



Australian Maritime Issues 2007

SPC-A Annual

Edited by Andrew Forbes

SEA POWER CENTRE - AUSTRALIA



AUSTRALIAN
MARITIME
ISSUES 2007
SPC-A ANNUAL

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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.

Comment on this publication or any enquiry related to the activities of the Sea Power Centre – Australia should be directed to:

Director Sea Power Centre – Australia

Department of Defence
Canberra ACT 2600
Australia

Telephone: +61 2 6127 6512
Facsimile: +61 2 6127 6519
Email: seapower.centre@defence.gov.au
Internet: www.navy.gov.au/spc

Papers in Australian Maritime Affairs

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.

Other volumes in the series are:

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- No. 19 *Australian Maritime Issues 2006: SPC-A Annual* edited by Andrew Forbes and Michelle Lovi
- No. 20 *The Russian Pacific Fleet: From the Crimean War to Perestroika* by Alexey D. Muraviev
- No. 21 *Australian Maritime Issues 2007: SPC-A Annual* edited by Andrew Forbes

Foreword

I am pleased to introduce the Sea Power Centre – Australia (SPC-A) *Australian Maritime Issues 2007: SPC-A Annual*. SPC-A is charged with furthering the understanding of Australia's broader geographic and strategic situation as an island continent in maritime Asia, and the role of maritime forces in protecting our national interests.

The 2007 Annual is an important contribution to the maritime debate in Australia and includes papers written on naval and maritime issues between March 2006 and December 2007. Many of the papers come from our monthly *Semaphore* newsletters, which covered a wide range of issues, such as search and rescue, the naming of RAN ships, compulsory pilotage in the Torres Strait, naval history, amphibious ships and Air Warfare Destroyers.

In this edition of the Annual we have also included a selection of papers from various conferences attended by SPC-A staff throughout the period. The SPC-A team have contributed to a number of national and international conferences and workshops and I thought it well worth publishing some of the more relevant papers from those events to help inform and evolve our profession.

Our Synnot Lecturer for 2006 was Dr Gary Weir from the United States National Geospatial Intelligence Agency. He conducted a series of presentations around Australia, and two – 'The American Sound Surveillance System' and 'From Surveillance to Global Warming' – are also included in the Annual. As usual, we have also published the winning entries from the 2007 Peter Mitchell Essay Competition and I thank all those that entered for their valuable contribution to the Australian maritime debate.

Other SPC-A publications of note over the past 12 months include two Working Papers: *The Russian Pacific Fleet* and *Strength Through Diversity: the Combined Naval Role in Operation STABILISE*, and the three commercial publications: *Australia's Navy in Vietnam*, *Sea Power Ashore and in the Air*, and *Sea Power: Challenges Old and New*.

I trust you will find *Australian Maritime Issues 2007: SPC-A Annual* informative, interesting and a valuable contribution to the maritime and naval debate in Australia.

Captain Peter J. Leavy, RAN

Director

Sea Power Centre – Australia

29 February 2008

Editor's Note

Semaphore issue 1 of 2007 has been omitted from this publication. 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.

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.

All views presented in this publication are those of the authors and do not necessarily reflect the views of the Commonwealth of Australia, the Department of Defence or the Royal Australian Navy.

Images included throughout this publication belong to the Department of Defence, unless otherwise indicated in the endnotes of each paper.

Contributors

Dr Sam Bateman

Dr Sam Bateman is a Senior Fellow and Adviser to the Maritime Security Program at the S. Rajaratnam School of International Studies (RSIS) in Singapore. He retired from full-time service in the Royal Australian Navy in 1993 and became the first Director of the Centre for Maritime Policy (now the Australian National Centre for Ocean Resources and Security) at the University of Wollongong. His naval service as a surface warfare officer included four ship commands (including a frigate and a destroyer), five years in Papua New Guinea and several postings in the force development and strategic policy areas of the Department of Defence in Canberra. He has written extensively on defence and maritime issues in Australia, the Asia-Pacific and Indian Ocean, and was awarded his PhD from the University of New South Wales in 2001. He is a Co-Chair of the Council for Security Cooperation in the Asia Pacific (CSCAP) Study Group on Facilitating Maritime Cooperation in the Asia-Pacific and Editor of the journal *Maritime Studies*.

Commander Andrew Brown, RANR

Commander Andrew Brown was commissioned into the Royal Australian Navy Reserve in December 1981 into what is now known as the Maritime Trade Operations Branch and has served in that branch for his entire career. He has served in a variety of trade protection and staff postings. He is currently posted to Navy Headquarters in Canberra where his role is to advise on merchant shipping and maritime trade issues, and to assist the Sea Power Centre - Australia on the development of doctrine with respect to maritime trade. In civilian life he is a lawyer and is the In-House Counsel to and a Secretary of The Law Society of New South Wales.

