, warships are far more resilient to damage and much less mission sensitive in terms of defects than say airborne units. Unsurprisingly, wartime stories of ships surviving horrendous punishment yet still completing their operational tasking are legion. In the Australian context the staying power of HMAS *Australia* (II) during the brutal Philippines campaign in World War II comes immediately to mind, while in Vietnam in 1968 HMAS *Hobart* (II) was quickly repaired and returned to full service after damaging hits from three Sparrow missiles.<sup>4</sup>

The complex process of warship design has always been undertaken by a dedicated but small number of professional naval practitioners, naval architects and marine engineers. Given the relatively limited spread of these professions, many of the decision-making processes are not well understood by those who are not closely involved. Nevertheless, it is essential that commentators have a good understanding of the issues if they are to provide a meaningful contribution to the debate - and some issues such as the relationship between ship size and vulnerability are not necessarily intuitive. Survivability is one which impacts greatly upon Australian Defence Force (ADF) capability development and operations, and closely involves the Defence Science and Technology Organisation (DSTO) and Australian defence industry.

## Warships are Designed to Float, to Move and to Fight

This fundamental truism of warship design has implications in almost every decision made concerning the planning of a warship's hull, structure, machinery, systems and equipment. Although designed to have maximum weapon and sensor power, combined with high speed, acceleration and manoeuvrability, a warship also needs the capacity to withstand damage within the limits imposed by its size and type.



Commercial vessels, by contrast, even if fitted with sophisticated weapon systems are not intended to survive damage and still continue to float, move and fight. Moreover, unlike a merchant vessel, all members of a warship's crew are trained in damage control techniques, and dedicated damage control parties with access to portable fire pumps, breathing air compressors, and specialised repair equipment are expected to fight to save their ship whenever it is subject to flooding or fire.

### **Warships Possess Survivability Through Layered Defence Systems, Signature Management, Structural Robustness and System Redundancy**

Every warship possesses a minimum level of self-defence, but it is the integration of warships into and within an umbrella of defence layers, as systems within systems, which achieves maximum survivability. Taking anti-air warfare as an example, point defence systems like the Phalanx Close-In Weapon System need to be supplemented by electronic countermeasures, such as the Nulka decoy; area defence systems such as the AEGIS combat system incorporating the Standard (SM-2) anti-air missile; and long range surveillance systems such as Airborne Early Warning & Control aircraft. Importantly, not all these systems need to be mounted in the same platform, and a fully networked force offers significant advantages by combining and enhancing the different sensor and weapon capabilities of individual units.

To fully exploit their sensors, weapons and countermeasure systems, warships incorporate signature reduction technologies. These include designing for stealth, the use of radar absorbent materials, as well as techniques to reduce acoustic, magnetic, infra-red, and other signatures. The point being that an adversary can rarely expect a 'free hit' or perfect situational awareness in a combat situation. Even ignoring a warship's hard and soft kill responses to a threat, issues of detection, identification, and tracking will hamper an enemy's ability to build an accurate picture, and hence add significantly to their targeting problems.

Warships also have to be structurally robust, not only to minimise the extent of hull and structural damage if hit, but also to prevent the breaching of the vessel's watertight integrity. Watertight compartments help localise damage due to flooding and allow counterflooding techniques to be used to maintain ship stability. These techniques go far towards ensuring that a warship will stay afloat even after severe damage to the underwater hull. Indeed, critical systems below the waterline can continue to operate normally even in a flooded compartment.

When HMS *Nottingham* accidentally grounded on Wolf Rock near Lord Howe Island in 2002, five compartments were flooded. Nevertheless, her propulsion and power generation machinery continued functioning long enough to extricate the destroyer from danger and move her into sheltered waters. Meanwhile the determined efforts and training of her crew combined with the resilience of the warship ensured she kept afloat until more lasting repairs could be made.

Gastight compartments and citadels may also be used to ensure unrestricted operations when a warship transits through chemical, biological, radiological or nuclear environments, and to minimise the spread of smoke or toxic gases. Additional protection to vital areas such as magazines may be offered by blast protection and armour, while critical machinery and equipment, including pipe systems, control panels and instruments use resilient shock mounts to reduce the impact of forces transmitted through the hull. All such equipment is subjected to rigorous shock testing to verify that they are robust enough to operate after a nearby explosion. Trials and experiments to further improve warship resilience, such as DSTO's Ship Survivability Enhancement Program (SSEP), mean that each new generation of warship design incorporates additional advances.

System redundancy is also an integral component of warship design. Critical systems and manning are duplicated to ensure that damage or casualties in one area of the ship will not lead to loss of the entire system. For example, warships often have two parallel main propulsion systems, incorporating power plants, gearboxes, shafts and propellers, which are located in separate compartments, so that even the loss of one machinery compartment will not prevent the ship from moving. Electrical power generation and distribution systems are likewise spread throughout a warship. Should a ship's main power be suddenly lost, then emergency supplies, for restart, lighting and essential command and control functions, immediately come into force.



*Over 10 weeks in 1994 DSTO carried out SSEP trials on the former HMAS Derwent (II), all aimed at enhancing the combat survivability of RAN ships and their crews to a range of weapons and associated threat effects (RAN)*

The extent of system redundancy tends to increase dramatically with hull size. The larger the ship, the smaller proportion of her hull any given weapon is likely to destroy; furthermore, the easier it is to duplicate vital equipment while accommodating advances in technology and changes in mission requirements. Australia's three new *Hobart Class Air Warfare Destroyers (AWDs)* will displace around 6250 tons when fully loaded and will be just under 150 metres in length. Although they might seem large when compared with previous RAN frigates and destroyers, the AWDs are directly comparable in size with equivalent ships serving in other world navies. More importantly, they reflect the world's best practice in survivability design, with particular attention given to open architectures, redundancy, dispersion of vital systems around the hull and the use of especially hardened materials. In view of the uncertain world outlook and the likelihood of unexpected attacks – such as the 2000 bombing of the destroyer USS *Cole* during an ostensibly friendly port visit – this means 'that our ships should be able to take the first shot from an enemy', yet still be able to 'fire the last shot, which destroys that enemy'.<sup>5</sup>

Missiles are relatively inefficient in terms of explosive content and tend to produce only localised damage in a warship. In cases such as the loss of HMS *Sheffield* to an Exocet in 1982 it was not the warhead – which failed to detonate – but the subsequent fire and thick noxious smoke which sealed the destroyer's fate.<sup>6</sup> Underwater weapons, by contrast, are inherently far more lethal, with the potential for even a single mine or torpedo to sink a quite large vessel. Yet even here, the situation is not always clear cut. During the 1991 Gulf War the amphibious ship USS *Tripoli* struck a contact mine which left a 7x10 metre hole in the ship's hull below the waterline. Notwithstanding this damage, effective control measures meant that for almost a week she remained on station, still serving as a command ship and floating base for the airborne mine countermeasures unit. Just hours after the *Tripoli* hit, the guided missile cruiser USS *Princeton* suffered two nearby mine explosions. Once again, despite severe damage which almost broke the ship in two, the crew brought *Princeton's* AEGIS combat system back online within 15 minutes, and she remained on anti-air duty for a further 30 hours. With respect to submarine launched torpedoes, early detection and sophisticated decoys are the warship's most effective response and both capabilities are slated for the AWD.

The very nature of warfare, and more particularly operations at sea, means that there will always be risks. More specifically, naval forces may be required to go into harms way, and may be severely damaged or lost in battle. This does not imply that ships and aircraft and their precious crews can be wasted, but navies which have proved themselves risk averse have never enjoyed any degree of success. The inherent survivability of modern warships ensures that these risks can be managed with some high degree of confidence and allows surface warships to maintain their position as some of the most relevant and flexible assets in the ADF inventory.

## Notes

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- <sup>1</sup> SE Morison, *Victory in the Pacific 1945*, History of US Naval Operations in World War II, Vol XIV, Castle Books, Edison, 2001, p. 98.
- <sup>2</sup> See for example, A Davis, *Asian Military Trends and their Implications for Australia*, ASPI Strategic Insights, Canberra, July 2008, p. 22.
- <sup>3</sup> L de Yong, 'Integrated ship survivability for the Royal Australian Navy', *Pacific 2008 International Maritime Conference Proceedings*, Sydney, 29-31 January 2008.
- <sup>4</sup> *Hobart* was a victim of friendly fire, one of several ships mistakenly attacked by jets of the US 7th Air Force.
- <sup>5</sup> N Friedman, *Seapower as Strategy: Navies and National Interests*, Naval Institute Press, Annapolis, 2001, p. 234.
- <sup>6</sup> *Sheffield's* survival was also compromised by poorly applied cost cutting during design and build, which saw fire fighting and damage control measures targeted for savings.



*Dancing lions greet the crew of PLAN destroyer Harbin  
at Sydney Harbour (RAN)*

# RAN Engagement with China

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Mr Matt Linfoot

During the banquet Admiral Fu Jize emphasised that he brought specific greetings from the Commander-in-chief of the PLAN who expressed a wish for mutual co-operation and friendship between our two navies and stressed the requirement for the PLAN to learn from friendly navies. I responded in kind and expressed greetings and good wishes from the Chief of Naval Staff to the evident appreciation of the Chinese.<sup>1</sup>

Commander LM Sulman, RAN  
Commanding Officer HMAS *Swan*, 1981

In September 1981 HMAS *Swan* (III) became the first Royal Australian Navy (RAN) ship to pay a port call to China in 32 years, and the first ever to formally visit the People's Republic of China (PRC). This visit marked an important point in Australia's relationship with the PRC and was a logical outcome of the diplomatic contacts that were initiated some ten years earlier. Ship visits and naval exercises have helped to develop the current friendly relationship between the RAN and the People's Liberation Army Navy (PLAN).

China is not only the largest and most populous nation in our region, it is a strong economic and military power as well as one of our largest trading partners. Whereas it is clear that Australia's relationship with China over the coming decades will impact on our immediate and long-term prosperity, many observers may be less aware of the cooperative dynamic that emerged during the latter part of the 20th century.

Although the early British settlement in Australia relied upon the seaborne trade of Chinese goods, and Chinese immigrants made significant contributions to local wealth in the 19th century, it was essentially the European settler community which made up the Australian nation in 1901. The 'White Australia' policy and similarly restrictive legislation established a mindset which saw many of our northern neighbours labelled as potential adversaries rather than friends. Much has changed since those times. Immigration has changed the face of our nation and Australians no longer see themselves as primarily 'European'. Over time our focus has shifted significantly towards the Asia-Pacific region. Today our shared goals and interests help to promote regional cooperation and development.

The Australian Navy, acting as a flexible instrument of Australian foreign policy, has had repeated involvement with China, with the Boxer Uprising 1900-01 witnessing the first interaction.<sup>2</sup> After years of foreign exploitation, the political climate in China at the beginning of the 20th century had taken on a distinctly anti-Western tenor. Western

cultural penetration had significant impact upon traditional life and as a result tens of thousands of Chinese people rose up in opposition to the foreign presence. The major powers, including the British, were called upon to respond to the crisis, and the Australian colonies were eager to contribute. The Australian naval contribution included 500 'bluejackets' from Victoria and New South Wales formed into a naval brigade, and the cruiser *Protector* provided by South Australia. Although the uprising saw some limited action between Australian sailors and Chinese soldiers, the Australian naval forces were mostly used in the constabulary role, providing logistic support, protecting trade and policing the Chinese coastal regions.

The RAN had relatively little involvement with China in the lead up to and during World War I. Acting as an ally, the Japanese Navy seized the German possessions in China and effectively controlled sea communications in the north Pacific region. During the interwar period contacts were similarly infrequent, but in 1925 HMAS *Brisbane* was seconded to the British China Squadron based at Hong Kong to gain greater fleet experience. When fighting broke out at nearby Canton, some concerns were expressed by opposition members in Parliament that *Brisbane* might be called upon to suppress rioting Chinese workers. The cruiser's ship's company, however, maintained only essential naval and military services and was not employed on civil duties ashore.

Although deployed in most oceans of the world during World War II, only in the final few months of the conflict did the RAN have any further involvement with China. Forming part of the British Pacific Fleet, RAN vessels participated in operations around the island of Taiwan and off the coast of Japanese-occupied China. With the end of the war, Australian corvettes based at Hong Kong also took part in minesweeping operations and anti-piracy patrols in surrounding waters.

The RAN also operated in Chinese waters during 1949, the last year of the Chinese Civil War. The destroyer HMAS *Warramunga*, the only Commonwealth warship then operating in Japan, was offered by the Government for 'mercy purposes only'. Most dramatically, *Warramunga* was on standby for the evacuation of British citizens from Nanking when it was involved in the rescue of 35 people after a collision between two Chinese ships at the mouth of the Yangtze River. In the early morning of 28 January, the destroyer's crew struggled for hours to rescue oil-covered survivors from near-freezing water. For their brave actions, the crew of *Warramunga* were thanked in a letter from Chinese authorities passed through Navy Office: 'all the people of China are greatly influenced by your righteous deed when they hear the story'.<sup>3</sup>

The RAN entered the Korean War in 1950 as part of Australia's commitment to the United Nations. The RAN contribution included the newly acquired aircraft carrier HMAS *Sydney* (III) and a series of destroyer and frigate deployments. As the Korean War unfolded Australian forces found themselves fighting the People's Liberation Army (PLA). Tensions once again peaked with the RAN involvement in the Vietnam War between 1965-72, as the Soviet Union and China backed the military efforts of

the North Vietnamese. But as Australia withdrew from Vietnam, our focus began to change from conflict to engagement.

In June 1971 Gough Whitlam, the then Australian opposition leader, led a Labor Party delegation to China, and the following year now as prime minister, he pursued a policy that soon led to the formal diplomatic recognition of the PRC. This event saw a significant thaw in Sino-Australian relations, and since that time, China and Australia have experienced a 'rapprochement'. As the PRC has played an increasing role in regional and international affairs, the opportunity for interaction and engagement has also grown.

A practical demonstration of this new beginning occurred from 3-7 September 1981, when *Swan* remained alongside at Yangtze Jiang Jetty at Shanghai. *Swan's* Commanding Officer praised the Chinese officials and military personnel who made every effort to welcome the Australian officers and sailors. In this first official exchange between the PLAN and the RAN, much was done to promote awareness and understanding of each navy. This involved inspections of shipyards and *Swan*, and even an exchange of verbal histories.

Despite regular ship visits to Hong Kong and deployments to the East China Sea, RAN visits to mainland Chinese ports still remained relatively rare. The flagship HMAS *Stalwart* (II), in company with HMA Ships *Yarra* (II) and *Stuart* (II) visited Shanghai during September 1984. But in 1989 Australia established an arms embargo and prohibited ship visits following the June Fourth Incident (Tiananmen Square protest). Although these measures were lifted in 1992 it was not until September 1997 that HMA Ships *Newcastle*, *Perth* and *Success* paid a successful visit to the mainland Chinese port of Qingdao. Since 1997 visits have become much more frequent, not the least because Hong Kong reverted to Chinese sovereign control on 1 July 1997.

RAN warships are the largest and most visible elements of Australian military hardware to regularly visit foreign nations. A display of openness such as a ship inspection can do much to engender trust and cooperation. For example, the visit to Australia in 1998 of the PLAN destroyer *Qingdao*, training ship *Shichang* and replenishment ship *Nancang* provided an opportunity for senior level navy to navy talks as well as for mingling between PLAN and RAN personnel and various cultural exchanges.

Another example of confidence building through naval interaction arose during the Australian Federation celebrations held in October 2001. Although the 11 September attacks on the United States meant the event was scaled down, among the ships present were the PLAN warships *Yichang* and *Taicang* under the command of Rear Admiral Yang Fucheng.<sup>4</sup> The official welcome was conducted by the Maritime Commander, Rear Admiral Geoff Smith, RAN, with a performance by 'dancing lions' from the Australian Chinese community and music by the RAN Band. The atmosphere was just as amicable



in 2007 when the destroyer *Harbin* and replenishment ship *Hongzhu* made another goodwill visit to Australia.<sup>5</sup>

As the Chinese economy grows, so too will the quantity of its imports and exports. This is especially pertinent to Australia due to the vast amount of our trade that flows to and from China, almost all of which travels by sea. In 2006-07 mainland China imported some \$28.7 billion in Australian merchandise and resources and exported \$26.2 billion of its own products to Australia.<sup>6</sup> Deepening levels of economic interdependence are likely to continue, reinforcing the interest both Australia and China share in protecting vital trade routes to fuel their future prosperity.

Navy to navy engagement will likely similarly increase. The unique nature of the maritime environment and naval operations means that it is generally much easier for navies to communicate and work together than it is for land or air forces. The regular conduct of bi-lateral and multi-lateral exercises helps develop this interoperability and maintain the human networks which ultimately make it work. As confidence and familiarity increases, the relationship between navies evolves; from simple diplomatic exchanges, through to cooperation in passage exercises, and then potentially to conducting combined exercises and operations. Protection of merchant shipping and keeping the global sea lines of communication open are two examples of the many maritime interests which Australia and China share.

Partly in order to protect these interests, the PLAN is already modernising its fleet. However, maintenance of these goals also requires the PRC to foster productive and transparent relationships with those nations adjoining its trade routes, especially those in Southeast Asia.<sup>7</sup> The 'rise of China' is seen by some as a potential threat to stability in the region due mainly to the large degree of influence it would be able to exude. Others believe that a 're-emerged China', assuming a more prominent and decisive place in world affairs, should be welcomed; its full acceptance into the international system becoming an essential stepping stone to greater cooperation, trust and transparency.

Continued and expanding naval engagement, not just between the RAN and the PLAN but with all navies operating in the Asia-Pacific region, is a major contributor to future regional security. Engagement with China, based on transparency and reciprocity, is an important facet of Defence policy and one which the RAN remains more than capable of fulfilling.

## Notes

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- <sup>1</sup> HMAS *Swan*, Report of Proceedings, September, 1981.
- <sup>2</sup> B Nicholls, *Bluejackets and Boxers*, Allen & Unwin, Sydney, 1986.
- <sup>3</sup> ST Whyte, *HMAS Warramunga's History; 1942 - 1959*, research notes, 1987, pp. 142-143. [held by SPC-A].
- <sup>4</sup> G Davis, 'Chinese ships meet with dancing lions', *Navy News*, 15 October 2001, pp. 1, 5, & 29.
- <sup>5</sup> 'China relationship strengthened', *Navy News*, 18 October 2007, p. 3.
- <sup>6</sup> Bureau of Infrastructure, Transport and Regional Economics, BITRE Australian Transport Statistics, June 2008, Australian Government, 2008, p. 8, <[www.bitre.gov.au/publications/39/Files/ATS\\_2008 .pdf](http://www.bitre.gov.au/publications/39/Files/ATS_2008.pdf)> (2 July 2008).
- <sup>7</sup> J Zemin, 'Towards a good-neighbourly partnership of mutual trust oriented to the 21st Century', <[wcm.fmprc.gov.cn/zdjm/eng/zywj/t 270546.htm](http://wcm.fmprc.gov.cn/zdjm/eng/zywj/t 270546.htm)> (20 June 2008).



*Members of the LSE Middle East team during 2004 (RAN)*

# The Logistic Support Element - Middle East

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Lieutenant Commander Priya Chandra, RANR

The Logistic Support Element (LSE) Middle East was established on 30 August 1990 to support Australian military operations in the region and now, after 18 years, its work continues as a testament to Australia's enduring interests in the Middle East.

On 10 August 1990, Prime Minister Bob Hawke announced the Australian Defence Force (ADF) would deploy to the Middle East to assist the United States (US) led multi-national force in maintaining the United Nations (UN) sanctions against Iraq.<sup>1</sup> The Royal Australian Navy (RAN) contributed three ships to Operation DAMASK to assist the Maritime Interception Force (MIF) patrolling the Gulf of Oman. A number of smaller units, including medical detachments and an Australian Clearance Diving Team (CDT 3), were also dispatched to the region. The LSE was established, the first of its kind to be formed by the ADF, to support these units.

Commander Boyd Robinson, RAN, arrived at Oman with a small team of supply specialists and he became the inaugural RAN Liaison Officer (RANLO) - Muscat and Commander of the newly established LSE. Initially the element's task was relatively simple: to consolidate air freighted stores and mail from Australia for transfer to the ships; to arrange for provisions, fuel and repairs from local sources; and to arrange ship visits to ports and anchorages throughout the Middle East. This soon expanded to include arranging medical treatment, sporting and recreational activities, and negotiating with foreign nationals for the provision of various contracted services. RANLO adopted a 'quasi diplomatic role to ensure the LSE could conduct its activities in the most effective manner and to represent other significant operational and administrative matters to local authorities'.<sup>2</sup> LSE staff also arranged RAN ships' port visits to the area, and their duties ranged from ensuring adequate force protection measures to providing information on the local attractions.

In December 1990 the Australian Government authorised the RAN task group to enter the Arabian Gulf and cooperate with other allied naval forces preparing to use force to liberate Kuwait under UN Resolution 678. The LSE's area of support and concept of operations increased accordingly. To cover the additional burden, logistic support detachments were established at the principal transport hubs of Bahrain and Dubai. While the main LSE remained at Muscat, some LSE personnel supplemented these small detachments.



*HMA Ships Adelaide and Success in Muscat 1990 (RAN)*

Operation DESERT STORM, the offensive to free Kuwait, was launched on 17 January 1991. As commercial air services in the region ceased immediately, the LSE lost its primary means of supply from Australia. The air link was rapidly re-established using Royal Australian Air Force (RAAF) aircraft and freight was transported either by road between Muscat and Dubai or using transport aircraft supplied by our allies. To assist the LSE in this new role a specialist movement and transport non-commissioned officer from the RAAF joined the team, increasing the number of deployed LSE personnel to ten.

The RAN needed to be self-sufficient to sustain its operations in the Gulf and the LSE was a vital cog in the wheel that supported the Australian warships. The LSE developed agreements with allied nations to deliver stores, fuel, freight and personnel into and across the region, and Australian ships were able to receive supplies and personnel while at sea even in the absence of the RAN replenishment ship. As a result Australian warships were able to remain on station longer than originally anticipated. The LSE also provided support to CDT3, the Australian medical teams embedded in the US hospital ship *Comfort* and to visiting ADF personnel and aircraft. All ADF units and personnel required a flexible and responsive service in order to meet unplanned and often urgent requirements.

On cessation of hostilities in February 1991, RAN ships remained on station to continue enforcing UN trade sanctions against the Iraqi Government under Saddam Hussein. The LSE centre of operations moved from Muscat to Bahrain to take advantage of the country's excellent telecommunications and its position as a major transport hub.

The presence of the US Navy's Administrative Support Unit in Bahrain also allowed greater cooperation between allies.

Australian operations subsequently moved to the northern Red Sea, where RAN ships were inspecting all merchant traffic entering the Jordanian port of Aqaba. This led to the construction of some unique logistic supply chains as in almost all cases personnel, mail and other freight arrived in Bahrain by commercial aircraft. Personnel could generally travel via commercial airlines to the closest port for transfer to their destination. Mail and freight went by an indirect route; from Bahrain via Sicily to Egypt before delivery. During this period the LSE also provided administrative support for Australians attached to the UN Chemical Destruction team operating in Iraq and became the point of contact for a 'rapidly expanding interest in Australian military training for Middle Eastern armed forces'.<sup>3</sup>

Over the next three and a half years the RAN continued to enforce trade sanctions against Iraq with the LSE delivering 'replenishment, maintenance and support to personnel, including health, administration and financial arrangements'.<sup>4</sup> On occasion, this support extended beyond the Middle East. For example, during Australia's contribution to the UN led peacekeeping force in Somalia, Operation SOLACE, RANLO Bahrain was required to 'liaise with local authorities in both Mombasa (Kenya), and Mogadishu (Somalia)'.<sup>5</sup> Here the established relationships between the LSE and its primary agent, Inchape Shipping Services (ISS) proved beneficial. The ISS representative in Mombasa provided assistance, including making a workspace and dedicated telephone line available within his own office space. Although an Australian Army support group operated in Somalia outside of RANLO Bahrain's control, some of the equipment used to establish the support group was supplied by the LSE and most of the stores for the RAN ships in Operation SOLACE were distributed by the LSE.

In August 1994, Australian ships temporarily withdrew from the Middle East and the LSE was deactivated. The transfer of about 200kg of official records and specialist equipment back to Australia and the sale of all furniture and office equipment made the process 'reasonably time consuming and frustrating'.<sup>6</sup> The final RAN representative departed Bahrain on 18 August 1994, four years after the LSE's inception in Oman.

However, the Australian deployments to the Middle East were only suspended temporarily. The RAN returned to uphold UN sanctions against Iraq in May 1996, when HMAS *Melbourne* was deployed to the Arabian Gulf and the LSE, now consisting of three staff, returned to Bahrain. To help boost Australia's diplomacy in the region *Melbourne* conducted ten port visits in the space of three months. The specific aims of these port visits were to conduct sporting and cultural exchanges, to 'fly the flag' through events such as official receptions, and to provide the crew with rest and recreation.<sup>7</sup> When *Melbourne* left the region the LSE was deactivated, but after a two year absence the LSE returned to the Gulf in May 1999. This time the three member LSE team was based at Dubai in the United Arab Emirates. As for earlier deployments the LSE provided direct

logistic support as well as those services more commonly handled by port authorities in Australia. Following another short intermission the LSE was reactivated in July 2001, with a staff of two, in support of HMAS *Anzac*'s deployment to the Gulf.

The situation in the Middle East changed dramatically after the 11 September 2001 terror attacks against the US. The ADF presence in the region was increased considerably as Operations BASTILLE and FALCONER evolved and the LSE grew to nine personnel spread between Bahrain and Dubai. The LSE's responsibilities included: scheduling replenishments at sea and coordinating activities with the US Commander Logistics Forces (Commander Task Force 53), port visit support, provision of goods and services, health care, provisions, stores/mail, personnel movements, finance and general administration.<sup>8</sup> Such logistic inputs enabled RAN ships and CDT3 to make a significant contribution during the 2003 Iraq War.

Operation CATALYST, Australia's contribution to rebuilding Iraq, began on 16 July 2003. The now five strong LSE remained to source and coordinate the delivery of spare parts, provisions and general support to Australia's maritime units. They also acted as the interface between ships and shore support infrastructure, facilitating diplomatic clearances, customs and quarantine compliance, and contractual arrangements for support. This support included handling 8810kg of mail both in and out of the area over a six month period. Routine stores from Australia arrived via a weekly ADF charter flight using Ilyushin IL76 transport aircraft. Other commercial aircraft were used only for urgent stores deliveries. Onward distribution was achieved through a number of methods, but primarily by using coalition air assets. Between September 2003 and March 2004 over six tons of stores were air-freighted between Australia and the Middle East.

Today the LSE continues to provide operational logistic support to ADF elements and personnel assigned to operations in the Middle East. They not only support Australian elements in the Arabian Gulf but also handle urgent stores and material for Australian Army elements operating in Afghanistan. During the past 18 years the LSE has supported operations in Kuwait, Somalia, Iraq and Afghanistan as well as port visits to almost every port along the Red Sea, the Gulf of Oman and the Arabian Gulf. Team members have operated throughout the Middle East Area of Operations (MEAO), rarely staying in the one location for more than two weeks in order to meet consignment flights, for loading and off-loading stores and materiel, or arranging and supporting visits. Port visits are now a regular part of the RAN's diplomatic engagement in the Middle East, with at least twelve visits programmed throughout the MEAO during each six month rotation.

Regardless of the number of ships on duty in the Arabian Gulf, a trained, active and appropriately resourced LSE will always be a force multiplier, maximizing the time spent by ships on station;

providing logistic support at sea and port support alongside; acting as a conduit between ADF forces and the national support base; and undertaking a naval diplomatic role within the Middle East region – all with a handful of dedicated staff working to the motto: *Anything, anywhere, anytime*.

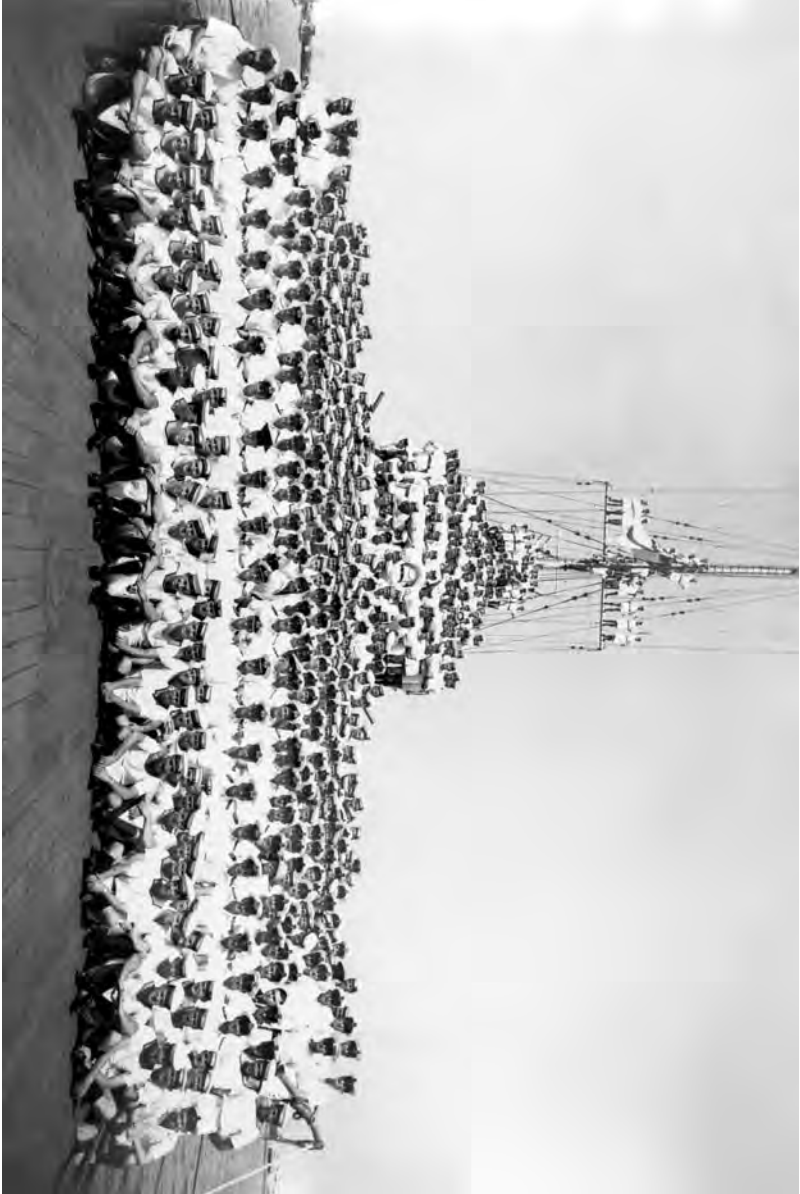
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## Notes

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- <sup>1</sup> For an overview of RAN operations in the Middle East see G Nash & D Stevens, *Australia's Navy in the Gulf*, Topmill, Sydney, 2006.
- <sup>2</sup> B Robinson, 'Operational Logistics – A recent experience', *Naval Supply Magazine*, June 1991, pp. 13-19.
- <sup>3</sup> R Jude, 'Operational Logistics – Ongoing Support', *Naval Supply Magazine*, June 1993, pp. 33-37.
- <sup>4</sup> Royal Australian Navy, *The Navy Contribution to Australian Maritime Operations*, Sea Power Centre - Australia, Canberra, 2005, p. 64.
- <sup>5</sup> Jude, 'Operational Logistics – Ongoing Support', p. 36.
- <sup>6</sup> H Lok, 'Tales from the Middle East', *Naval Supply Magazine*, December 1994, pp. 51-59.
- <sup>7</sup> C Opie, 'Operation Damask IX Logistic Support Element – Dubai', *Naval Supply Magazine*, December 1999, p. 45.
- <sup>8</sup> A Mierisch, 'RAN Logistic Support Element – Middle East', *Navy Supply Newsletter*, January 2003, pp. 76-77.





*The crew of HMAS Sydney in the Mediterranean 1940 (RAN)*

# Finding HMAS *Sydney* (II)

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Mr John Perryman

HMAS *Sydney* (II) was one of three modified British Leander class light cruisers purchased by the Royal Australian Navy (RAN) in the years immediately prior to World War II. She gained fame early in the War for her exploits while operating as part of the Royal Navy's Mediterranean fleet. On 19 July 1940, against superior odds, *Sydney*, under the command of Captain John Collins, RAN, engaged and destroyed the Italian light cruiser *Bartolomeo Colleoni* and damaged another, the *Giovanni Delle Bande Nere*. This action became known as the Battle of Cape Spada and in many ways mirrored the earlier success of HMAS *Sydney* (I), when in 1914 she vanquished the German cruiser *Emden*. The second *Sydney* likewise became the 'darling' ship of the Australian nation.

Recalled to Australia in early 1941, *Sydney* was feted during visits to both Fremantle and Sydney. The cruiser received a hero's welcome in her home port and her crew marched from Circular Quay to the Town Hall for a civic reception and lunch. Within the RAN *Sydney* became well known as the 'lucky ship', while many of Australia's civilian population considered her invincible. Following a short refit, *Sydney* was assigned to duties on the Australia station and was soon operating in Western Australian waters, undertaking routine patrols and convoy escort duties.

On 11 November 1941, now under the command of Captain Joseph Burnett, RAN, *Sydney* sailed from Fremantle to escort the troop ship *Zealandia* to the Sunda Strait. She handed over her charge to the British cruiser HMS *Durban* at midday on 17 November. *Sydney* should have returned to port on 20 November, but the Australian cruiser and her men were never seen again.

What had happened to *Sydney* was subsequently reconstructed from the interrogations of German naval officers and seamen, some of whom were rescued from lifeboats, while others made it ashore to remote parts of the Western Australian coast. It was learned from these men that they were survivors from HSK *Kormoran*, a German auxiliary cruiser. *Kormoran*, under the command of Kapitan zur See Theodor Anton Detmers, was a merchant ship which had been well armed and converted into a disguised raider.

During a voyage of almost a year, Detmers had sunk 10 Allied merchant ships and taken another as a prize. According to the German account on 19 November, *Kormoran* encountered *Sydney* approximately 120 nautical miles west of Steep Point, Western Australia. The cruiser immediately challenged the unknown vessel's identity, but configured as the Dutch merchant ship *Straat Malakka*, *Kormoran* feigned innocence while *Sydney* continued to close. With the distance reduced to approximately one nautical mile, and not satisfied with the mysterious vessel's responses, the cruiser

issued a final challenge to reveal her secret call sign. Not knowing how to respond, Detmers de-camouflaged and opened fire on *Sydney* at the equivalent of point-blank range.

The ensuing engagement saw *Sydney* crippled by a torpedo hit to her bow and from withering fire to her bridge, primary and secondary armament and upper decks. Despite the destruction, *Sydney's* 'X' turret managed to score several critical hits on her opponent. Within an hour both ships were ablaze and in a state of extremis. The last the Germans had seen of *Sydney* was as a distant glow on the horizon late in the evening as they began setting scuttling charges in their doomed vessel. Although 317 of *Kormoran's* crew survived, none of *Sydney's* crew of 645 men lived to tell the tale.

During the many years following *Sydney's* loss, conjecture and debate surrounding her fate intensified rather than abated. Public interest was such that on 26 August 1997 the Australian Government requested the Joint Standing Committee on Foreign Affairs, Defence and Trade to investigate and report on the circumstances surrounding the sinking. In March 1999 the Committee published its report, with one of the primary recommendations being that the RAN sponsor a seminar aimed at establishing the likely area of the battle and hence the location of the wrecks of *Sydney* and *Kormoran*.



*HMAS Sydney (II) pride of the Australian fleet (RAN)*



*Two of Sydney's boats lying within the scattered debris field (FSF)*

The Sea Power Centre - Australia (SPC-A) subsequently convened a Wreck Location Seminar in Fremantle on 16 November 2001. Regrettably the aim was not achieved as the seminar served primarily to highlight the many differing theories on where the wrecks might lie. Here the matter might have rested were it not for a volunteer group known as the Finding Sydney Foundation (FSF).<sup>1</sup> Intent on conducting an in-water search for *Sydney* and *Kormoran* the FSF established their credentials with the SPC-A, RAN and ultimately the Australian Government. Confidence in the foundation was further inspired through its alliance with notable shipwreck investigator David Mearns, who had a successful record in locating deep-water shipwrecks including that of the famous Royal Navy battlecruiser HMS *Hood*. This alliance aided the FSF's objectives considerably and in August 2005 the foundation obtained partial funding for a search from the Federal Government. Other sizeable donations were obtained from the State Governments of Western Australia and New South Wales, and from members of the general public. The proposed scope of the search still exceeded the available funds, but after further lobbying an additional commitment by the Federal Government in August 2007 brought total funds up to \$4.2 million.

With sufficient funding in place, detailed planning for the in-water search could begin in earnest, with early 2008 set as the objective. David Mearns was confirmed as the search director while the Norwegian company, DOF Subsea, secured the contract for the search vessel, the SV *Geosounder*. The vital deep-water side scan sonar equipment needed to find the wrecks was provided by an American firm, Williamson and Associates.

The search team mobilised from Geraldton, Western Australia, in February 2008 and sailed in early March to begin searching an area of seabed equivalent in size to the Australian Capital Territory. The first objective was to locate *Kormoran* which could then be used as a reference point to find *Sydney*. Despite setbacks caused by equipment malfunctions and the influence of a tropical cyclone, the defined search box proved accurate and the wreck of *Kormoran* was identified on 12 March. This discovery enabled David Mearns to further refine his search box. Four days later at 11:03 on Sunday 16 March the wreck of *Sydney* was found at a depth of roughly 2500 metres. News of the discovery was quickly communicated ashore and an official announcement was made by the Prime Minister, the Honourable Kevin Rudd, on Monday 17 March. What has been described as Australia's most enduring maritime mystery had been solved.

With the location of both wrecks identified, the search vessel *Geosounder* returned to Geraldton where the search team began mobilising for Phase II of the search, obtaining imagery of *Sydney* and *Kormoran* using a Remotely Operated Vehicle (ROV). *Geosounder* was fortunately equipped with a suitable vehicle which was soon being prepared for this crucial part of the expedition. On 28 March the *Geosounder* sailed again from Geraldton and returned to the wreck sites. Both wrecks were now protected under the provisions of the *Historic Shipwrecks Act, 1976* and as such permission had first to be sought before the *Geosounder* could re-enter the area.



*Sydney's 'X' turret, credited with inflicting the mortal blows on Kormoran (FSF)*

Again the expedition was dogged with bad weather and further technical difficulties which had to be resolved at sea with only the expertise available onboard. These setbacks were eventually overcome and the ROV obtained its first images of *Sydney* at 15:10 on 3 April when its powerful underwater lighting illuminated one of the cruiser's MK XXI 6-inch gun turrets. The wreck was upright, and as the ROV was maneuvered along *Sydney's* port side it became clear that, in spite of obvious battle damage, she was in a remarkably well-preserved state with little marine growth. The extreme depth and darkness in which *Sydney* lies is, and will continue to be, her greatest protector.

An initial examination of the wreck confirmed *Sydney* had lost her bow, and appeared to support much of what the German seamen had revealed following their capture in 1941. *Sydney's* bridge, mid-ships section and upper works were severely damaged and the accuracy of the German gunnery was apparent on each of her four gun turrets which had all received multiple direct hits.



*Captain Joseph Burnett, RAN, on the bridge of HMAS Sydney (II) (RAN)*



*A post war portrait of Kaptain zur See Theodor Anton Detmers (RAN)*

A separate ROV inspection of *Kormoran* revealed that the scuttling charges placed by the Germans among the 300 plus mines which she carried had destroyed most of the vessel with only the well deck and forecastle remaining.

The FSF's objective to locate both wrecks was achieved. Equally importantly the crews of both ships were commemorated by the search team with short services being conducted over the site of each of the wrecks.

The data and imagery collected by the FSF has now been forwarded to the Commission of Inquiry into the loss of HMAS *Sydney* II, presided over by the Honourable Terence Cole. This Commission was appointed by the Chief of Defence Force to inquire into and report on circumstances surrounding the loss of *Sydney* and consequent loss of life and related subsequent events. Special commemorative services will also be conducted around Australia on 19 November 2008, to mark the 67th anniversary of her loss.

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## Notes

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- <sup>1</sup> See the HMAS *Sydney* II, Finding *Sydney* Foundation web site, <[www.findingsydney.com](http://www.findingsydney.com)> (16 September 2008).





PETER MITCHELL  
ESSAY  
COMPETITION

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# About the Competition

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Peter Stuckey Mitchell was born in Victoria in 1856. He grew up in the rural industry and, like his father, became a grazier on inheriting Bringenbrong Station, Upper Murray, New South Wales. During his lifetime he became a successful cattle and racehorse breeder, and at his death in 1921 left an estate valued at £215,000, from which his wife was left an annuity of £5000.

Through his Will he directed that on his wife's death the net income remaining from his estate be formed into a trust account to be known as the 'Peter Mitchell Trust Fund'. The purpose of the fund was to provide prizes 'to encourage and help the capable, healthy and strong to develop ... their natural advantages'. This section of the Will made provision for part of the income obtained to go to the navies and armies of the British Commonwealth of Nations. Due to lengthy legal proceedings that followed the death of his wife in 1954 it was not until 14 December 1970 that an agreement was made to compete for the awards as they are known today.

The Chief of Navy has been authorised by the Trustees of the Peter Mitchell Trust Fund to use the income available for various prizes. One of these is the prize awarded for the Peter Mitchell Essay Competition. This is an annual competition, open to members of British Commonwealth navies of commander rank or below, who are full-time members, or reservists who have served at least 20 days in the 12 months prior to the closing date of the competition.

Under the auspices of the trust arrangements, three prizes are awarded each year:

- Winner Open Section, which can be awarded to a sailor or an officer
- Winner Officers' Section
- Winner Sailors' Section.

## Editor's Note

The information contained in the essays published in this volume was current at the time the essays were submitted for judging. Some minor editorial amendments have been made to the essays, primarily to correct typographical or grammatical errors, and to apply a standardised format. In all other respects, particularly with regard to facts, style and opinions, the essays are published as they were submitted by the authors.



# Has the Role of Geography been Diminished by Technology, Globalisation and the Threat Posed by Terrorism?

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Lieutenant Commander Nathan Robb, RAN  
2008 Winner Open Section

We've learned in the modern age, geography cannot guarantee security.<sup>1</sup>

President George Bush, 1991

You could be forgiven in thinking that the above quote was made by former US President, George W Bush, after the terrorist attacks of 11 September 2001. It was, however, made by his father George Bush senior in 1991, a full ten years before that date, in response to security concerns in the Middle East. It demonstrates that, in the minds of senior US policy makers at least, the importance of geography to the US was changing well before events of 11 September 2001. In the time since, the role of geography in strategic planning has been increasingly questioned, to the extent that former Australian Minister of Defence, Senator Robert Hill, stated that geography is no longer relevant.<sup>2</sup> While this assertion was made in the context of perceived changes to Australia's security outlook, it is not the only time that the role of geography has been questioned.

Many contemporary strategic commentators claim that the role of geography in strategic planning has been diminished by technology, globalisation and the threat posed by terrorism. The aim of this essay is to determine if this is a correct assessment.

To achieve this, definitions for the terms geography, strategy and globalisation will be provided to ensure that the meanings used in this essay for specific terms are clear and unambiguous. In addition, the term geo-politics will also be defined because it is central to any discussion on strategy and geography. The essay will then discuss the role of geography in the formulation of strategy and strategic planning and from there the impact of technology, globalisation and terrorism on strategic planning will be briefly analysed and an assessment made on whether or not they have individually diminished the role of geography. In light of this analysis, the role of geography in strategic planning will again be examined and the veracity of stating that its role has been diminished by technology, globalisation and terrorism will be addressed.

## Definitions

**Geography:** Of the terms to be defined, geography is perhaps the most difficult. Most people consider geography as the positioning of countries and continents or the location of mountain ranges. This is accurate but geography is more than just the narrow descriptive science of the earth. It is also the physical setting for human activity, be it economic, political or strategic and it has a significant influence on culture.<sup>3</sup> In this essay, this broader meaning of geography will be used.

**Strategy:** Strategy has been described as the way in which the available means will be employed to achieve the ends of policy<sup>4</sup> or in other words ‘the bridge that relates military power to political purpose.’<sup>5</sup> For the purposes of this essay strategy and strategic planning are interchangeable.

**Globalisation:** Globalisation is a modern buzzword, used constantly in the media as a catchall for change. Initially it was a process involving the transfer of capital between countries resulting in the formation of integrated and interdependent economies.<sup>6</sup> However, it is now considered as a process whereby ‘social relationships acquire relatively distanceless and borderless qualities because the world is becoming a single and highly integrated place’.<sup>7</sup> From a strategic planning perspective globalisation, could best be described as a process in which time and space have been compressed by technology.<sup>8</sup> For the purposes of this essay globalisation will refer to economic development through the ready transfer of capital and resultant increasing interdependence of the global economy

**Geo-politics:** No discussion of geography and strategy is possible without using the term ‘geo-politics’. In the words of the strategist Colin S Gray, geo-politics is ‘the relation of international political power to the geographical setting’.<sup>9</sup> Geo-politics is therefore intimately related to the role geography plays in strategic planning.

## Geography and Strategy

As previously stated, in its broadest sense geography is the physical setting for all human activity. Throughout history geography has been the most pervasive and enduring influence upon the power of states.<sup>10</sup> It shapes the development of strategic culture and different geographic settings impose distinctive constraints and provide distinctive opportunities that can have profound implications on both policy and strategy.<sup>11</sup> In other words, how the people of a nation view a particular scenario, and subsequently develop and implement strategy is, in part, driven by their geographic experience.

Island states, or those with large coastlines and small land borders, tend to have a maritime approach to strategy while those with large land borders tend to take a continentalist approach. Great Britain and the US are examples of maritime powers while France and the Soviet Union are examples of continental powers. As Paul Dibb

argues, 'whether a country has land borders or is surrounded by water has determined the fundamentals of its security throughout history.'<sup>12</sup> Seapowers envision their security differently than do landpowers.<sup>13</sup> Alfred Mahan, in his seminal work *The Influence of Sea Power upon History 1660-1783*, argues that:

If a nation be so situated that it is neither forced to defend itself by land nor induced to seek extension of its territory by way of land, it has, by the very unity of its aim directed upon the sea, an advantage as compared with a people one of whose boundaries is continental.<sup>14</sup>

A practical example of the influence of geography on strategy is Israel. The realities of its geopolitical situation, surrounded by countries that until recently had policies of destroying it, has led to an obsession with national security in its strategic planning. Israel's small geographic size and inability to 'defend in depth' has also resulted in a policy and subsequent strategy of pre-emptive strike, which has been demonstrated in a number of confrontations with its neighbours.<sup>15</sup> Like Israel, Singapore is similarly influenced in its strategic outlook. Singaporean politicians and strategic planners feel vulnerable due to their geo-political situation and this vulnerability has influenced their foreign relations.<sup>16</sup>

Geography can also influence strategic planning via its impact at the tactical level. Aspects of geography such as weather, topography and cultural landscapes have had a profound and sometimes decisive influence on military operations, which has resulted in strategic failure.<sup>17</sup> Strategic planners need to remain cognizant of this and take tactical level geography into account when planning. As Gray argues 'geography cannot be an optional extra for consideration by the strategic theorist or planner because it drives the character and potential contemporary reach of tactical, hence operational, prowess.'<sup>18</sup> A contemporary example of the influence of tactical geography at the strategic level is in Iraq where the physical and human geography have had significant impacts on coalition combat operations, for example dust storms and air strikes, as well as on efforts to secure, stabilize and rebuild the country.<sup>19</sup>

It is clear that geography plays an influential role in the development of strategy and subsequently in strategic planning. Has this role been diminished though by the influence of technology, globalisation and the threat posed by terrorism? The next three sections of this essay will examine the influence of each of these factors on geography's role in strategic planning.

## Technology, Geography and Strategy

Technology can alter or modify the role of geography in strategic planning. Even Gray, an ardent supporter of the importance of geography states that 'new weapons technologies can offset distance, terrain and even climate to an important degree.'<sup>20</sup> Dibb, another ardent supporter of the role of geography, agrees stating that 'modern



weapons and communications technologies have greatly compressed the protection once afforded by distance.<sup>21</sup> However, can technology diminish the role of geography? The remainder of this section will argue that while technology can modify the role of geography in strategic planning it cannot diminish it.

From the development of the wheel through to the widespread use of rail in the nineteenth century, technological developments have altered the role of geography. The advent of airpower, particularly long-range airpower, was seen by many commentators to herald diminishing role for geography in strategy. Proponents have always claimed that the great advantage of airpower is that aircraft are not impacted by geography to the same extent as navies or armies.<sup>22</sup> This argument however ignores the fact that the infrastructure to support air operations is geographically fixed. Additionally the geography of weather has as large or even larger impact on aircraft than it does on navies and armies. Airpower has therefore modified the role and importance of geography, but not diminished it.

The advent of nuclear technology and inter-continental ballistic missiles (ICBM) also seemed to herald the diminishing of the role of geography in strategic planning. As David Lonsdale states 'it matters that you can be hit by an ICBM in spite of geographical features which have traditionally acted as a form of defence'.<sup>23</sup> The role of geography could have been diminished by this technology however nuclear mutual deterrence has 'helped keep geography in play'.<sup>24</sup> The Americans placed their ICBM silos in the middle of the continental US, using geography to provide defence in depth from the threat of first strike by Soviet SSBNs lurking off its coasts. Likewise, towards the end of the Cold War, the Soviet Union used the geography of maritime bastions, where they had command of the sea, to operate their submarines.<sup>25</sup> Geography's role in the strategic planning of the superpowers was therefore important, although it has been modified as a result of technological developments such as ICBMs.

It is the rapid advancement in information technology however, that has most threatened the role of geography in strategic planning. The reliance of assets important to national security, such as power stations and airports, on automated control systems accessible through computer networks has increased the vulnerability of nations to non-kinetic attack from adversaries on the other side of the world. Again, rather than diminishing the role of geography, these new technologies have modified its role. Geography remains a consideration because to conduct non-kinetic attacks hackers need to be based somewhere, and while it is difficult, they can be tracked to their geographic point of origin for prosecution.

Finally logistics remains an important consideration in strategic planning and one of the greatest challenges to logistics is the 'tyranny of distance' imposed by geography. Until a technology is developed that allows for soldiers and equipment to be teleported instantaneously like something out of Star Trek distance will continue to influence strategic planning.<sup>26</sup> As Williamson Murray argues 'while the wonders of modern

technology have removed some of the difficulties involved in communicating orders and projecting power, time, distance and weather still impose considerable constraints on the strategic options and capabilities of states.<sup>27</sup>

In summary, technology modifies the role of geography in strategic planning but does not diminish it.

## Globalisation, Geography and Strategy

In 1992 Chief Economist at American Express Bank, Richard O'Brien wrote a book entitled *The End of Geography*. In this book O'Brien contends that instantaneous communications and the ability to transfer capital across state borders readily has largely negated distance in financial transactions and that geography is being eliminated as an impediment to creating a global market.<sup>28</sup> The infusion of capital can modify the relative importance of a given geographic space by, for example, shifting power centers and a lack of capital can consign geographical regions to the world periphery.<sup>29</sup> Peter Taylor et al argue that this modification of the relative importance of certain geographic spaces has created a world centered on financial hubs such as London, New York and Tokyo and that rather than the end of geography globalisation has essentially produced new geographies.<sup>30</sup> Economist John Kay argues that geography remains overwhelmingly important and that globalisation has not diminished the economic significance of location.<sup>31</sup> The importance of geography, while modified, is therefore not diminished.

Globalisation has also been criticised for being inherently geographically divisive, rather than inclusive. Critics of globalisation have argued that instead of promoting free and fair trade in conjunction with peaceful international relations the strongest states, such as the United States, frequently revert to protectionist policies to promote their own national interests.<sup>32</sup> Noting the economic crisis currently affecting the world started as an issue with sub-prime mortgages and house prices in the US the interdependence of world economies cannot be denied. It appears however that the adherents of globalisation may have overemphasized the decline of the nation state, and hence geography, and the inclusiveness of the new economy.<sup>33</sup>

The recent nationalisation of banks in Europe and multi-billion dollar government economic rescue packages currently being mooted around the world are a stark reminder that the basic unit in the world political system remains the nation state.<sup>34</sup> This is because globalisation is 'no more than the sum total of international flows of trade and capital between countries and not an economic system articulated on a global scale'.<sup>35</sup> Even the large multinational companies that appear to drive economic globalisation tend to be nationally based, one study showing that on average multinational companies retain two thirds of their assets in their home country.<sup>36</sup> Finally, while the world is becoming more inter-connected economically and socially, the recently completed Beijing Olympics demonstrated that nationalism is alive and

well. Geography therefore continues to play an important part in strategic planning and has not been diminished by globalisation.

### Terrorism, Geography and Strategy

Globalisation and rapid technological development, particularly in the communications field, have significantly contributed to the rise of transnational terrorism. Terrorist organisations have been able to find sanctuary in the anonymity of cyberspace and have used the reach of the internet to attract potential recruits. They have also been aided by the globalisation of financial markets, mastering the movement of capital across state borders.<sup>37</sup> This has allowed terrorists the freedom to operate anywhere in the world and making them difficult to detect and track.<sup>38</sup>

The terrorist attacks of 11 September 2001 differed from other attacks on US targets in two key aspects. Firstly, they indiscriminately targeted civilians (previous attacks were aimed at military bases and embassies) and secondly the attacks took place within the continental United States.<sup>39</sup> It was this second aspect in particular that shattered the United States public's feeling of security afforded by their geographic isolation and led many to question the continued role of geography in strategic planning.

The US response to the attacks of 9/11 was to attack the source of the problem, the Taliban and the sanctuary it provided to Al Qaeda in Afghanistan. Some commentators believe that this response showed all the hallmarks of statist thinking, bound by geography.<sup>40</sup> The United States has had to recognise that attacking one country will not necessarily diminish the dangers posed by transnational terror groups. In defence of the US however, groups like Al Qaeda with their global networking pose considerable conceptual challenges for states and it has taken time to adjust.<sup>41</sup> Additional high-profile attacks post-11 September 2001 in Bali, Madrid and London have further demonstrated to states that there is no traditional geographic frontline in the 'global war on terror'.<sup>42</sup>

It took nation-states time to realise that the threat posed by Al Qaeda and related groups was different to previous terrorism threats partly because previous threats had been primarily geographic in nature. Many terrorist groups such as the IRA, the PLO and the Tamil Tigers are 'driven in large part to secure territorial settlement'.<sup>43</sup> In other words, they are geographically focused in their operations. Arguably, the majority of terrorist groups are still geographically focused. In 2002, there were 199 recorded terrorist incidents, the majority of which occurred in four countries: Colombia, Chechnya, Israel and Afghanistan. Of these countries three are subject to long standing sovereignty disputes. This would indicate that terrorist incidents are more the product of nationalist and separatist violence than the work of transnational terrorism<sup>44</sup> and that geography still plays an important role in combating the threat.

While the threat posed by Al Qaeda transcends geographic boundaries, transnational terrorist groups are still influenced by geography. Terrorist groups need the shelter of sanctuaries in which to regroup and generally these are protected by geography such as mountains or lush vegetation.<sup>45</sup> In the case of Al Qaeda, while operatives, sympathisers and groups with links to them are possibly located throughout the world, the leadership is reported to be sheltering in the sanctuary provided by the mountainous regions of the Pakistan/Afghanistan frontier. Overcoming geography, in this case both physical and cultural, continues to play an important role in strategic planning. The United States/Pakistan relationship demonstrates the role importance of geography in the 'War on Terror'.<sup>46</sup> It should be noted though that some critics believe that the threat of terrorism, while real, should not be the defining feature of strategy.<sup>47</sup>

### Geography and Strategy Revisited

This essay has so far addressed the impact of technology, globalisation and terrorism on the importance of geography in strategic planning. Individually each of these factors, while modifying or altering the role of geography, has not diminished its importance. This section of the essay will look at why this is so by addressing briefly the interaction of geography, technology and globalisation (or economic development) and the subsequent impact on strategy and strategic planning.<sup>48</sup>

While geography is important it is but one of many important constraints in the development of policy and strategy.<sup>49</sup> Historically, technology and economic development have interacted with geography to shape the world and strategy.<sup>50</sup> As Mackubin Owens states, 'strategy is a complex phenomenon comprising a number of elements. Among the most important of these are geography; history; the nature of the political regime; and economic and technological factors'.<sup>51</sup> Additionally, as technology and trade flows alter, the importance of geographical factors such as location, size and character of national territory and the character of neighbouring countries change.<sup>52</sup>

Geography retains its importance in strategic planning however because it is the most permanent of the three factors. Technological and economic advantage can be won or lost in a generation but without military conquest, geographies rarely change. Owens quotes Nicholas Spykman who observed, 'geography is the most fundamental factor in foreign policy because it is the most permanent'.<sup>53</sup> Geography is the also the most pervasive factor. 'Geography does not dictate choice in policy or strategy but its pervasive influence via culture certainly pre-disposes states and their military establishments towards particular ways in warfare'.<sup>54</sup> Geography as an influence of strategic planning is permanent and pervasive, meaning geographical considerations are essentially unavoidable. The role of geography in strategic planning is therefore unlikely to be diminished by any other factor.

## Conclusion

Many contemporary strategic commentators claim that the role of geography in strategic planning has been diminished by technology, globalisation and the threat posed by terrorism. The aim of this essay was to determine if this assessment is correct.

An examination of the role that geography plays in strategic planning demonstrated its importance, not least because of the cultural influence it has on those carrying it out. Technology has been considered the major factor in diminishing geography's role in strategic planning but it has been argued that technology, even information technology, has only modified geography's role, not diminished it. Likewise globalisation's influence on strategic planning, while important, has not diminished the importance of geography. The advent of transnational terrorism has been a focus of strategic planning throughout the western world for much of the last decade but again it was demonstrated that it has not diminished the role of geography and in fact it has been argued that if anything terrorism has increased the importance of geography.

In summary geography is one of many factors, including technology and economic development, that influence the development of strategy, but it is the most permanent and pervasive of these factors. As Owens succinctly states, 'real international relations occur in real geographical space. The relative importance of a given geographical space may be modified by a technology or the infusion of capital but geographical space cannot be ignored.'<sup>55</sup>

## Notes

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- <sup>1</sup> George Bush, Senior quoted in AM Rosenthal 'On My Mind; Mid East Geography Lessons', *The New York Times*, 17 May 1991.
- <sup>2</sup> Paul Dibb, 'Is Strategic Geography Relevant to Australia's Current Defence Policy', *Australian Journal of International Affairs*, Vol 60, No 2, June 2006, p. 248.
- <sup>3</sup> Colin S Gray, 'The Continued Primacy of Geography: A Debate on Geopolitics', *Orbis*, 40, Spring 1996, p. 256.
- <sup>4</sup> Mackubin Thomas Owens, 'Strategy and the Strategic Way of Thinking', *Naval War College Review*, Autumn 2007, Vol 60, No .4, p. 111.
- <sup>5</sup> Colin S Gray, *Modern Strategy*, Oxford University Press, Oxford, 1999, p. 17.
- <sup>6</sup> Henry Wai-chung Yeung, 'The Limits to Globalisation Theory: A Geographic Perspective on Global Economic Chang', *Economic Geography*, Vol 78, No 3, p. 287.
- <sup>7</sup> Klaus Dodds, *Global Geopolitics: a critical introduction*, Pearson Education Limited, Edinburgh Gate, 2005, p. 43.

- <sup>8</sup> Michael Evans, 'From Kadesh to Kandahar: Military Theory and the Future of War', *Naval War College Review*, Summer 2003, Vol 56, No 3, p. 133.
- <sup>9</sup> Gray, 'The Continued Primacy of Geography'.
- <sup>10</sup> Colin S Gray 'Geography and Grand Strategy', *Strategy and History: Essays on Theory and Practice*, Routledge, Mittington Park Oxn, 2006, p. 137.
- <sup>11</sup> Gray, 'The Continued Primacy of Geography'.
- <sup>12</sup> Dibb, 'Is Strategic Geography Relevant', p. 247.
- <sup>13</sup> Mackubin Thomas Owens, 'In Defense of Classical Geopolitics', *Naval War College Review*, Autumn 1999, Vol 52, No 4, p. 63.
- <sup>14</sup> Alfred Thayer Mahan, *The Influence of Sea Power upon History 1660-1783*, Sampson Low, Marston and Co. Ltd, London, 1890, p. 29.
- <sup>15</sup> Williamson Murray, 'Some Thoughts on War and Geography' in Colin S Gray and Geoffrey Sloan (eds), *Geopolitics, Geography and Strategy*, Frank Cass, London, 1999, pp.211-215.
- <sup>16</sup> Bernard Fook Weng Loo, 'Transforming the Strategic Landscape of South East Asia', *Contemporary South East Asia*, Dec 2005, Vol 27, No 3, p. 395.
- <sup>17</sup> Eugene J. Palka, Francis A. Galgano & Mark W. Corson, 'Operation Iraqi Freedom: A Military Geographical Perspective', *Geographical Review*, Jul 2005, Vol 95, No 3, pp. 378-379.
- <sup>18</sup> Colin S Gray, 'Inescapable Geography' in Colin S Gray and Geoffrey Sloan (eds), *Geopolitics, Geography and Strategy*, Frank Cass, London, 1999, p. 164.
- <sup>19</sup> Palka et al, 'Operation Iraqi Freedom', p. 396.
- <sup>20</sup> Gray, 'The Continued Primacy of Geography'.
- <sup>21</sup> Dibb, 'Is Strategic Geography Relevant', p. 253.
- <sup>22</sup> Murray, 'Some Thoughts on War and Geography', pp. 205-206.
- <sup>23</sup> David J Lonsdale, 'Information Power: Strategy, Geopolitics and the Fifth Dimension' in Colin S Gray and Geoffrey Sloan (eds), *Geopolitics, Geography and Strategy*, Frank Cass, London, 1999, p. 137.
- <sup>24</sup> Gray, 'The Continued Primacy of Geography'.
- <sup>25</sup> Lonsdale, 'Information Power: Strategy, Geopolitics and the Fifth Dimension', p. 153.
- <sup>26</sup> Martin Van Creveld, *Supplying War: Logistics from Wallenstein to Patton*, 2nd edition, Cambridge University Press, Cambridge 2004, p. 258.
- <sup>27</sup> Murray, 'Some thoughts on War and Geography', p. 215.
- <sup>28</sup> Peter J Taylor, Michael Hoyler, David RF Walker and Mark J Szenger, 'A New Mapping of the World for the New Millennium', *The Geographical Journal*, Sep 2001, Vol 167, No 3, p. 213; Lawrence Malkin, 'Economic Scene', *International Herald Tribune*, 28 Mar 1992.
- <sup>29</sup> Owens, 'In Defense of Classical Geopolitics', p. 72.
- <sup>30</sup> Taylor et al, 'A New Mapping of the World for the New Millennium', p. 213.
- <sup>31</sup> John Kay, 'Geography is still Important', *Financial Times*, 10 Jan 2001.
- <sup>32</sup> Dodds, 'Global Geopolitics: A Critical Introduction', pp. 5-6.
- <sup>33</sup> Dodds, 'Global Geopolitics: A Critical Introduction', p. 25.

- <sup>34</sup> Ewan W Anderson, 'Geopolitics: International Boundaries as Fighting Places' in Colin S Gray and Geoffrey Sloan (eds), *Geopolitics, Geography and Strategy*, Frank Cass, London, 1999, p. 125.
- <sup>35</sup> Dodds, 'Global Geopolitics: A Critical Introduction', p. 43.
- <sup>36</sup> Dodds, 'Global Geopolitics: A Critical Introduction', p. 46.
- <sup>37</sup> Marc Jamison, *Sanctuaries: A Strategic Reality, an Operational Challenge*, US Army War College, Carlisle Barracks, PA, 15 March 2008, pp. 12-14.
- <sup>38</sup> Dibb, 'Is Strategic Geography Relevant', p. 253.
- <sup>39</sup> Roger W Barnett, 'Naval Power for a New American Century', *Naval War College Review*, Winter 2002, Vol 55, No 1, p. 43.
- <sup>40</sup> Simon Moffat, 'Globalisation, Terrorism and Cosmopolitan Australia', *Security Challenges*, Feb 2007, Vol 3, No 1, p. 5.
- <sup>41</sup> Dodds, 'Global Geopolitics: A Critical Introduction', p. 199.
- <sup>42</sup> Moffat, 'Globalisation, Terrorism and Cosmopolitan Australia', p. 1.
- <sup>43</sup> Dodds, 'Global Geopolitics: A Critical Introduction', p. 200.
- <sup>44</sup> Sherle R Schwenninger, 'Revamping American Grand Strategy', *World Policy Journal*, Fall 2003, Vol 20, No 3, p. 26. There would undoubtedly have been significantly more terrorist attacks annually since the invasion of Iraq in 2003 but again they would have generally remained focused in a limited number of geographic locations and for nationalistic and separatist causes.
- <sup>45</sup> Jamison, *Sanctuaries: A Strategic Reality, an Operational Challenge*, p. 6.
- <sup>46</sup> The US had condemned Pervez Musharraf for his military coup in Pakistan until it needed Pakistan as an ally in the War on Terror due to its border location with Afghanistan.
- <sup>47</sup> Schwenninger, 'Revamping American Grand Strategy', p. 26.
- <sup>48</sup> The role of transnational terrorism will not be addressed because it is an outcome of globalisation and technological development.
- <sup>49</sup> Mark O'Neill, 'Time to Move On in the Defence Policy Debate', *Australian Journal of International Affairs*, Sep 2006, Vol 60, No 3, p. 359.
- <sup>50</sup> Owens, 'In Defence of Classical Geopolitics', pp. 70-72.
- <sup>51</sup> Owens, 'Strategy and the Strategic Way of Thinking', p. 113.
- <sup>52</sup> Gray, 'Geography and Grand Strategy', p. 139.
- <sup>53</sup> Owens, 'In Defence of Classical Geopolitics', p. 59.
- <sup>54</sup> Gray, 'Geography and Grand Strategy', p. 146.
- <sup>55</sup> Owens, 'In Defence of Classical Geopolitics', p. 61.

# Have Medium Navies Concentrated too much on Maritime Power Projection at the Expense of Sea Control?

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Long-range strategic planning in defence has always been difficult. Trying to determine how to equip and train the military of twenty-years-from-now with a limited defence budget and uncertain tasks has caused many a strategic planner no end of grief. In tackling this problem, planners have had to make assumptions about how the world of the future will look, and what the likely employment of the state's defence forces will be. These assumptions have then formed the basis for their choices of assets to be procured and training to be developed.<sup>1</sup>

Throughout history, however, many leaders have questioned the analysis that their strategic planners have delivered, claiming that their militaries have been left with inappropriate technologies and training for the world that they operate in. Until these militaries have gone to war, though, ultimately proving whether or not equipment and doctrine was adequate, it has been very difficult to determine the validity of any such arguments.

One modern example of these arguments has been a recent criticism of medium sized navies, that they have focused too much on 'force projection' at the expense of 'sea control'. This claim has come in the wake of September 11 and the global war on terror by pundits who believe that force projection is not relevant in today's security environment. They believe that a more isolationist strategy of defending the state and its approaches is what is needed.

## Aim

The aim of this paper will be to discuss the validity of the claim that medium sized navies have focused too much on force projection at the expense of sea control. In order to do so, we must firstly define what 'force projection' and 'sea control' are, and then enumerate the requirements of each. Secondly, we must define what a medium navy is, and select a few representative navies to discuss. Thirdly, we must take a look at the nature of security in the world today in order to determine what forces (assets and training) have been, and will be, required to ensure security. And finally, we will need to assess how well our representative navies have been equipped to deal with the security issues, and if they have focused too much on force projection and not enough on sea control.



## Force Projection

Force projection for a navy is its ability to project forces ashore (noting that force projection is usually a joint term with a wider definition).<sup>2</sup> In the naval sense, there are several key requirements to conduct force projection:<sup>3</sup>

- **Amphibious Capabilities** – this is the ability to transport army formations by sea and land them ashore. This is usually done by having large troop-carrying platforms that are able to land their troops either by organic landing craft, by organic aircraft, and/or by beaching themselves and unloading down a ramp. When landing troops in these ways, the implied capabilities of aircraft/airspace control, local air defence, local undersea warfare, naval escorting, and minesweeping may be required.
- **Logistics Support for Troops Ashore** – once ashore, troops will require regular resupply. When projecting forces far from home, this logistic support is easiest from sea, particularly in the first few days after landing, and will usually come from the naval auxiliary vessels by way of organic landing craft and/or organic aircraft. When providing logistics support in this way, the same implied capabilities of aircraft/airspace control, local air defence, local undersea warfare, naval escorting, and minesweeping will be required.
- **Fire Support** – army troops going ashore onto hostile beaches will require fire support until they can establish their own artillery. This fire support will come from escorting naval units and/or organic aircraft in the forms of naval gunfire support (NGS) and close air support (CAS) respectively. When providing fire support in this way, the implied capability of aircraft/airspace control will be required.
- **Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR)** – army troop commanders going ashore require sea-borne facilities until they can establish themselves ashore. These facilities include bunking and workspaces for command staff; extra communications equipment required to communicate with superior and subordinate commanders; and intelligence, surveillance and reconnaissance facilities that may include specially fitted surveillance aircraft, special communications pathways to obtain intelligence from ashore, and required transportation for reconnaissance units.
- **Strategic Lift** – after an initial beachhead and/or airhead has been established using amphibious forces, the main bulk of the army forces will have to be built up in the Amphibious Objective Area by more

conventional means in order to break out of the beachhead/airhead. This is usually done by large capacity cargo ships and aircraft that need conventional sea and air port facilities to offload. When using strategic lift platforms, the implied capabilities of airfield and port defence will be required, along with air escorting, naval escorting, local air warfare, local undersea warfare, and/or minesweeping.

## Sea Control

Sea control is the condition which exists when one has freedom of action to use an area of the sea for one's own purposes for a period of time and, if required, deny its use to an adversary.<sup>4</sup> Sea control is a multi-dimensional concept that includes control of the air, control of the surface of the sea, control of the undersea water column, control of the littoral regions of landmasses, and control of the electromagnetic spectrum.<sup>5</sup>

To have a good sea control capability, then, the following are required:<sup>6</sup>

- Air Warfare – this may include a surface based air warfare capability, either with or without organic aircraft, or may be conducted entirely by shore-based aircraft and sensors.
- Surface Warfare – this is best accomplished by combination of ships, aircraft, and submarines, but can be done by any of these platforms individually or with any other type operating in support.
- Undersea Warfare – generally done by aircraft and submarines, but may be done using surface ships with less effectiveness.
- Electronic Warfare – usually done by surface ships or specially fitted aircraft.

Looking at the sets of requirements for sea control and power projection, we may draw a conclusion with some simple analysis. That is that, in general, sea control is a precondition for naval power projection.<sup>7</sup> We can draw this conclusion by noting that the requirements for sea control are usually the implied capabilities for many of the requirements of naval power projection.

## Medium Navy

Defining a 'medium navy' is not as easy and unequivocal as it first sounds.<sup>8</sup> The starting point is that a medium navy is a navy built from a medium amount of resources, both in terms of operations and capital procurement budgets. Because of this, medium navies generally have a medium numbers of ships and medium material resources, at least in terms of what the navy itself can obtain or develop for its exclusive use. Medium does not necessarily mean medium capabilities. However a medium navy does mean that it is limited in the number of commitments it can fulfill at any one time.

To assess the validity of the criticism that medium sized navies have focused too much on force projection at the expense of sea control, three representative medium navies have been selected for discussion: the Royal Australian Navy (RAN), the maritime forces of the Canadian Forces (CF), and the Royal Netherlands Navy (RNLN). These three medium powers each have medium sized navies operating in distinctly separate geo-political situations and with differing security requirements and goals.

## Contemporary World Security

To discuss how our representative medium navies have been doing, though, we must first look at what their security situations are before we can assess what requirements they have for force projection and sea control.

Australia, Canada and the Netherlands have each been affected differently by the end of the Cold War, the events 11 September 2001, and the subsequent War on Terrorism. All three have home-grown extremist Islamic groups operating within their borders and consider defence against domestic terrorism to be one of their highest priorities.

These broad commonalities aside, they operate in very different security environments. For this reason, each country will be viewed separately along with its force projection and sea control needs and abilities.

## Australia and the Royal Australian Navy<sup>9</sup>

Australia is a federal, pro-Western state situated between Southeast Asia and the southwest Pacific. It has a predominantly European population of 21 million, but maintains strong economic ties to East Asia. Domestically, outside of a limited terrorist threat, it has few direct security threats to its security and stability, with drug trafficking, illegal immigration, and fisheries protection being its largest concerns.

Regionally, however, Australia has recognised that it needs to promote stability in order to maintain its favourable domestic security situation. Fears that poor governance by neighbours could facilitate arms and people trafficking in the region, and provide sanctuary for possible anti-Australian terrorists, have been justified by the recent terrorist attack on Australian interests in Bali (2002), and arrests within Australia of members of Jemaah Islamiyah who openly espouse anti-Western violence.

Australia has embarked on an interventionist strategy within its region to combat such instances of regional instability. It has engaged failed or failing states like East Timor, the Solomon Islands, Fiji, and Papua New Guinea by sending Australian Defence Force (ADF) personnel to ensure that a sufficient level of security is maintained. It has also promoted security through involvement with regional treaties and organisations like the Association of South East Asian Nations (ASEAN), the Five Power Defence Arrangements (FPDA), and the Pacific Islands Forum. Backing all of these efforts are strategic defence treaties with the United States (ANZUS) and New Zealand. The

alliance with the United States (US) in particular has led to Australian involvement in both Afghanistan and Iraq.

It would seem, then, that Australia and the RAN would have a strong need for both sea control—in order to defend its approaches against drug smuggling, illegal immigration, fisheries protection, and terrorist infiltration—and expeditionary forces capable of projecting force into regional failed and failing states. So how have they done?

The RAN has always maintained a strong sea control capability capable of operating in Australia's approaches, which has included ships, aircraft, submarines, and shore based sensors. It has gone a long way toward fulfilling its impossible role of defending Australia's coastline. However, the RAN's ability to control the sea away from Australia's approaches has been suspect due to a lack of an expeditionary air warfare capability. The absence of air warfare capable ships combined with a lack of sea-based air-warfare aircraft has meant that it has not been capable of sea control into an area with a credible air threat. While this has not been required in the past 20 years, this may not always be the case. Recognition of this fact has been made by successive Australian Governments, and recent announcements to procure three AEGIS-equipped Air Warfare Destroyers (AWDs) will go some way to correcting this deficiency.

In terms of force projection, the RAN has always maintained most of the requirements of force projection, with the notable exception of strategic lift and the expeditionary ability to conduct air warfare. In fact, the RAN's amphibious capabilities were recently proven during the security collapse in East Timor in 2006, with the successful landing of approximately 1300 army troops at short notice. This combined with the ongoing logistics support of ADF personnel deployed in regional operations, the RAN's NGS capability that was proven in the 2003 Iraq War, and ADF's ever-evolving C4ISR capabilities allow for good force projection capability given its size. In addition, the procurement of the AWDs plus two amphibious assault ships (LHDs) to replace its the *Newport* class LPAs should go a long way toward mitigating the deficiencies mentioned above.

## Canada and the Canadian Forces<sup>10</sup>

Canada is the world's second largest country by area, having a population of 31 million, many of whom are first- or second-generation immigrants. Since confederation in 1867, Canada has experienced consistent domestic peace and security. In particular, since the end of the Cold War, it can be said that Canada has faced no direct threat from abroad. This owes largely to its geo-political situation—Canada's sheer distance from most other countries, coupled with its close proximity and high strategic importance to the US, has made it an unlikely target.

Domestically, Canada faces a low terrorist threat, being more of a staging ground for terrorist activities into the US. Of greater threat to Canada's sovereignty have been

the province of Québec's separation aspirations and the unrest of Canada's indigenous peoples. Québec held two referenda to separate from Canada in 1980 and 1995, with the second one failing by less than one percent. By contrast, Canada's indigenous issues, despite occasionally boiling over in violent disputes, have been successfully held in check by successive Governments' willingness to negotiate land-claims and institute self-governance.

Other security issues in Canada have included illegal foreign fishing on the Grand Banks and sovereignty disputes in Canada's north. The latter involves many separate issues, the largest being a mostly academic dispute about Canada's claim that the North-West Passage should be considered 'internal waters'. A number of countries, led by the US, claim that it should be considered an archipelagic sea lane (ASL). In addition, there are several unresolved territorial disputes between Canada and the US, along with one active dispute with Denmark over the tiny Hans Island.

Canada has generally promoted multi-lateral solutions and institutions in the world, being the 'father' of UN peacekeeping and having historically participated in most peacekeeping missions. It has frequently promoted security through international treaties, having signed over 80, including the key North Atlantic Treaty which established the North Atlantic Treaty Organisation (NATO) and the North American Aerospace Defence Treaty. In addition Canada maintains very strong ties to the US, being part of the North American Free Trade Agreement and having several bi-lateral defence partnerships.

It appears, then, that Canada would not require much of a naval force projection capability, except to be used in a peacekeeping/peacemaking role. However, a strong sea control capability to defend the country and its approaches, very similar to Australia's, would almost certainly be prudent. So how has it done?

Poorly, as Canada has almost no naval force projection capability at all. The CF has no amphibious ships, no amphibious doctrine, and no expeditionary fire support capability (either sea-borne CAS or NGS). This has heavily restricted Canada's ability to participate in disaster assistance and UN peacekeeping missions as the lead country in places like Haiti or Indonesia following the tsunami. It has also restricted Canada's ability to participate in coalition operations from the sea. Although procuring two Joint Support Ships to be delivered in 2012, it is not anticipated that the CF will adopt an amphibious capability. This was announced after the CF experimented with amphibious operations in early 2007 at Camp Lejeune, North Carolina.

In terms of sea control, Canada has generally maintained a strong sea control capability, focussing on the traditional anti-submarine warfare (ASW) role it had during the Cold War, as well as integrating with the US Navy for North American defence. That being said, the CF has not had an operational submarine capability since the decommissioning of the *Oberon* class of submarines in the mid-1990s, something which should be

corrected once the *Victoria* (formerly *Upholder*) class boats achieve their long-awaited operational readiness. In addition, the CF's air warfare capabilities are likely to elapse when the last of the *Iroquois* class destroyers decommission in 2015. The Destroyer Replacement Project (DRP), recently reinstated, is not likely to come to fruition before this date, leaving a sizeable hole in Canada's sea control capabilities. The Government has recently announced, however, the procurement of up to eight Arctic Patrol Vessels to give it a more robust capability in Canada's north, something that has not been required until now.

### The Netherlands and the Royal Netherlands Navy<sup>11</sup>

The Netherlands is small country of 16 million people in northern Europe that has generally had a reputation as a peaceful, prosperous nation. Its population has historically supported a liberal social agenda and a pro-European outlook. However, more recently this has been challenged with the controversy surrounding Dutch complicity at the Srebrenica massacre, the assassination of the right-wing politician Pim Fortuyn, and the killing of film-maker Theo van Gogh in communal violence. The resulting political unrest has toppled two governments: one in 2002 over a report on the Srebrenica massacre, and one in 2006 over immigration controversies that were exacerbated by the high-profile killings.

Of domestic security concerns, the most serious is that of terrorism. The Dutch intelligence agency, AIVD, estimates that they have 10 to 20 domestic Islamic terrorist networks operating within their borders. Another more recent security concern for the Netherlands has been the proliferation of hard drugs following the decriminalisation of soft drugs. This has caused tensions with the Netherlands Antilles and Aruba, as a large amount of cocaine enters Europe through the Netherlands from these two Dutch colonies which has led to regional tensions as drug proliferation in the Netherlands has spread to neighbouring regions of France and Germany.

The Dutch have pursued several security initiatives within Europe, including championing the European Security and Defence Policy and creating bi-lateral formations like the German-Netherlands Corps and the British-Dutch Amphibious force. The Dutch believe in security through development aid (one of the few countries to achieve the Millennium Development target of 0.7 per cent of GDP for development aid), peacekeeping, and disaster relief operations. They also believe strongly in international institutions, being one of the first signatories to the UN Charter and participating heavily in institutions like the Organisation for Security and Cooperation in Europe (OSCE), Organisation for Economic Cooperation and Development, World Trade Organisation (WTO) and the International Monetary Fund (IMF).

During the Cold War, the Netherlands' international maritime security efforts were typically focused on NATO's ASW and mine warfare efforts in the North Sea and Atlantic Ocean. However, since the end of the Cold War, the Dutch have been 'transforming'

their military into one better suited to defending the approaches to the Netherlands, but with expeditionary crisis management and humanitarian relief capabilities.

Looking at these trends, then, it would appear that the Netherlands has more of need for expeditionary force projection capabilities to carry out crisis management and humanitarian missions, while retaining a moderate sea control capability for its own approaches. How has it done?

The transformation of the RNLN has done just that. The RNLN has a fledgling but robust force projection capability. On the back of the new *Rotterdam* and *Johan de Witt* class amphibious vessels (LPDs), together with a new deployable Netherlands Maritime Force staff and existing marine forces, The Netherlands has a solid, if untested, amphibious capability. In addition, the Government is considering purchasing six roll-on roll-off strategic lift ships to help bolster European strategic lift capabilities.<sup>12</sup>

In terms of sea control, after the bulk of the transformation efforts, the RNLN has secured itself a strong sea control capability. It has capable and modern air, surface, undersea, and electronic warfare platforms, particularly after the acceptance into service of the four *De Zeven Provinciën*-class AWDs. In addition, it has committed to procuring four new Ocean Patrol Vessels (OPVs) designed specifically for use within the Dutch Exclusive Economic Zone (EEZ).

## Conclusion

Looking at the evidence presented, then, there are a couple of conclusions that can be drawn about the claim that medium sized navies have focused too much on force projection at the expense of sea control. The first, which immediately defeats the claim, is that it is not possible to have a good force projection capability without a good sea control capability. Sea control is a prerequisite to a robust naval force projection capability.

The second, which falls out of the analysis of the three representative medium sized navies, is that, if anything, medium sized navies have not focused enough on force projection. Australia and the Netherlands, it appears, are both heading toward a good balance of naval forces to achieve their respective needs. Canada, on the other hand, who has no naval force projection capability whatsoever, has clearly not focused enough on naval force projection.

In the end, though, all three sets of strategic planners are working within the financial constraints that their respective elected governments have given them. In terms of our three representative medium sized navies, Australia is currently spending 2 per cent<sup>13</sup> of GDP on defence, Canada 1.2 per cent, and the Netherlands 1.4 per cent.<sup>15</sup> One does not have to look too deeply to recognise that capabilities are still roughly proportional to the amount spent on them.

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## Notes

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- <sup>1</sup> John Collins, *Military Strategy: Principles, Practices and Historical Perspectives*, Brassey's Inc, Dulles VA, 2002, pp. 99-102.
- <sup>2</sup> Richard Temple Menhinick, *Sea Control and Maritime Power Projection for Australia: Maritime Air Power and Air Warfare*, University of Wollongong, Wollongong, 2003, p. 43.
- <sup>3</sup> Listed requirements for amphibious operations come from an amalgamation of the information in Department of Defence, 'Section 10-Amphibious Operations' in *Joint Operations Planning Course Pre-Reading Study Guide*, Australian Defence Force Warfare Centre (ADFWC), RAAF Williamtown, 2004, pp. 74-83; and Michael HH Evans, *Amphibious Operations: The Projection of Sea Power Ashore*, Brassey's Inc, London, 1990, pp. 135-198.
- <sup>4</sup> Menhinick, *Sea Control and Maritime Power Projection for Australia*, p. 41.
- <sup>5</sup> Menhinick, *Sea Control and Maritime Power Projection for Australia*.
- <sup>6</sup> Listed requirements for sea control come from Department of Defence, 'Section 4-Maritime Operations' in *Joint Operations Planning Course Pre-Reading Study Guide*, ADFWC, RAAF Williamtown, 2004, pp. 33-47.
- <sup>7</sup> Department of Defence, 'Australia's Need for Sea Control', *Semaphore*, Sea Power Centre, Issue 9, May 2007, p. 1.
- <sup>8</sup> The definition of a 'medium navy' and what it entails comes from Norman Friedman, *Working Paper No 1 - New Technology and Medium Navies*, Royal Australian Navy, Canberra, 1999, pp. 3-9.
- <sup>9</sup> The analysis and commentary in this section comes from the author's personal experiences. The background and security situation for Australia comes from Janes Information Group, *Janes Sentinel Security Assessment - Oceania*, <[www.janes.com](http://www.janes.com)>, (22 March 2008) from the following sections on 'Australia': 'Executive Summary' (dated 7 Feb 08), 'Political Leadership' (dated 7 Feb 08), 'External Affairs' (dated 11 Mar 08), 'Armed Forces' (dated 11 Feb 08), 'Defence Budget' (dated 11 Feb 08), 'Procurement' (dated 11 Mar 08), and 'Navy' (dated 11 Mar 08).
- <sup>10</sup> The analysis and commentary in this section comes from the author's personal experiences. The background and security situation for Canada comes from Janes Information Group, *Janes Sentinel Security Assessment - North America*, <[www.janes.com](http://www.janes.com)>, (22 March 2008) from the following sections on 'Canada': 'Executive Summary' (dated 9 Jan 08), 'External Affairs' (dated 9 Jan 08), 'Internal Affairs' (dated 9 Jan 08), 'Armed Forces' (dated 15 Jan 08), 'Defence Budget' (dated 15 Jan 08), 'Procurement' (dated 17 Mar 08), and 'Navy' (dated 15 Jan 08).
- <sup>11</sup> The analysis and commentary in this section comes from the author's personal experiences. The background and security situation for The Netherlands comes from Janes Information Group, *Janes Sentinel Security Assessment - Europe*, <[www.janes.com](http://www.janes.com)>, (22 March 08) from the following sections on 'Netherlands': 'Executive Summary' (dated 3 Jan 08), 'External Affairs' (dated 3 Jan 08), 'Armed Forces' (dated 27 Dec 07), 'Procurement' (dated 11 Mar 08), and 'Navy' (dated 3 Jan 08).
- <sup>12</sup> Hans De Vreij, 'Transformation on a Budget: Netherlands Country Briefing', *Janes Defence Weekly*, <[www.janes.com](http://www.janes.com)>, (accessed 22 March 08).



- <sup>13</sup> Hans De Vreij, 'Transformation on a Budget: Netherlands Country Briefing', *Janes Defence Weekly*.
- <sup>14</sup> Janes Information Group, 'Defence Budget', *Janes Sentinel Security Assessment - North America*.
- <sup>15</sup> Janes Information Group, 'Defence Budget', *Janes Sentinel Security Assessment - Europe*.

# How Might Navies Provide Geographical Stability Ashore to Members and their Families?

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Geographical mobility can present potential tension in relation to the Royal Australian Navy (RAN) family and work-life balance policy. Pressure from an employee for one partner in a household to relocate may adversely affect the employment opportunities, career development, family lifestyle and social networks for the other partner. The desire for geographical stability for children's education, access to childcare, partner employment and providing support for older relatives are but a few reasons why families prefer geographical stability.

Relocation does not solely result in a change to an individual's vocation, it also changes their lives. Despite the fact that relocation affects people in a variety of ways, it is evident that individuals tend to be more willing to relocate when they are young, prior to marriage and family responsibilities associated with it. Whereas, the desire for stability tends to increase with age. One male employee in his late 40s noted:

I've been happy to move around, but as I get older and my family grow around me it's definitely harder to do ... not just job wise (as I've lived all over the world) but as a husband and father.

Relocation will more than likely lead to a reconfiguration of family living circumstances. Examples can include young people leaving the family home prematurely, parents relocating away from children from previous relationships, an older parent moving out of the family home to form an independent household and formation of 'dual location' households - with one partner commuting long distances resulting in household absences over a considerable amount of time.

## Security, Stability and Basic Human Needs

Owning your own home is a natural aspiration in life and provides individuals with a sense of security and stability for their family. This step eventually arrives with maturity and the commencement of a family and invokes questions such as, 'Where do I buy a house? And when?' Littered in today's media are the headlines that buying your own home (still considered the Aussie dream) is increasingly more difficult due to volatility in the world's financial markets, increasing interest rates, fuel costs and a higher standard of living. Once a member and their family decide to settle in a particular location it is imperative that the RAN acknowledge this commitment

and allow for some sort of stability. In order to provide stability for naval personnel relocating consideration needs to be given to the following aspects:

- naval requirements and career development considerations for their employees are the main reasons why Navy career management centres initiate the relocation of their personnel (not inherent human needs).
- the RAN's assistance for relocating employees is focused predominantly on the financial aspects of moving house; further measures need to be introduced to assist families when relocating or providing stability in the new/old location.
- despite the diversity of views expressed with both naval personnel and partners, it is clear that partners are generally less sympathetic to relocation requirements. There is a greater likelihood that the partner will end up sacrificing their own career and personal life when it comes to relocation. Consideration also needs to be given to the partner's career. It must be determined whether the partner's career is as important as the serving members.
- naval personnel facing relocation are especially concerned about practical support in family-related matters. Family interests pose crucial challenges and may conflict with other social, economic and environmental policy agendas.
- in recent times it has become more apparent that geographical stability is a vital factor in the retention of personnel. It is well documented that Generation (Gen) X and Y individuals do not remain with the same employer for the length of time as displayed by their parents and ancestors. One important reason why Gen X and Y individuals seek alternate employment is the lack of stability. Family lifestyle has always been important for the RAN but in the past relocation was tolerated for further individual advancement, requirements of the job and necessity for the family due to the male being the only source of income for families. These arguments do not apply to today's two income families where the partner's career prospects are viewed as being just as important as the Defence member's, and more importantly, a required necessity for families to sustain a suitable standard of living and alleviate the burden of household expenses.
- naval forces need to determine what they hope to gain from personnel relocating, and whether or not relocating is in the best interests for naval capability. In achieving naval capability goals, can it be better achieved by other means? Is relocation really necessary? If so, is there

greater scope for shorter distance moves (involving less family disruption) in order to meet the RAN's organisational needs?

- parents tend to be very concerned about relocation and disrupting children's education, more so when children are of high school age.
- physical proximity is important to the older parents or those in declining health of naval personnel. Families tend to bond when the requirement exists to provide support to seriously ill and elderly family members.
- the possibility exists that a high number of relocations forced on families (especially within a short period of time) may result in partner discontent, leading to an increase in family divorce or separation.
- traditionally, career progression within many naval organisations has involved relocation. Employees tend to associate relocation with career development and are often concerned with what the implications would be on their careers should they turn down an opportunity on the grounds of not wanting to relocate. It must be understood by naval personnel that certain positions must be assumed (such as sea time), and is mandatory for promotion eligibility.

## Employer Awareness

Many employers, including the RAN, are being encouraged by the Government to change their policies to promote the work-life balance of their employees. But one aspect of organisational policy that has been largely neglected is the relocation of employees and their families. Little is known about the extent and nature of job-related moves and the subsequent effects on family life.

The former Minister Assisting the Minister for Defence, Mr Bruce Billson, announced on 09 October 2006 that Australian Defence Force (ADF) members will have more flexibility in choosing geographical stability for their families to reduce the impact of postings on children's education and spouse and partner employment. Of this Mr Billson said:

The new ADF Family Stability Initiative gives military personnel who are required to relocate on posting the opportunity to choose geographical stability for their families. This means that families may elect to remain at their present localities to maintain housing and employment continuity for spouses and partners. Upheavals associated with packing up the household and moving away from friends, extended family and other community networks may also be avoided. Importantly, this initiative also allows children to remain at their current schools in familiar education programs and among their friends. This significant initiative is all about giving flexibility and choice while maintaining military capability needs.<sup>1</sup>

To compete with similar employers who have a requirement for high mobility of its employees and in conjunction with Mr Billson's release, former Chief of Navy, Vice Admiral Chris Ritchie, RAN, announced future RAN manning concepts as follows:

The RAN aims to be an employer of choice and strives to improve the conditions of service under which our people work. My intent is to improve retention and increase the attractiveness of life in the navy. One of the key factors you have told me about that is important to you and your families is: geographic stability.<sup>2</sup>

## What to Do

The key for the RAN remaining a first class military force is having the appropriate people, with the skills and experience required to succeed in complex military operations. Employing the right people is now considered to be more important than ever. It is recommended that the RAN review its overall branding strategy to take into account changing demographics (locally and internationally), government expectations, values and workplace culture in the wider community.

Concentration on naval requirements and capabilities in all areas involving Defence is required; reviewing and assigning these requirements to job tasks follows. Once the requirements of each naval capability are allocated to job tasks, current naval personnel can be allocated, including the training and re-training of personnel. From a human resource aspect, a database can be established detailing each individual naval requirement, its location, the personnel required to fulfil the position(s) and the expected training/qualification required. This database can be utilised to map an individual's current and future progression and posting/relocation movements. This will provide Defence and naval personnel with a valuable tool and mechanism for coordinating stability in regards to their individual and family circumstance. Appropriate use and enforcement of the database should in turn have a positive flow on affect providing retention within naval forces. All naval personnel should have read access to the database for their individual category detailing their training/qualification, rank for their specified category, and how and where these qualifications exist in relation to the various naval capabilities. This would provide the RAN and its personnel with a tool of predicted movement, which allows for greater stability.

This approach is already apparent in other navies. In order to further improve the way in which career development and stability is managed the French *Marine Nationale* has introduced a system of competence based posting. This initiative has necessitated a review of each post in its totality so that posts can be defined in terms of the specific competencies required. As a result each sailor will possess a personal record of all competencies they have gained and practised throughout their professional career.

A closer matching between individuals and trades required for each posting position requires tailored methods and resources. Most important among these is the local posting of personnel. Effectively this comes down to an appropriate understanding of jobs and competencies through direct contact with human and technical realities. In this way aptitudes can be utilised to best effect for both the employer and employee. The aims of the posting process of the Marine Nationale are two fold with the primary role being to meet the current and future manpower needs, both quantitatively and qualitatively. This is to ensure individuals with the full range of necessary competencies are posted to every billet. The second providing stability for its members when required.

When determining naval requirements a requirement exists for the RAN and the Government to ensure an appropriate balance between civilian and naval positions within military establishments is maintained. Making civilian certain naval jobs, in some circumstances has hindered stability by not providing positions for personnel in various locations. Before civilianisation of naval positions occurred there were numerous positions for Navy personnel to occupy and relocation back to a home port for stability reasons was considerably easier. Recently it has become increasingly difficult due to Defence civilians assuming a higher percentage of Defence positions. In contrast, in some cases, civilianising naval jobs throughout the country has slowed down the relocation process and provided stability to personnel by not having to fulfil as many positions on a regular basis which a civilian counterpart has fulfilled. Again, by determining naval requirements and posting positions it will ensure an adequate balance is maintained.

The implementation of a process for all new naval entrants (during the recruiting interview process, or prior to) explaining the requirements for establishing naval capabilities, determining the positions to accomplish these capabilities, and training/ allocation of personnel into the positions. This will ensure new entrants are aware of the requirements to relocate throughout their career, obtain an understanding of posting locations applicable to their rank/qualification and category, and allow them to plan or map their career while providing stability for their family or individual circumstance. The process and support provided for relocation should also be outlined, and more importantly, how an individual's career can be established and/or forecasted - predicting future relocation and stability desires in coordination with the individual circumstance.

There is a relative lack of data on the volume, nature, extent and characteristics of job-related relocation. Statistical agencies and policy analysts need to clarify the concept of relocation and stability in order to engage in new data collection and measurement mechanisms. To retain personnel and encourage stability a requirement exists for Naval forces to establish a study with Gen X and Y individuals, examining the impacts on families of geographical mobility. This study should include:

- charting the changing role and nature of geographical mobility, especially Navy initiated relocations
- investigating the career and family life experiences of those who relocate
- exploring family members' experiences of geographical mobility
- identifying elements in relocation policies that assist to reduce family frictions.

From this study, further strategies can be implemented to assist in the negative aspects of relocation and assist stability in order to address retention issues.

A requirement exists for the RAN to take a step back to examine in more detail the rationale for employee relocation and providing processes to assist members' family in stability.

Within the RAN the opportunity to provide stability exists for married members who choose to relocate alone due to service requirements elsewhere. To fulfil this requirement the member is classified Married with Dependents Separated. In this case the member provides stability to their family by having them remain in the old location while they assume the position in the new area. The benefits received by these members have been increased recently by the RAN, however, lapses remain in regards to continued support which should be provided to the member's family who remain behind while the member is absent for extended periods of time. Continued support for member's family situated in the old locality could come in the form of providing occasional assistance with domestic duties. Providing gardening and emergency maintenance assistance once every few months firstly allows the opportunity for the member's family to concentrate on more important family issues and secondly valuable family time can be gained when the member and their family are reunited during short reunion periods. This may provide a cost saving strategy for the RAN and provide stability by not conducting an entire family removal and limiting the removal to just the member. This and other domestic support services should be extended to members' families who occupy either Defence Housing Authority residences or members who have purchased their own residence.

Requirements of members and their families that do relocate leaving elderly or seriously ill family members behind is the establishment of a support network for the member's direct family and the provision of assistance to the seriously ill. Support can come in the form of providing initial medical care, community assistance support or allowing seriously ill or elderly family members the opportunity to join the naval member in their current location, (providing the member and their family can provide assistance). Both these two support networks should be introduced under the proviso that no other

immediate family relations (separate from the serving member) live in the same location as the ill or elderly family members that could assist in providing support.

## Benefiting from Relocation

The diversity of family circumstances and individual preferences signifies that relocation and stability policies ideally need to be flexible to meet individual circumstances while remaining equitable and transparent. In general, the chances of family relocation and re-establishing stability successfully increase when expectations of the new job and the new area are realistic for the entire family. A positive approach to relocation is helpful in minimising the stress involved in leaving the old location and settling in the new area. Those individuals and families who have relocated more often tend to learn what to expect. A positive approach to relocation is helpful in minimising the stresses involved in leaving the old area and settling in at the new area.

A requirement exists for both the Australian Government and the RAN to heighten their awareness of the effects of relocation so as to implement new strategies and provide adequate support for the stability of its members and their families.

## Notes

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- <sup>1</sup> Signal: CN AUSTRALIA Z4P/WAC/WAO 180427Z MAR 08, 'Future Manning Concepts' Vice Admiral R Shalders, (Defence Internal Document).
- <sup>2</sup> Announcement by the Honourable Mr Bruce Billson, Minister Assisting the Minister for Defence, 09 October 2006.





*HMAS Newcastle departs Sydney (RAN)*

# AUSTRALIAN SEA COMMUNICATIONS

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# The Sea is a Highway not a Barrier

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‘Girgis’

The United States (US) Navy, Marine Corps and Coast Guard recently released *A Cooperative Strategy for 21st Century Seapower*, which states:

The oceans connect the nations of the world, even those countries that are landlocked. Because the maritime domain - the world's oceans, seas, bays, estuaries, islands, coastal areas, littorals, and the airspace above them - supports 90% of the world's trade, it carries the lifeblood of a global system that links every country on earth. Covering three-quarters of the planet, the oceans make neighbours of people around the world. They enable us to help friends in need and to confront and defeat aggression far from our shores.<sup>1</sup>

Australia, like the US, is a maritime nation that should consider the sea as a highway of opportunity, as opposed to an artificial barrier. The sea acts neither as a fence along the Australian shoreline; nor as a defensive moat, and our adjacent seas do not constitute an air-sea gap in any real military, economic or strategic sense. The theoretical construct that Australia should be defended by an air-sea gap to our north was developed during the 1970s and 1980s by academics often labelled as the ‘Defence of Australia’ school. Although the Australian defence debate has moved on since those times, many commentators have maintained the ‘gap’ mindset.

*Defence 2000: Our Future Defence Force* essentially limited Australia's defence policy to sea denial:

The key to defending Australia is to control the air and sea approaches to our continent, so as to deny them to hostile ships and aircraft, and provide maximum freedom of action for our forces.<sup>2</sup>

However, the authors of *Defence 2000* appear to have misunderstood the nature of modern maritime strategy.<sup>3</sup> In practice the Royal Australian Navy (RAN) has and continues to plan for and conduct operations involving a full range of maritime tasks. These include many diplomatic and constabulary activities in addition to military ones. The military role is also not limited to sea denial but includes sea control, and power projection.<sup>4</sup> Such operations do reflect *Defence 2000*'s lesser requirements ‘to maintain the ability to support Australian forces deployed offshore’ and ‘to contribute to maritime security in our wider region’.<sup>5</sup> However such statements tend to minimise the RAN, and often the wider Australian Defence Force's, involvement in global operations. It has been suggested that Australian contributions are small, primarily symbolic and limited to niche capabilities. Unfortunately such assessments tend to underplay the

extent of our global commitments.<sup>6</sup> With maritime forces, the Australian Government has the ability to deploy adequate forces rapidly where required, to act as a deterrent where possible, but to be on hand with the option to ramp-up if the situation escalates.<sup>7</sup> Maritime forces may be deployed in Australian waters, in our region or across the globe and are inherently flexible and mobile, while ships are unique in their ability to move highly capable military force over great distances. *Australia's National Security: A Defence Update 2007* has partially recognised these aspects of the practical application of Australia's maritime strategy.<sup>8</sup>

The RAN operates in places that most Australian's would rarely, if ever, visit. If we live near the coast we may visit the beach or marvel at the sea views, or when travelling overseas we fly over great expanses of ocean, but it is extremely seldom that we reflect on the importance of the sea to our security and way of life. The reality, which has not changed since the first British fleet arrived in 1788, is that a sizeable majority of goods move by sea and most people in the world live within easy reach of the sea. Australia is one of a number of maritime nations: it is fundamentally reliant upon the sea.

The sea remains the primary and the most cost-effective means for the movement of international trade. In Australia's case, about 75 per cent by value of our total exports and imports go by sea. In terms of weight, nearly 100 per cent is transported by sea. For 2005-06 some \$249 billion worth of international sea freight travelled in and out of Australia.<sup>9</sup> While Australia is largely self sufficient for most resources, it is dependent upon petroleum imports to meet domestic demand, particularly in heavy crude oil. Australian bulk exports, including iron ore, coal, meat and cereals, provide the critical export earnings necessary to maintain a stable economy and to promote industries and employment in many parts of the country. The nation's economic well-being depends upon the maintenance of our international trade and the security of our sea lines of communications along which that trade flows. Coastal shipping not only plays a significant role in Australia's domestic transport network, but its free movement is essential to the survival of many cities and towns in the north and west.

Our major trading partners are also acutely dependent upon maritime trade. Japan is totally dependent on seaborne imports for energy and raw materials, as is South Korea. China is also a major user of the sea. It is reliant upon energy imports from many nations, including Australia, but its critical petroleum imports from the Middle East rely upon secure sea communications through the Strait of Hormuz and the Malacca Strait, which are some of the world's most intensively used chokepoints. Chinese exports reach worldwide markets via the sea. Provided the seas are secure, sea transport is relatively inexpensive and international trading partners are effectively brought closer together. It now costs more to transport a car from Adelaide to Sydney than it does to ship it from Korea to Sydney. Many of the items that fill our shopping centres are transported by sea from nations on the other side of the world. It is hard to conceive of an Australia cut-off from its international imports for very long, as it is also

in the interests of the exporter that the goods get through. So threats to one nation's trade are a threat to all trading nations many of whom would respond in a cooperative manner. The sea unites the world rather than divides it.

We need to remind ourselves that Australia is a maritime nation. In the early years of the Australian Commonwealth, our forebears recognised that Australia could not be defended along its coastline as the sea offered too many opportunities for an attacker. The only viable option was to build a seagoing fleet, the embryonic RAN that would be capable of threatening potential attackers closer to their bases so that they would be deterred or forced onto the defensive.

The early months of World War I (WWI) saw an Australian fleet participate in a campaign that cleared the German Fleet from the Pacific. When HMAS *Sydney* (I) sank the German raider *Emden*, she removed the threat to Australia's Indian Ocean sea lanes. Although the Australian mainland was safe from German raids and our neighbouring sea communications were secure, Australian interests did not end there. Australia's economic well being was inseparable from the British imperial trade system, a global trade system not unlike the globalisation which exists today.<sup>10</sup>The collapse of imperial trade would have isolated Australia, led to the collapse of industry and threatened our way of life. Such conditions would have quickly destabilised the Australian Government and brought about political unrest. In addition, our intellectual and spiritual links with Great Britain and the other members of the British Empire were fundamental to many of the structures of Australian society and culture at the time. Australian democratic culture could not have survived in a world dominated by Germany. Clearly, to protect Australian interests and values, it was necessary for Australians to fight globally in defence of the British Empire, imperial trade and sea communications. And indeed this is what Australia did.

If you lived in a port 100 years ago, the importance of sea communications would have been obvious. Many Australians doubtless at one time or another witnessed the flotillas of merchant shipping tied up in harbour or alongside wharves near the centre of major towns and cities. As new container facilities have moved to designated seaports this is no longer the case. It is even less obvious if you live inland, although many Australian primary producers know all too well how fluctuations in international prices can affect their export potential and in turn their livelihood. If we return to the isolationist policies of the past, we could reduce Defence expenditure in the short term but we would suffer the consequences arising from an insecure and unsafe world, which may be much more costly in the long run. We have not learnt from our grandparents who experienced the failure of similar isolationist defence policies of the 1930s.

But what of those who think Australia should only be concerned about the security of our continent? As the sea is a highway not a barrier places like Saudi Arabia, and Iraq are, in actuality, much closer to Australia than some might think. Conversely, maritime forces have great reach upon the world's seas, and are much closer to enemy bases

than its adherents may suppose. Current operations in Afghanistan confirm this. It stands to reason that if we can use the sea, so can others.

The RAN is on-duty everyday in seas not just around Australia but so too across the globe, and is already effectively contributing to a global maritime security partnership. Since Federation, Australian participation in the global maritime environment has always depended more upon interoperability with our coalition partner's naval, army and air force units, than it has upon Australian joint forces. Perhaps our way of life will never willingly accept the level of resource commitment that is required for strategically significant and independent joint forces.

We cannot rely upon a policy limited to sea denial in Australia's approaches.<sup>11</sup> In cooperation with other maritime nations, we must be capable of controlling the seas when and where required. Only in this manner can we ensure the protection of sea communications. We must also have the ability to project power globally, as part of a global partnership, to assist those who need help, to deter those who may be tempted to abuse their power, and to punish those who aim to bring down the international system. The new Defence White Paper needs to recognise that Australia's maritime strategy properly includes sea control and power projection: The key to defending Australia is to employ a maritime strategy to control access to the sea and to influence events ashore, as necessary, in Australian waters, throughout the region and across the globe.

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## Notes

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- <sup>1</sup> US Navy, Marine Corps, and Coast Guard, *A Cooperative Strategy for 21st Century Seapower*, October 2007, p. 4.
- <sup>2</sup> Department of Defence, *Defence 2000: Our Future Defence Force*, Defence Publishing Service, Canberra, 2000, pp. xi, xii and 47.
- <sup>3</sup> There are many standard works on modern maritime strategy, one of the most important recent publications is Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, Frank Cass, London, 2004. The RAN Reading List provides additional titles online at <www.navy.gov.au/spc/readinglist> (20 Dec 07).
- <sup>4</sup> See Royal Australian Navy, *Australian Maritime Doctrine*, Defence Publishing Service, Canberra, 2000, pp. 37-45.
- <sup>5</sup> Department of Defence, *Defence 2000: Our Future Defence Force*, p. xiv.
- <sup>6</sup> H White, *Beyond the Defence of Australia*, Lowy Institute, Sydney, 2007, p. 23.
- <sup>7</sup> For example the RAN commitment in the Persian Gulf increased from a single frigate in 2001, to two frigates, an amphibious transport and a clearance diving team before the start of the Iraq War 2003.
- <sup>8</sup> Department of Defence, *Australia's National Security: A Defence Update 2007*, Defence Publishing Service, Canberra, 2007, especially 'our interests must be secured in places distant from Australia', pp. 25-29, and 'Update on Operations' pp. 41-45.
- <sup>9</sup> Bureau of Transport and Regional Economies, *Australian Transport Statistics 2007*, Canberra, 2007, p. 8.
- <sup>10</sup> Mark Bailey, 'Australia, Imperial Trade and the Impact of War' in G Kerr (ed), *Australian Maritime Issues 2004: SPC-A Annual*, Sea Power Centre-Australia, Canberra, 2004, pp. 69-73.
- <sup>11</sup> Michael Evans, 'The Essential Alliance', *Quadrant*, Oct 2006, pp. 17-24, especially p. 23, presents similar views.





*Car carrier leaving Western Australia (Fremantle Ports)*

# Is Piracy a Threat to Australian Seaborne Trade?

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Ms Tamie Balaga

The incidence of maritime piracy has been increasing globally since the 1970s, but it was the sharp rise in the number of attacks in the late 1990s – particularly in the Malacca Strait and Indonesia – that concerned governments and shipping companies alike. Although the number of attacks has been falling over the last few years, it makes sense to examine whether piracy is having an effect on Australian trade interests given our reliance on seaborne trade.

As an island nation located far from its principal trading partners, Australia relies heavily on the sea as the most cost-effective means of transporting imports and exports.<sup>1</sup> Australia imports large amounts of crude oil and manufactured goods, and is a major exporter of natural resources such as coal and iron ore. It is the fifth largest user of shipping in the world,<sup>2</sup> transporting more than 99 per cent of all goods (over 75 per cent of trade value) by sea. Indonesian sea lanes are the most direct routes to our major trade partners in Asia – including Japan and China – with whom over 60 per cent of Australia's merchandise trade is now conducted. In comparison, other shipping lanes are significantly less time and fuel efficient.

In 2004-05 ships servicing Australia made 7785 passages through Indonesia, accounting for approximately 45 per cent of all passages relating to Australia's international trade.<sup>3</sup> The Malacca Strait, though renowned for being a strategically important shipping lane for international trade, is not as consequential to Australia as the Indonesian sea lanes, the Torres Strait and the sea lanes east of Papua New Guinea. Each year, the volume and value of Australian international trade transiting the Indonesian archipelagic sea lanes (ASL) increases substantially with the growth of trade generally. In 2004-05, 31 per cent of Australia's merchandise trade by value (\$67 billion) and 45.5 per cent by weight (310.5 million tons) passed through the ASLs.<sup>4</sup> The total percentage of Australian trade travelling through the archipelago would be driven even higher were the statistics to take into account passages through the non-designated routes in Indonesia. Were Australian international shipping to be disrupted, Australia's economy and export competitiveness could be seriously affected. As such, it is necessary to examine whether Indonesian piracy could pose such a threat to Australian maritime trade.

Route	Passages
Cape of Good Hope	119
Red Sea	223
Persian Gulf	343
Arabian Sea	343
Malacca Strait	441
Indonesian sea lanes	7785
Torres Strait	3280
East of Papua	2616
New Caledonia	728
New Zealand direction	1381

*Table 1 - Passages through world shipping lanes relating to Australia's trade in 2004-05<sup>9</sup>*

Article 101 of the *United Nations Convention on the Law of the Sea 1982* (UNCLOS) places several specifications on what constitutes piracy. For example, the attack must be committed for private ends, by persons on one ship to another, and on the high seas as opposed to in a territorial sea.<sup>6</sup> This definition raises many issues; two, in particular, are relevant to the discussion of Indonesian piracy. First, as most attacks occur within Indonesian territorial waters they cannot be legally defined as acts of piracy. And second, most attacks are committed by persons on land, not on ships. This paper uses International Maritime Bureau (IMB) statistics to analyse piratical attacks in Indonesia. The IMB definition of piracy is different to the one set out in UNCLOS and although it does not carry any legal weight it is more useful for statistical purposes. According to the IMB any attack on a ship constitutes an act of piracy regardless of the scale and means of the attack, the perpetrators, their motivations, or where the attack took place.<sup>7</sup>

It is important to note that these statistics are dependent on a number of variables, and cannot be taken to be entirely comprehensive. First, the IMB tends to produce an different picture of piracy as it takes into account both attempted attacks as well as actual attacks.<sup>8</sup> Second, although they are rare, the occurrence of 'inside jobs' (where crew members steal cargo and subsequently report it as an act of piracy) also inflates statistics. Third, not all attacks are reported to all reporting centres, which results in statistical discrepancies between the various piracy monitoring organisations. Fourth, other attacks are often not reported at all for different reasons. For example, some crews may not report attacks because they cannot afford the cost of delaying their travel while waiting for authorities to investigate the matter. In other cases crews are aware that there is little point informing local authorities as they will not pursue the matter. Shipping companies may also be reluctant to emphasise the issue of piracy for fear of raising insurance premiums, as happened in the Malacca Strait several years ago.

## Piracy in Indonesian waters

Piratical attacks in Indonesia regularly account for a significant proportion of worldwide attacks. In its peak years, over one-quarter of all attacks occurred somewhere in the archipelago. Since the IMB began recording piracy levels in 1991 there have been 1176 attacks in Indonesian waters. As shown in Figure 1 attacks began to increase gradually from 1993 – almost doubling in number between 1998 and 1999; a likely result of the 1997-1998 Asian financial crisis. The five years following the crisis were the peak years of piratical activities in Indonesia, reaching a high of 121 attacks in 2003; a twelve-fold increase in the decade from 1993. However, since 2004 the number of attacks has decreased every year, with just 28 attacks reported in 2007 – a level not seen since the early to mid-1990s.

Given that there has not been a dramatic increase in anti-piracy measures on the part of Indonesian authorities, the decline in incidents might be attributed to other factors including Indonesia's steady recovery from the Asian financial crisis, the inflow of aid after the 2004 tsunami, and increased stability resulting from the 2005 Free Aceh Movement peace deal. Given that piracy levels are connected to economic considerations, it is possible that the recovery from the Asian financial crisis might be set back by the current global economic downturn. The result of recession in other parts of the world on piracy in Indonesia remains to be seen, but a spokesman for the Indonesian Navy has already said it is anticipating a rise in piracy levels in the Malacca Strait.<sup>9</sup> It is therefore reasonable to assume that levels could rise in other parts of the country as well, especially as there are no substantial programs in place that could mitigate the effects of recession.

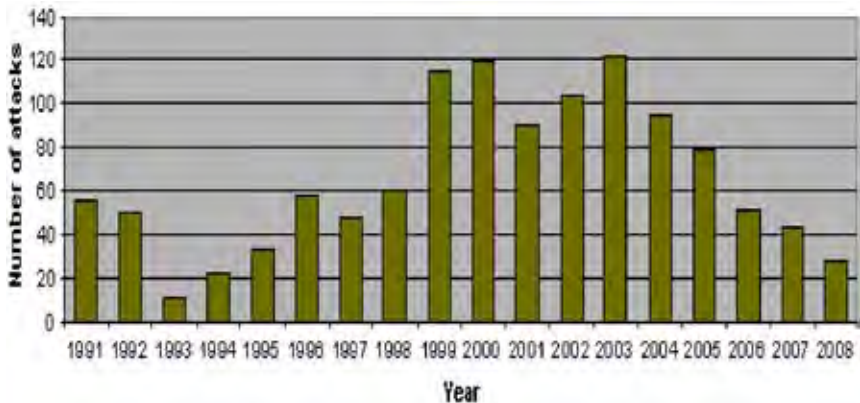


Figure 1 - Attacks in Indonesian Waters (1991-2008)<sup>10</sup>

The majority of attacks occur within Indonesian territorial waters (rather than on the high seas), legally constituting ‘armed robbery at sea’ rather than piracy. Since 2000, two-thirds of attacks occurred on stationary ships that were either berthed or at anchor inside Indonesian territorial waters. Although many areas of Indonesia are prone to piracy, some ports and anchorages are particularly vulnerable, including: Adang Bay, Balikpapan, Balongan, Bontang, Lawi Lawi, Panjang, Pulau Laut, Samarinda, Tanjung Priok, Tanjung Santan, and Tarahan. These ports and anchorages are located along Indonesian ASLs, and could potentially be visited by ships transporting Australian trade. The fact that the majority of attacks are carried out at ports and anchorages suggests that much of the problem lies with internal ship and port security, despite the fact that Indonesia is a signatory to the *International Ship and Port Facility Security Code*.

Since 2000 there have been 728 attacks (560 actual attacks and 168 attempted attacks) in Indonesian waters. Contrary to the historical stereotype of the pirate, modern-day pirates in Indonesia generally do not attempt to hijack ships, nor are they usually willing to engage the crew in a fight over stolen goods. Indonesian pirates are characterised by opportunism and stealth. Rather than brazenly attempting to steal ships or even their cargoes, they tend to target small, portable goods such as: ship’s stores and equipment, engine spares and other spares, property of the crew (valuables, cash and other personal effects), safety equipment and life rafts. If stolen, these types of goods do not represent a major loss to shipping companies. In essence, many incidents are little more than common thievery committed on water rather than on land. Furthermore, in as many as half of all actual attacks, the perpetrators have not been successful in stealing anything from the ship before an alarm was raised and the crew mustered. Once an alarm has been raised, or their attempts to carry out an attack are disrupted, pirates typically escape by jumping overboard into the sea or into a waiting getaway boat. In a small number of cases the pirates have been detained by the crew and handed over to the relevant authorities on land.

In the majority of IMB accounts, it is not stated how the pirates gained access to the ship. Most commonly though, pirates try to slip on board while ships are at anchorages and ports, at a time when the crew is occupied. In many cases, no members of the crew witnessed the pirates boarding the ship. In these scenarios pirates have been reported to gain access to the ship by the anchor chain or cable. There have been several incidents where pirates have been more creative in their attempts to board, for example, by blending in with a group of port officials or by masquerading as crew members. In attacks on ships underway, pirates usually pursue a target ship in a small fishing boat and board the ship using poles, ropes or lines with hooks, and often under the cover of darkness or poor weather. Pirates tend to work in teams or gangs of anywhere from three to 20 people. Although there have been reports of lone pirates trying their luck around ports and jetties, gangs tend to stage slightly more organised attacks. Often this involves a boarding team which carries out the attack, while another team waits

nearby in a getaway vessel. For this reason it difficult to ascertain from IMB reports how many pirates were involved in a particular incident as the crew generally only see the boarding party.

The majority of attacks though are opportunistic thefts committed on stationary vessels rather than acts of organised crime. In a country where poverty and unemployment are significant issues, piracy can be an attractive option. The operating costs of attempting an attack are comparatively low, and a single successful attack can earn pirates a significant amount of money. Knives – the most commonly used weapon in attacks – are inexpensively procured, and it can be relatively easy for pirates to board even the largest of ships if they do not employ anti-piracy watches.<sup>11</sup> In fact, according to the Director of the IMB Piracy Reporting Centre:

If pirates want to start out and have no money, they can string a rope between two wooden boats ... When a merchant ship passes between, the rope draws the boats against its sides, and the pirates can climb aboard. They might get their first \$10,000 this way, then buy an outboard motor.<sup>12</sup>

This sum might well be just the beginning of a small-scale operation, but it is equivalent to 70,000,000 Indonesian rupiah - more than double the average annual wage in Indonesia. This could be enticing for an Indonesian seaman unable to afford the compulsory International Maritime Organization (IMO) standard certificates required for legitimate work on foreign ships.<sup>13</sup> In short, like other forms of crime, piracy pays. The spike in the number of incidents after the Asian financial crisis, when high levels of unemployment left many seamen jobless, seems to confirm the economic incentive.

The potential risk for pirates is also comparatively low: a significant problem is Indonesia's lack of capabilities to counter piracy, as well as the complicity and even involvement of members of law enforcement agencies in criminal activities. The sprawling Indonesian archipelago covers 1,919,440 km<sup>2</sup>, with its massive population and thousands of islands it is extremely difficult to police. The Indonesian Navy does not have the resources to patrol the country's waters – in 2003 its Chief of Staff stated that the navy required an additional 200 boats to be able to guard its waters, and that of the boats it did possess, as few as 30 per cent were seaworthy.<sup>14</sup> The issue appears to be the under-resourcing of law enforcement agencies and the military. As a share of gross domestic product, Indonesia's defence budget is the lowest in Southeast Asia.<sup>15</sup> Indonesian police, port officials and military personnel are often poorly paid and sometimes supplement their incomes through direct involvement in criminal activities or by accepting kickbacks. There have been numerous incidents where local authorities have simply been unwilling to crack down on piracy. During or after attacks on their ships, several ship masters have reported that local Indonesian authorities did not respond to reports of piracy in their jurisdiction. In contrast, Asian countries that have reasonably well-paid maritime security forces such as Japan, Korea, Taiwan and

Singapore experience fewer incidents of piracy.<sup>16</sup> The lack of effective law enforcement means pirates often have little fear of being apprehended. This is seen by many to be the primary contributor to the continuation of piracy in the region. This is not to say that Indonesian authorities are doing nothing about piracy; however, it is a fundamentally land-based issue requiring land-based solutions. If the social and economic motivations for theft can be reduced, piracy may be kept under control.

## Indonesian piracy and Australia's trade

Considering that the majority of Australia's international trade is transported by sea, the Australian merchant fleet is comparatively small. Australian-flag shipping plays only a minor role in servicing Australia's trade needs. Australia requires more than 3500 ships to service its international shipping needs each year, yet the Australian fleet comprises less than 100 vessels. In 2004-05, Australian-flagged vessels transported less than one per cent of Australia's total international seaborne trade.<sup>17</sup>

There is a clear trend towards offshore registration of Australian owned vessels.<sup>18</sup> In 1995 almost 80 per cent of the fleet was Australian-flagged (registered in Australia); whereas one decade later almost half the fleet was registered overseas – using 'flags of convenience'.<sup>19</sup> The main motivation to re-flag a ship is financial. Under international law, it is the law of the country of registration that applies to the ships, regardless of where she sails. Ship owners can therefore avoid significant financial costs associated with more stringent maritime, labour or other laws, for example, the ability to hire crews from lower-wage countries and the avoidance of heavy taxes and environmental regulations. The nature of the Australian merchant fleet has implications for the analysis of Indonesian piracy. Because there are so few of them, statistically, Australian ships run a very small chance of being attacked by pirates. Because most of the ships servicing Australia are foreign-flagged, it is difficult to discern whether the ships that have been attacked in Indonesia are transporting Australian trade. In terms of deciding to what extent piracy in Indonesia affects Australia then, we are left with analysing the types of ships that have been attacked to see whether they relate to Australia's trade.

Bulk carriers and tankers (product, chemical, LPG and others) are most frequently attacked by pirates as Figure 2 clearly shows. This may be because these vessel types constitute a large proportion of the world merchant fleet, and therefore statistically stand a greater chance of being attacked – each year a similar percentage of bulk carriers and tankers are attacked as exist in the world fleet. Other considerations include inadequate security precautions on individual ships and varying security effectiveness in ports. Bulk carriers face additional problems in that they are more vulnerable to pirates because of their slower operational speed,<sup>20</sup> and the disproportionately long amount of time they spend in ports (where they are most at risk of being attacked). This is due to the difficult (and sometimes dangerous) process of loading and unloading cargo, which

can take up to 120 hours. In comparison, other vessels, like container ships, which have faster travelling speeds and spend less time in port, are less of a target.<sup>21</sup>

Is Australian international trade being affected? The risk to Australian-flagged merchant ships is negligible, with just one unsuccessful attack reported in the last nine years. The risk to foreign-flagged vessels transporting Australian trade is much higher. Australian international trade employs large numbers of bulk carriers, which are used to transport primary products like coal, iron ore, and wheat – some of the country’s biggest exports. Considering the proportion of bulk carriers being attacked, it is likely that amongst the foreign-flagged vessels affected by piracy, some are in fact transporting Australian trade. In assessing the security risk to Australia, we should remember that most incidents are low-level armed theft of expendable goods. In the shipping industry, a trade that generates billions of dollars, the minor losses resulting from small-scale piratical attacks barely register. Hijackings and theft of cargoes are rare in Indonesia, especially in recent years. Because of the small-time nature of piracy, Australian trade is not being drastically affected.

Furthermore, the thousands of ships that transit the archipelago every year combined with the decline in piracy levels over the last few years, means that the risk of being attacked is statistically very small. By now there is also awareness amongst shipping companies and crew that the most effective method of preventing attacks is maintaining a vigilant anti-piracy watch in known problem areas. There are other factors that may be contributing to the decrease in attacks; for example, the effectiveness of piracy monitoring institutions in the region, the IMO regulation requiring ships over 500grt to be equipped with an alarm system, and the availability of new and improved anti-piracy products.

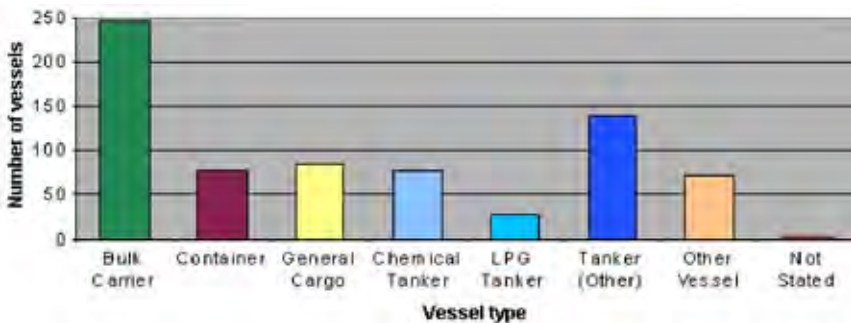


Figure 2 - Attacks by vessel type (2000-08)



## Conclusions

It has been a long-standing aspect of Australia's defence policy to constructively engage with its neighbours to encourage regional stability. It would be for this reason that Australia might assist Indonesia to combat piracy. Pirates are not specifically attacking Australian trade or Australian-flagged ships, but opportunistically targeting the most vulnerable vessels: those that travel at slow speeds, spend extended periods in port, or do not maintain an anti-piracy watch. Even successful attacks are usually small-time in nature, with pirates generally opting to steal small amounts of expendable goods, rather than hijacking entire vessels. In addition to this, the number of attacks has been steadily declining over the last five years due to the country's recovery from the Asian financial crisis and the increased stability in the formerly piracy-prone region of Aceh. The increased awareness of the problem amongst governments and shipping companies has further lowered the potential risk to both Australian-flagged vessels and foreign-flagged vessels transporting Australian trade through the archipelago. The current economic climate may well impact negatively on Indonesia's economy and cause an increase in the number of incidents in the future, but as the situation stands piracy in the area is not causing severe economic repercussions for Australia.

## Notes

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- <sup>1</sup> Royal Australian Navy, *Australian Maritime Doctrine*, RAN Doctrine 1, Canberra, Sea Power Centre - Australia, 2000, p. 14.
- <sup>2</sup> Peter Leavy and Richard Menhenick, 'Australia's Need for Sea Control' in Andrew Forbes (ed), *Australian Maritime Issues 2007: SPC-A Annual*, Papers in Australian Maritime Affairs No 21. Canberra: Sea Power Centre - Australia, Canberra, 2008.
- <sup>3</sup> Bureau of Transport and Regional Economics (BTRE), *Australian Maritime Trade: 2000-01 to 2004-05*. Working paper 69, Canberra, BTRE, 2007, p. 12. Now known as Bureau of Infrastructure, Transport and Regional Economics (BITRE) see <[www.bitre.gov.au](http://www.bitre.gov.au)> (16 October 2008).
- <sup>4</sup> BTRE, *Australian Maritime Trade*, p 9.
- <sup>5</sup> Statistics from BTRE, *Australian Maritime Trade*, p. 12.

- <sup>6</sup> United Nations, *United Nations Convention on the Law of the Sea of 1982* (UNCLOS), Prt VII, Article 101 - Piracy consists of any of the following acts:
- a) any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed:
    - (i) on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft;
    - (ii) against a ship, aircraft, persons or property in a place outside the jurisdiction of any State;
  - (b) any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft;
  - (c) any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b).
- See <[www.un.org/Dept/Ios?convention\\_agreements/texts/unclos/part7.htm](http://www.un.org/Dept/Ios?convention_agreements/texts/unclos/part7.htm)> (16 October 2008).
- <sup>7</sup> International Maritime Bureau, *Piracy and Armed Robbery Against Ships Annual Report 1 January - 31 December 2007*, ICC International Maritime Bureau, London, 2008, p. 3.
- <sup>8</sup> An unsuccessful attempt at boarding a ship, for example, counts as an act of piracy.
- <sup>9</sup> ICC International Maritime Bureau, *Piracy and Armed Robbery Against Ships Annual Report 1 January - 31 December 2008*, p 42.
- <sup>10</sup> Statistics from ICC International Maritime Bureau Annual Reports 2000 - 2008.
- <sup>11</sup> Dave McRae, 'The Pirates of Malacca', *The Diplomat*, Vol 3, No 1, 2004, p. 11.
- <sup>12</sup> Noel Choong, director of the IMB Piracy Reporting Centre in Kuala Lumpur, quoted in McRae, 'The Pirates of Malacca', p. 11.
- <sup>13</sup> McRae, 'The Pirates of Malacca', p. 12.
- <sup>14</sup> Indonesian Navy Chief of Staff Admiral Bernard Kent Sondakh quoted in McRae, 'The pirates of Malacca', p. 15.
- <sup>15</sup> Dillon, 'Piracy in Asia: A Growing Barrier to Maritime Trade.' June 2000. The Heritage Foundation, <[www.heritage.org/research/asiaandthepacific/bg1379.cfm](http://www.heritage.org/research/asiaandthepacific/bg1379.cfm)> (2 October 2008)
- <sup>16</sup> Dillon, 'Piracy in Asia: A Growing Barrier to Maritime Trade.'
- <sup>17</sup> Australian Shipowners Association (ASA), *Australian Maritime Transport 2005* (report prepared by the Apelbaum Consulting Group for the ASA), ASA, Melbourne, March 2006, p. 7.
- <sup>18</sup> ASA, *Australian Maritime Transport 2005*, p. 44.
- <sup>19</sup> BTRE, *Australian Sea Freight 2005-06*, Information Paper 60, BTRE Canberra, 2007, p. 45.
- <sup>20</sup> Sam Bateman, Joshua Ho and Catherine Zara Raymond, *Safety and Security in the Malacca and Singapore Straits: An Agenda for Action*, Institute of Defence and Strategic Studies Nanyang Technological University, Singapore, 2006, p. 22.
- <sup>21</sup> Bateman, Ho and Raymond, *Safety and Security in the Malacca and Singapore Straits*, p. 22.



*HMA Ships Anzac and Ballarat (RAN)*

# INTRODUCTION OF A SUBMARINE SERVICE 1959

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# Background

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Dr Gregory P Gilbert

This year, 2008, has seen increased debate on plans to replace the *Collins* class submarines. Peter Briggs (retired Rear Admiral, RAN) has written a number of important papers in his position as president of the Submarine Institute of Australia, including one presented at the RAN Sea Power Conference in January.<sup>1</sup> Public interest and academic commentary has helped enliven the debate and so in late October the Minister for Defence announced that work was already being conducted, including a number of studies and the establishment of a project team, to be known as the SEA 1000 Future Submarine Project.<sup>2</sup> The Chief of Navy, Vice Admiral Russ Crane, RAN, confirmed that ‘we need a broadly balanced maritime force structure, yes one that has both very capable submarines and surface ships that can and will survive in the modern battlefield’.<sup>3</sup>

It was somewhat fortunate that a copy of the original 1959 Defence Joint Planning Committee report on the proposed introduction of a submarine force came across my desk.<sup>4</sup> This document helped support the decisions that ultimately led to the initial purchase of four *Oberon* class submarines from the UK and the formation of the RAN’s Submarine Squadron. As such, it is one of the foundation documents for the genesis of the modern Australian submarine force.

Much has happened since the 1959 report was prepared but despite rapid technological advances, many aspects concerning the effective strategic employment of submarines in Australia’s maritime environment have not changed. Although the Cold War is over, Australia continues to rely upon its close friends and allies to help maintain global stability. The reader is invited to re-examine the 1959 proposal and come to their own conclusions on what form Australia’s future submarine service should take.

## Notes

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- <sup>1</sup> Peter Briggs, ‘Maximising Strategic Options in Constrained Strategic Circumstances: The Future Underwater Capability’, in A Forbes, (ed), *Australia and its Maritime Interests: At Home and in the Region*, Proceedings of the Royal Australian Navy Sea Power Conference 2008, Sea Power Centre - Australia, Canberra, 2008, pp. 255-274.
- <sup>2</sup> Minister of Defence Media Release, ‘Planning for Australia’s Future Submarine’, No 143/2008 of 27 October 2008.
- <sup>3</sup> Chief of Navy’s speech for the Australian Strategic Policy Institute, 5 November 2008.

- <sup>4</sup> The original report is held by the National Archives of Australia under A8738 Item 13, *Reports of the Joint Planning Committee - 44/1959 to 88/1959*. Report No 77/1959: *Composition of the Forces - Proposed Introduction of a Submarine Service into the RAN*. The original document was declassified from 'Top Secret' in 2007.



*The outcome of Report 77/1959, an RAN Oberon class submarine (RAN)*





3. The Joint Planning Committee is conscious of considerable gaps in its knowledge of the most modern techniques and future trends of submarine and anti-submarine warfare which are occasioned in part by lack of submarine experience in the Australian Services and in part by lack of access to certain types of classified material which are necessary for a fully informed study.

RECOMMENDATION

4. It is recommended that the Chief's of Staff Committee endorse the attached report.

(Sgd) A.W. Savage,  
Commander R.A.N.  
JOINT SECRETARY  
(Sgd) G.E. PETTIT  
Joint Secretary

(Sgd) Alan McNicoll  
(Sgd) C.T. Hannah  
(Sgd) C.E. Long  
(Sgd) D.C. Wells  
(Sgd) G.E. Blakers

ADDITIONAL NOTE

[Editors: the following paragraph was added to the above correspondence by hand.]

'During the discussion on this subject I dissented from the view expressed in para 4, last sentence and paragraph 46, last sentence. In my opinion this statement is incorrect in that it is misleading. C.T. Hannah, D.G.P.P. 19/10/59'

I.P.C. REPORT No 77/59.JOINT PLANNING COMMITTEECOMPOSITION OF THE FORCES - PROPOSED INTRODUCTION  
OF A SUBMARINE FORCE INTO THE ROYAL AUSTRALIAN NAVY

We have examined the proposal for the introduction of a submarine force into the Royal Australian Navy and our report is attached.

SUMMARYTHE THREAT

2. In the case of Limited War in South East Asia the Chinese have substantial and increasing submarine forces. The use of their limited surface forces would be very restricted but mining operations and amphibious assaults are possible. They would also supplement their overland supply routes by coastal shipping.
3. In a Limited War in the North West approaches it has been assessed that Indonesia has significant surface forces, an expanding submarine potential and a short range amphibious assault capability.

ROLES AND CAPABILITIES OF AN R.A.N. SUBMARINE SERVICE,  
AND THEIR RELATION TO THOSE OF OTHER ARMS OF THE  
AUSTRALIAN SERVICESAnti-Submarine Role

4. The decline in the importance of radar as the means of detecting submarines has increased the importance of underwater methods of detection. These are now used both in submarines and in devices dropped from aircraft. The submarine is the most effective underwater sonar platform. The submarine is the most effective single anti-submarine weapon because of its superior ability to hunt and kill both the 'noisy' and the quiet submarine.
5. The principal limitation of a submarine in the A/S role is in the range of its torpedoes. These give them a significant kill capability but are limited to a range of 20,000 yards.
6. (Both) in the Royal Navy (and the U.S. Navy) A/S operations are now regarded as the primary role of submarines.
7. Maritime Aircraft can, by use of their radar, restrict the movement of submarines on the surface when snorkeling. Their new methods of under-water detection

are not as efficient as those of submarines, but nevertheless have a passive detecting range greatly in excess of the range of the submarine torpedo. Their mobility and the use of the homing torpedo gives them an effective kill capacity.

8. Ships will continue to provide the inner ring of defence of a convoy.
9. The ideal combination for A/S operations would be one of submarines to detect and maritime aircraft or surface ships to attack.
10. In view of the expanding Chinese submarine fleet, Australian submarines would be an acceptable contribution to allied A/S forces in a limited war in South East Asia. They would greatly increase the effectiveness of Australian forces in A/S operations in war in the N.W. approaches.

#### Anti-shipping Role

11. In a limited war in South East Asia the anti-shipping role would be an unrewarding field for the operation of submarines.

In a war in the N.W. approaches, submarines would add greatly to our anti-shipping capability by their ability to attack an enemy amphibious force and other surface targets, throughout the operational area. In this role they would supplement the use of aircraft and of surface ships, particularly because of their ability to operate in areas which enemy air superiority might deny to these forces. Our use of submarines would also force an enemy to divert his surface vessels from offensive operations to escort duties.

#### Other Roles

12. Other useful roles for submarines are offensive minelaying, for which submarines are the most effective vehicle, reconnaissance duties, and other minor tasks such as clandestine operations. These roles would in general have a place both in a limited war in South East Asia and in a war in the N.W. approaches, although there is not much scope for mining on our part in a South East Asian war. An Australian submarine service would also provide modern submarines for training of Australian anti/submarine forces.

#### MINIMUM NUMBER OF SUBMARINES

13. To provide the minimum number of submarines on patrol which would justify the existence of a submarine service requires a total of at least eight submarines. A depot ship is required for the support of submarines but a submarine rescue vessel is not.

#### NUCLEAR SUBMARINES

14. We do not believe that nuclear submarines should be introduced into the R.A.N. until either -

- (a) The Indonesians or Chinese Communists have attained a high degree of A/S efficiency, or have themselves introduced nuclear submarines: or
- (b) The cost of a nuclear submarine approaches twice that of a conventional submarine, when, for a similar capital expenditure the same effective number of submarines on patrol could be obtained.

We have seen no evidence to suggest these eventualities will occur within the next ten years.

We have concluded therefore that there may be an eventual requirement for nuclear submarines, but that Australia cannot enter the nuclear submarine field until the relative costs of nuclear submarines have fallen.

### CONCLUSION

15. We have concluded, the R.A.A.F. member dissenting, that, excluding programme considerations and inter-Service priorities, the institution of a submarine service would be a valuable addition to balanced Australian Defence Forces.

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October 1959

## COMPOSITION OF THE FORCES - PROPOSED INTRODUCTION OF A SUBMARINE FORCE INTO THE R.A.N.

### REPORT BY THE CHIEFS OF STAFF COMMITTEE

#### INTRODUCTION

1. In our consideration, we have dealt with;
  - (a) The threat.
  - (b) The possible roles of submarines.
  - (c) The numbers of submarines required.
  - (d) The eventual requirement for nuclear submarines.
  - (e) Supporting forces.

#### THE THREAT

2. In view of the fact that the planned timing of the introduction of the initial group of submarines into the R.A.N. continues until 1970, we have concluded that the threat must be, if practicable, projected at least that far ahead. This has proved to be difficult, but in consultation with the J.I.C., we have endeavoured to produce reasonable

forecasts. We have considered the threats which submarines might help to counter in the two more likely eventualities -

- (a) A limited war in South-East Asia.
- (b) Hostilities in the North West approaches.

#### Limited War in South-East Asia

3. The Chinese Communist Navy has at present approximately 20 submarines and by 1963 could have 45 to 50. Towards the end of 1969, it is possible that China could acquire some nuclear submarines from the USSR [United Soviet Socialist Republics]. However, because of the USSR's own requirements, she is unlikely to make these submarines available to China unless in support of an East-West conflict. Between 1964 and 1970, some of China's submarines will be fitted with guided and ballistic missiles. In this period they may also acquire a small number of missile-equipped destroyer type ships. As a consequence of this and improvements in technical training throughout the fleet, their offensive capability will be considerably increased.

4. It has been assessed that, in order to lessen the risk of Global War, Chinese submarines would only be employed against SEATO [South East Asia Treaty Organisation] naval units and shipping in the South China Sea and on lines of communication in immediately adjacent waters.

5. The Soviet Far East Submarine Fleet by 1963 could have 9 nuclear submarines, 6 missile launching conventional submarines and 99 other conventional submarines. The Soviet may have a type of submarine designed to launch the 1,000 mile cruise-type missile in Service in 1960 and another designed to carry the 1000-1600 mile ballistic missile should be completed by 1961. A considerable number of their W and Z class submarines might be converted to carry the 20 mile ballistic missile. By 1970 the proportion of nuclear and missile firing submarines will have increased significantly. It has been assessed that the USSR might lend up to 15 submarines for covert support of the Chinese Communists. It is improbable that Soviet submarines would operate even covertly in Australian waters in such a conflict.

6. China possesses a surface naval force of 1 cruiser (not commissioned), 4 destroyers, 4 escorts, 30 coastal escorts and 50 minesweepers and 140 patrol boats with other auxiliary craft. She has sufficient specialised amphibious craft and merchant shipping to lift a force of 60,000 to 75,000 lightly equipped troops, or a balanced force of 40,000. This lift could be increased over short distances by the use of motorised junks. It has been assessed that, in a South East Asian conflict in which Communist China overtly aided Vietminh aggression, her use of surface forces would be very restricted but an amphibious assault of approximately 12,000 troops would be possible as far south as the Tourane area. She would also carry out mining operations and supplement overland supply routes by coastal shipping.

### Hostilities in the North West Approaches

7. Indonesia is building up a submarine force. At present she possesses two W class long range submarines of Soviet origin. By 1964 this force could well have built up to 3 submarines and by 1969 to at least 5 or 6. It is expected that the efficiency of this submarine service will have increased by the end of the period.

8. It has been concluded that in a limited war up to the end of 1963, the Indonesian submarines would confine themselves to:-

- (a) Minelaying in the waters surrounding Netherlands New Guinea and to the North of Australia.
- (b) Torpedo attacks in Eastern Indonesia and Netherlands New Guinea waters.

It is unlikely that they will operate off the major Australian ports.

9. An important reason for these conclusions is the poor standard of training of the Indonesian submarine crews. This limitation may well have disappeared by the end of the period. In addition, a small number of Soviet (or perhaps Chinese Communist) submarines might operate in support of the Indonesians. They would act covertly and would probably be used for minelaying, perhaps off the major Australian ports.

10. By 1969, Indonesian surface forces might well include 10 destroyers and 5 frigates; of these, she is unlikely to be able to commit operationally for sustained operations more than 50 per cent nor more than 75 per cent, for a specific operation for a short period. She is at present capable of forming an Amphibious Task Group consisting of 5 destroyers, one frigate, two transports, two submarines, a landing ship, some minesweepers and patrol craft.

11. By the end of 1964, Indonesia will have a short-range amphibious assault capability to lift 2 battalions, with adequate transport and naval fire support, but only limited air support. By the end of 1969, there will probably be further increases in this capability but, at this stage, the extent of the probable increase cannot be assessed.

### Summary

12. In the case of Limited War in South East Asia the Chinese have substantial and increasing submarine forces. The use of their limited surface forces would be very restricted but mining operations and amphibious assaults are possible. They would also supplement their overland supply routes by coastal shipping.

13. In a Limited War in the North West approaches it has been assessed that Indonesia has significant surface forces, an expanding submarine potential and a short range amphibious assault capability.

THE PROPOSED ROLES AND CAPABILITIES OF THE SUBMARINE SERVICE IN  
COUNTERING THIS THREAT AND THE RELATION OF THESE ROLES TO OTHER  
ARMS OF THE AUSTRALIAN FORCES

ANTI-SUBMARINE

Submarines

14. The role of our anti-submarine forces, carried out in the past by ships and aircraft working in cooperation, is the detection, location and destruction of enemy submarines.

15. Owing to technical improvements the modern submarine, in cooperation with other forces, is playing an increasing part in anti-submarine warfare.

16. The number of detections by radar (previously the most important method of initial detection) has fallen sharply as the result of the introduction of the high capacity battery and the radar search receiver for use in the submarine. For this reason both submarines and aircraft have concentrated on improving methods of underwater detection. The normal methods of anti-submarine detection, such as Asdic sets and Sonar buoys, which have been used to date have suffered a major disability due to 'temperature layers' beneath the surface of the sea at varying depths according to conditions. These layers impose a barrier to sound detection which it has been found difficult to penetrate. The A/S submarine is the most efficient under water sonar platform. Its sonar set can detect another submarine at between 40-70 miles (depending on the depth of water) by echo ranging or active means and in favourable conditions it can detect a 'noisy' or cavitating submarine at 200 miles by listening or 'passive' means. It can only detect a 'quiet' submarine at ten miles by its passive means. One important element of its capacity is its ability to vary its depth to obtain optimum listening range. All submarines are aware of their vulnerability to detection when moving in a 'noisy' state, when snorting or when on the surface. Because of this, their constant aim is to move submerged in the 'quiet' state unless there is either no assessed threat or an overriding operational need. Consequently, the most effective single anti-submarine weapon is that which can hunt and kill a submarine in both the 'quiet' and the noisy state. The anti-submarine submarine is the only weapon capable of this dual function because of its excellent passive detection performance (up to 200 miles) and its active detection performance (up to 70 miles). It must be remembered that a submarine using active detection measures inevitably alerts its enemy as to its presence and thereby places both on equal terms in any ensuing submarine versus submarine action.

17. The only other means of active detection against quiet submarines are -

- (a) by surface craft up to 10 miles;
- (b) by maritime aircraft using 'Julie' up to 2 miles.

18. The principle limitation of a submarine in the anti-submarine role is in the range of its torpedo which is in the order of 20,000 yards. These torpedoes give them a significant kill capability, but to make full use of their detection ability, it will be necessary for A/S submarines to be employed in conjunction with other arms - fixed wing aircraft, helicopters, or surface ships - when conditions are suitable for such cooperation. Should it prove practical to develop a long range rocket assisted homing torpedo this limitation on a submarine's A/S capabilities may diminish.

19. (Both) the Royal Navy (and the United States Navy) regard(s) anti-submarine operations as the primary role of their submarines. In the relevant Royal Navy directive of July 1959 the role of submarines is given as follows:-

‘The Staff requirements, development, and training of submarines should be designed to achieve two main objectives

- (a) In peace, .....[not in original]
- (b) In war, to perform their operational tasks, either independently or in concert with other forces, submarine, surface or air. The primary operational task will be the intercept[ti]on and destruction of enemy submarines; other operational tasks, the importance of which will depend on the circumstances, will be the interception and destruction of enemy surface warships and shipping, minelaying reconnaissance, air/sea rescue, and special operations.’

20. The possible uses of submarines in the anti-submarine role are :-

- (a) Reducing the enemy submarine threat by destroying their submarines in the vicinity of their operational bases. This is a role which will require reconnaissance and intelligence of all sorts for its effective performance.
- (b) Attack on enemy submarines in the transit areas. This is a role which has in the past been performed primarily by radar-fitted maritime aircraft. Now that submarines are fitted with snorts, efficient search receivers, and rapid charging batteries, radar contacts by maritime aircraft on submarines in transit are likely to be rare and other means such as Sonar buoys must be used. Submarines, with their long range detection ability, can be used to great effect in these transit areas. However the A/S submarine requires the cooperation of either ship, helicopters or fixed wing aircraft in order to make it fully effective in view of the limitation on its torpedo range.
- (c) A/S support of a convoy. This is a role now performed by ships and fixed wing aircraft, and sometimes by helicopters. Early detection



of the approach of enemy submarines is vital to the successful defence of a convoy. The decreasing possibility of radar contacts is removing one important means of early detection. A/S submarines operating in advance of convoys provide one means of filling this gap.

Capabilities of Other Arms of the Services.

21.(a) Fixed-wing aircraft (shore-based and carrier-based). Developments in submarines are reducing the effectiveness of the aircraft radar in the detection of submarines though it still plays a useful role in restricting their movement on the surface or when snorting. New devices being developed will give aircraft a greater under-water detection capability than hitherto. These new developments include -

- (i) Improved M.A.D. (Magnetic Air Detection)
- (ii) 'JEZEBEL', a device dropped from aircraft which has a buoy floating on the surface of the water and a transducer which can be lowered below temperature layers. It is a passive detection and location system employing a low frequency sonobuoy which can detect 'noisy' submarines at ranges of 50 miles. Its performance against 'quiet' submarines will be reduced to about 5 miles, but exact figures are not available. Although not in service at present it will be fitted to maritime reconnaissance aircraft. Jezebel is a purely passive device and is unable to carry out active detection.
- (iii) 'JULIE', a sonar buoy device dropped from aircraft with an echo ranging system which has obtained ranges of 4,000 yards on submarines in deep water.

(A comparative table of anti submarine range detection of ships, submarines and airborne devices are at Annex B.)

The chief role of shore based maritime aircraft is the close support of convoys, the attacking of submarines in transit areas and the distant support of convoys. The decline in radar detections occasioned the introduction of improved airborne underwater detection devices. These have considerably less detecting range than the 'passive' sonar of a submarine but JEZEBEL has the means of detecting ranges greatly in excess of the submarines torpedo or 'killing' range which is 20,000 yards. The ideal combination would

be one of submarines to detect with maritime aircraft to attack, though such cooperation would not be possible in a zone of enemy air superiority.

- (b) Ships are required to provide the 'inner ring' of defence of a convoy. Their sonar performance provides adequate warning to a range of about 20,000 yards. This range may be extended under favourable conditions by the use of helicopters.

#### ANTI-SHIPING

22. Effect in a Limited War in South East Asia. In the development of SEATO limited war plans, it has been assessed that the Chinese would supplement their difficult over-land supply routes by coastal shipping and junks making short night passages. The disruption of these coastal supply routes could be expected to delay their advance. In view of the shallow water prevailing in this area, the size of most shipping involved and the fact that they will be coast crawling as far as possible it is considered that this is an unrewarding field for the operation of submarines.

23. Limited War in the North West Approaches. In a war in the North West approaches, the Indonesians would be forced to carry out an amphibious operation involving a 'sea lift' which would be vulnerable throughout the voyage. Our use of submarines in the area would force the Indonesians to expend their surface vessels on escorting duties and this would not only divert them from offensive operations but would provide more rewarding targets.

24. Capabilities of Other Arms in the Anti-Shipping Role. Unless compelled to do so by the strongest operational reasons, surface forces would not operate by day for any prolonged period inside a zone of enemy air superiority, and their immunity to attack within such a zone at night is diminishing. Carrier aircraft can operate in the anti-shipping role up to 280 miles from their carrier, but their effectiveness by night is limited. R.A.A.F. maritime aircraft are effective in the anti-shipping role but not by day in areas of enemy air superiority. Replacement aircraft for both the Sabre and Canberra have been accorded a high priority in the R.A.A.F. re-equipment programme and these will possess an all-weather bombing and/or anti-ship attack capability. These high performance aircraft would be used in the anti-shipping role if particularly rewarding targets such as enemy convoys were offering. This might apply particularly in a war in the North Western approaches. It is unlikely that they would be used against isolated shipping.

### OFFENSIVE MINELAYING

25. Submarines are the most useful vehicles for laying offensive mine fields, since they can lay them with considerable accuracy and in secrecy. A typical modern submarine can carry 30 mines, but when carrying this number is without torpedoes.

26. Capabilities of Other Arms of the Services. The Navy has no ships capable of offensive minelaying, nor could converted merchant ships be made suitable for this role. Maritime aircraft can carry out this task and could lay mines at night but they would not lay them as accurately as surface or submarine forces. It is likely, however, that they would be employed on more pressing maritime tasks. There is not much scope for mining on our part in a limited war in South East Asia but it does have a place in a conflict in the N.W. approaches.

### RECONNAISSANCE DUTIES

27. Because of its ability to detect submarines and surface craft at a range of 200 miles, a submarine is a very useful vehicle for reconnaissance duties.

28. We do not believe that the provision of submarines for duty as radar pickets is justified (1). A radar picket submarine must be fitted with specialised equipment which renders it unsuitable for other roles. The small air threat does not justify such a specialised vessel in the Australian Navy.

### TRAINING

29. Since 1949, the Royal Navy has provided 3 submarines in Australian waters for the training of Australian Naval and Air Force anti-submarine units. The 3 boats at present based in Sydney are slow, snort-fitted submarines of World War II design. It seems certain that within the foreseeable future the R.N. will be unable to provide modern submarines for this duty. However, unless modern submarines are provided, the training of Australian anti-submarine forces will become unrealistic. This deficiency could be overcome by the introduction of an Australian submarine service.

### OTHER MINOR TASKS

30. There are a number of other minor tasks which could be carried out by a submarine service, such as clandestine operations, navigational beacons for amphibious forces, search and rescue, and weather reporting. Although submarines are useful in all these roles, none is, of itself, an important reason for introducing a submarine service.

### NUMBER OF SUBMARINES REQUIRED

31. In considering the number of submarines required, there is a number of over-riding factors:

- (a) That with strength of 8 submarines, it is unlikely that more than 5 or 6 would be available for operations and training at any moment.
- (b) That 3 submarines on station is the maximum strength which can be sustained from a force of 8 submarines.
- (c) That although training can be suspended temporarily in an emergency, it should not be assumed that such training can be stopped for more than a few months at the most.

32. Limited War in South-East Asia. In their consideration of SEATO M.P.O. Plan 2B the Defence Committee concluded that eight A/S submarines are required to meet the present Chinese Communist submarine threat, which consists of 19 submarines. A further five submarines are required by the Plan for various ancillary tasks, such as picket duties and minelaying. By 1963, the Chinese submarine threat will have more than doubled, and we believe that our counter measures must increase at least proportionately.

33. Because of the significant submarine threat in the operational area it would be most undesirable for Australia to suspend anti-submarine training, even temporarily. There is, therefore, a continuing requirement for three submarines for A/S training. The employment of the remaining available submarines would be dictated by the operational requirements at the time.

34. Limited War in the North West Approaches. In the opening stages of hostilities with Indonesia, we consider that a minimum of five submarines should be deployed. These submarines should be deployed in the transit areas and on A/S and anti-shipping patrols. Should we obtain indication and warning that the Indonesians intend to mount an attack on New Guinea one or more submarines may be employed in mining the exists of the assembly ports. This scale of effort could not be maintained without suspending training and it is considered that two of these five would have to be withdrawn for training.

### THE SUPPORTING FORCES

35. Depot Ship. We believe that in order to reduce the transit time of the submarines on passage and thereby increasing their effective time on patrol it is essential to have a Depot Ship. It was made clear in recent, discussions with the U.S. Commander-in-chief, Pacific Area, that the Americans attach great importance to our forces being self-supporting. A Depot ship is a necessary support for submarines.

36. Submarine Rescue Vessel. In view of the great distances involved, the chances of a submarine rescue vessel being in the area on the few occasions it would be useful, are remote and we therefore consider that a submarine rescue vessel is not justified. We understand that the Royal Navy is discontinuing the use of submarine rescue vessels for the same reason. A diving bell, which could be transported by any number of ships, would be maintained but the areas in which it would be useful off the Australian coast are very limited.

#### Summary

37. To provide the minimum number of submarines on patrol which would justify the existence of a submarine service requires a total of at least eight submarines. A Depot ship is required for the support of submarines but a Submarine Rescue Vessel is not.

### EVENTUAL REQUIREMENT FOR NUCLEAR SUBMARINES

38. The underwater performance of nuclear submarines represents a great advance over conventional submarines, and we believe that eventually most, if not all, submarines will be nuclear powered. For the present, however, the very high cost of such submarines places them out of Australia's reach. It must also be recognised that nuclear and conventional submarines will carry the same A/S and anti-shipping equipment. The advantages of nuclear submarines may be summarised as:

- (a) Their ability to sustain high underwater speeds almost indefinitely.
- (b) Their avoidance of the necessity for snorkeling.
- (c) Their ability to achieve a higher proportion of time on patrol than conventional submarines.

39. The first two qualities affect primarily their operational performance. This improved performance is of great importance if a potential enemy either has attained a high standard in anti-submarine warfare, or is himself operating nuclear submarines. However, the A/S standards of our potential enemies are at present low, and are likely to remain so for some time. We have seen no evidence to suggest that Indonesia or

Communist China are likely to introduce nuclear submarines within the next ten years. Conventional submarines will, we believe, be adequate for Australia until that time. A further factor is that, particularly in the North-West approaches, the areas to be covered are wide, and the number of submarines on patrol is of more importance than increased individual performance at the cost of smaller numbers.

40. The last advantage of nuclear submarines - that they can spend a higher proportion of their time on patrol - is perhaps the most important. Although exact figures are difficult to obtain, we believe that, by the use of spare crews, a nuclear submarine could spend three-quarters of its time on patrol. This compares favourably with the figure of three-eighths generally accepted for conventional submarines. Thus one nuclear submarine can do the effective patrol work of two conventional submarines.

41. The present cost of a nuclear submarine is about six times that of a conventional submarine. In view of the arguments given above, we do not believe that nuclear submarines should be introduced into the R.A.N. until either -

- (a) The Indonesians or Chinese Communists have attained a high degree of A/S efficiency, or have themselves introduced nuclear submarines: or
- (b) The cost of a nuclear submarine approaches twice that of a conventional submarine, when, for a similar capital expenditure the same effective number of submarines on patrol could be obtained.

42. We have seen no evidence to suggest these eventualities will occur within the next ten years.

### Summary

43. There may be an eventual requirement for nuclear submarines, but Australia cannot enter the nuclear submarine field until the relative costs of nuclear submarines have fallen.

## SUMMARY

### THE THREAT

44. In the case of Limited War in South East Asia the Chinese have substantial and increasing submarine forces. The use of their limited surface forces would be very restricted but mining operations and amphibious assaults are possible. They would also supplement their overland supply routes by coastal shipping.

45. In a Limited War in the North West approaches it has been assessed that Indonesia has significant surface forces, an expanding submarine potential and a short range amphibious assault capability.

### ROLES AND CAPABILITIES OF AN R.A.N. SUBMARINE SERVICE, AND THEIR RELATION TO THOSE OF OTHER ARMS OF THE AUSTRALIAN SERVICES.

#### Anti-Submarine Role

46. The decline in the importance of radar as the means of detecting submarines has increased the importance of underwater methods of detection. These are now used both in submarines and in devices dropped from aircraft. The submarine is the most efficient under-water sonar platform. The submarine is the most effective single anti-submarine weapon because of its superior ability to hunt and kill both the 'noisy' and the quiet submarine.

47. The principal limitation of a submarine in the A/S role is in the range of its torpedoes. These give them a significant kill capability but are limited to a range of 20,000 yards.

48. (Both) in the Royal Navy (and the U.S. Navy) A/S operations are now regarded as the primary role of submarines.

49. Maritime A/C can, by use of their radar, restrict the movement of submarines on the surface or when snorkeling. Their new methods of under-water detection are not as efficient as those of submarines, but nevertheless have a passive detecting range greatly in excess of the range of the submarine torpedo. Their mobility and the use of the homing torpedo gives them an efficient kill capability.

50. Ships will continue to provide the inner ring of defence of a convoy.

51. The ideal combination for A/S operations would be one of submarines to detect and maritime A/C or surface ships to attack.

52. In view of the expanding Chinese submarine fleet, Australian submarines would be an acceptable contribution to allied A/S forces in a limited war in South

East Asia. They would greatly increase the effectiveness of Australian forces in A/S operations in war in the N.W. approaches.

#### Anti-shipping Role

53. In a limited war in South East Asia the anti-shipping role would be an unrewarding field for the operation of submarines.

In a war in the N.W. approaches, submarines would add greatly to our anti-shipping capability by their ability to attack an enemy amphibious force and other surface targets throughout the operational area. In this role they would supplement the use of aircraft and of surface ships, particularly because of their ability to operate in areas which enemy air superiority might deny to those forces. Our use of submarines would also force an enemy to divert his surface vessels from offensive operations to escort duties.

#### Other Roles

54. Other useful roles for submarines are offensive minelaying, for which submarines are the most effective vehicle, reconnaissance duties, and other minor tasks such as clandestine operations. These roles would in general have a place both in limited war in South East Asia and in a war in the N.W. approaches, although there is not much scope for mining on our part in a South East Asian war. An Australian submarine service would also provide modern submarines for training of Australian anti/submarine forces.

### MINIMUM NUMBER OF SUBMARINES

55. To provide the minimum number of submarines on patrol which would justify the existence of a submarine service requires a total of at least eight submarines. A depot ship is required for the support of submarines but a rescue vessel is not.

### NUCLEAR SUBMARINES

56. We do not believe that nuclear submarines should be introduced in the R.A.N. until either -

- (a) The Indonesians or Chinese Communists have attained a high degree of A/S efficiency, or have themselves introduced nuclear submarines: or
- (b) The cost of a nuclear submarine approaches twice that of a conventional submarine, when, for a similar capital expenditure the same effective number of submarines on patrol could be obtained.



We have seen no evidence to suggest these eventualities will occur within the next ten years.

We have concluded therefore that there may be an eventual requirement for nuclear submarines, but that Australia cannot enter the nuclear submarine field until the relative costs of nuclear submarines have fallen.

#### CONCLUSION

57. We have concluded, the R.A.A.F. member dissenting, that, excluding programme considerations and inter-Service priorities, the institution of a submarine service would be a valuable addition to balanced Australian Defence Forces.

A statement by the R.A.A.F. member is attached at Annex 'C'.

ANNEX 'A'

OPERATIONAL CHARACTERISTICS OF MODERN SUBMARINES

	Porpoise or Oberon (British)	'W' Class Latest Russian Conventional Form Majority	Improved 'Tang' (Albacore Hull) United States	Nuclear (Dreadnought) (British)
Displacement (Surface)	2156 Tons	1100 tons	2000 tons	4000 tons
Speed (Surface)	14.15 knots	17.75 knots	10-12 knots (estimated)	10 knots
(Submerged)	18 kts for 30 mins/13 kts for 2 hrs/2 kts for 60 hrs	14 kts for 1 hr 4 kts for 60 hrs	Equal to or better than Porpoise	More than 25 kts
(Snorting)	8 kts for 10,500 miles	6 kts for 15,000 miles		Nil
Diving Depth	625 ft. (Oberon)	600 ft	700 ft (estimated)	700 ft
Torpedo Tubes	6 forward - 2 aft	4 forward - 2 aft	Not known	6 forward
Torpedoes	18 forward - 4 aft	12	Not known	36
Asidic Sets	185 - U-W Telephone 183 - Emergency U/W Telephone 187 - V. Long range passive detection 189 - Cavitation Indicator 719 - Torpedo Interception	Assessed as inferior to U.K. or U.S. Equipment	Similar to Porpoise	185 - U/W Telephone 183 - Emergency U/W Telephone 719 - Torpedo Interception 189 - Cavitation Indicator 2001 - Very long range active/passive detection

## MAXIMUM A/S CAPABILITIES ON SUBMERGED SUBMARINES

ANNEX 'B'

	Sets	Active Detection Range (Miles)	Passive Detection Range Noisy Target (Miles)	Passive Detection Range Quiet Target (Miles)	Kill Range (Miles)
Surface Ships	177	10	5	Nil	3
Submarine	186) 187)	15	200	10	10
	2001	70	150	5	10
Maritime Aircraft	Jezebel	Nil	50	5	
	Julie	2	Nil	Nil	-ditto-

NOTE:

- (a) The term "maximum" is used to denote ideal sonar conditions and in the case of passive detection the presence of noisy targets.
- (b) Effectiveness of passive equipments requires -
- (i) Target to omit noise
  - (ii) The detecting unit to be in a "quiet" state and free from interfering noise sources i.e. Convoys etc.
  - (iii) Satisfactory airborne passive or active homing torpedoes are now in existence. The Type 44 (American) active torpedo is designed to attack submerged submarines whether stationary or travelling at speeds up to 25 knots, at depths of 50 - 1000 ft and ranges up to 1000 yds. When used in conjunction with Jezebel/Julie this weapon gives the aircraft a satisfactory full capacity.

October 1959.

COMPOSITION OF THE FORCES - PROPOSED INTRODUCTION OF A  
SUBMARINE FORCE IN THE R.A.N.  
STATEMENT BY R.A.A.F. MEMBER OF THE JOINT PLANNING COMMITTEE  
ANNEX 'C' TO J.P.C. REPORT No 77/59.

1. I cannot support the conclusion at para. 57 of the above quoted report that:-
 

“We have concluded that excluding programme considerations and interservice priorities the institution of a submarine service would be a valuable addition to balanced Australian Defence Forces”.
2. Any conclusion on the introduction, or otherwise of a submarine service in the R.A.N. is meaningless unless viewed against the Defence programme and the inevitable limitations of the programme.
3. On the question of the introduction of a submarine service in the R.A.N., I wish to make the following statement:-
4. Our primary aim at sea in war is to be able to use the sea for the transport of our military forces (including their equipment and supplies of all kinds) and of goods essential to our war effort. Denial of the use of the sea to an enemy is a secondary aim. Thus, our use of the seas for the conduct of naval operations is incidental to our primary aim - a means to an end and not the end in itself: the end to be attained is the safe and timely arrival of our shipping.
5. In attaining this end there are two courses of action open:-
  - (a) To provide such a degree of protection as makes the passage acceptably safe - i.e. defence.
  - (b) To destroy the opposing force - i.e. offence.
6. The threat to our shipping is primarily one of the submarine. Where the initiative lies, as it must, with our potential enemies, offensive operations will not deal with the threat in the critical operating stages of limited war; our aim must be to protect shipping for a limited period, not to sweep the seas clean. Australian Air and naval forces must concentrate on the protection of Australian shipping.
7. The anti-submarine protection of shipping is provided by escort and air cover involving both close and distant support, and is a Joint Air-Naval task. There is as yet

no established doctrine for the employment of submarines in the escort role, and there are difficulties which may be insuperable to be overcome before such an employment is feasible. These include:-

- (a) The need for a submarine to be stopped, or nearly stopped, when listening.
- (b) Lack of reliable means of long range classification of detections.
- (c) Inability to operate 'active' detection equipment at much above 5 knots.
- (d) Poor, or no, communications between the submarine and other escorts, particularly in conditions of radio silence.
- (e) Lack of an effective weapon to complete with the detection range.

8. In the possible defence situations that Australia faces, and when consideration is given to the inevitable limitation of our fighting services, the use of submarines in the better role (e.g. operating off enemy ports and in transit areas) is a concept that is fundamentally wrong. It is also thought with such difficulties and chances of failure as to be impracticable unless resources much beyond Australia's capacity can be put to it. Thus:-

- (a) While possessing an excellent long range passive detection capability, the killer submarine must use active means (and thus disclose his presence to his target) to classify and locate his enemy, and to solve his fire control problem.
- (b) He may have [to move] at high underwater speed over long distances to close to firing range. He will disclose his presence to his opponent who may outrun or ambush him and he may disclose himself to other forces of enemy attack.
- (c) Killer submarine operations could not, in the short term, and in the critical opening stages of a limited war, affect a situation in which the enemy submarine fleet was on station before the outbreak.
- (d) To make effective use of the submarine's passive detection range requires the continuous co-operation of aircraft on station with it. This is impractical with a M.R. force of the size at present available to the R.A.A.F.

9. From the above, I conclude that:-

- (a) The correct role for Australian Naval forces and Maritime Air Forces is defensive - the anti-submarine protection of shipping.

- (b) The anti-submarine, killer submarine concept is strategically and tactically wrong for Australia.
- (c) Roles other than defensive anti-submarine protection of shipping afford no justification for the introduction of a submarine service in the R.A.N.
- (d) The submarine is as yet ineffective in the escort role and may remain so.
- (e) The proposed introduction of a submarine service in the R.A.N. is speculative and premature.
- (f) No provision towards a submarine service in the R.A.N. should be made in the current three year programme.

10. In reading the above conclusions I am also influenced by the fact that there are considerable gaps in the knowledge available in Australia of the most modern techniques and future trends of submarine and anti-submarine warfare.

11. I will, if necessary, produce detailed justification of these conclusions, based on extended reasoning which it is impracticable to include in a paper of this length.

(Sgd)

C.T. Hannah

Air Commodore,

Director-General of Plans & Policy

RAAF Member of Joint Planning Committee.



*HMAS Rankin, a modern component of the Australian Submarine service (RAN)*