Dr Christopher Chung

Dr Christopher Chung is Acting Assistant Secretary, Communications and International Branch, Department of the Environment, Water, Heritage and Arts. Prior to this he was Deputy-Director of Studies, Graduate Studies in Strategy and Defence, Strategic and Defence Studies Centre, the Australian National University. His research interests include Asia-Pacific maritime affairs, transnational security and the international politics of Asia. Recent publications have appeared in the journal *Ocean Development and International Law* (co-author) and a book chapter on how Australia's traditional security arrangements have adapted to address non-traditional security threats. He holds a PhD in Politics from the University of New South Wales at the Australian Defence Force Academy.

Commander Steve Cole, RANR

Commander Steve Cole joined the Royal Australian Naval Reserve in 1987 as a seaman officer. He has extensive sea experience on heavy landing craft (LCH), including reactivating and recommissioning HMAS *Balikpapan*. He has been employed by the RAN on full-time service for the past ten years and was Port Services Manager at Darwin Naval Base from 1998 to 2001. This coincided with a period of significant escalation of RAN activity in the north, including fleet exercises such as KAKADU 4 and 5, and the first East Timor crisis. He currently serves as Deputy Director Navy Environmental Policy at Navy Headquarters and is an authority on environmental matters. In his civilian career Steve has been a lecturer in Horticulture at the Northern Territory University between 1991 and 1998 and a research officer with CSIRO from 1985 to 1990.

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.

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.

Lieutenant Commander Sue Harling, RAN

Lieutenant Commander Sue Harling joined the Womens Royal Australian Naval Service (WRANS) as an Administration Officer in 1982. During the past 26 years she has worked in a wide variety of training, human resources and policy positions, the highlight of which was Executive Officer of HMAS *Cerberus* (2000-02), after which she undertook 18 months full-time civil schooling enabling her to commence post graduate studies at Monash University. She completed her Master of Management degree in 2006, and commenced doctoral studies in February 2007, also through Monash University. She is currently the Operations Manager of the Supply & Health Faculty, a position she has held since November 2005.

Ambassador Marie T. Huhtala (Rtd)

Ambassador Marie T. Huhtala served in the United States Foreign Service for 33 years, with the majority of her overseas posting being in Asia. As Deputy Director and eventually Director of the Office of Burma, Cambodia, Thailand and Vietnam Affairs, she coordinated United States (US) policy to these countries. She was Deputy Chief of Mission in Bangkok 1998-2001, Ambassador to Malaysia from 2001-04, and then Deputy Assistant Secretary of State with responsibility for US relations with the countries of South East Asia until her retirement in 2005.

First Admiral Dr H.J. Sutarji bin Kasmin, RMN (Rtd)

Dr Sutarji bin Kassim joined the Royal Malaysian Navy in 1970 and has commanded a diving tender, a patrol vessel, an offshore patrol vessel and the Naval Special Warfare Unit. He also served as the Director of Malaysian Armed Forces Defence Operations; as Chief Directing Staff of the Malaysian Armed Forces Defence College; and subsequently Commandant from 2003-05. He earned his Master of Arts in Policy and Security Studies from Universiti Kebangsaan Malaysia in 1995 and his PhD in Integrated Coastal Zones Management from University Putra Malaysia in 2003, where he is currently attached to the Department of Environmental Management, University of Putra Malaysia.

Warrant Officer (ET) Simon Kelly

Warrant Officer Simon Kelly enlisted in the Royal Australian Navy in 1984 as an Adult Entry Electronics Technician Systems 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 trialled the effectiveness of the SWO concept in HMAS *Success*. In 2006 he undertook studies in the 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.

Ms Jane Landon

Ms Jane Landon served as a Seaman Officer in the Royal Australian Navy for 10 years before joining the Marine Standards section of the Australian Maritime Safety Authority in 2006. She holds an Honours degree in History and is currently studying towards her Masters degree in Environmental Law.

Captain Peter Leavy, RAN

Captain Peter Leavy is currently the Director of the Sea Power Centre – Australia in Canberra. 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 a wide number of ships, culminating as Commanding Officer of HMAS *Stuart* in 2005-06. He also served as Chief of Staff to Commander Task Group 633.1 operating in the North Arabian Gulf during early 2003. Ashore he has served in electronic warfare and strategic policy postings. He holds a Bachelor of Science (Hons) degree, Master of Arts (Maritime Policy) degree and a Master of Management (Defence Studies) degree.

Commodore Richard Menhinick, CSC, RAN

Commodore Richard Menhinick joined the Royal Australian Naval College at Jervis Bay in January 1976. In 1987 he undertook the Principal Warfare Officer course and then served on exchange at sea in the Royal Navy. He served at sea in the 1990-91 Gulf War, for which he was awarded the Commendation for Distinguished Service. Later he was Deputy Director Surface Warfare Development in Capability Development Group, for which he was conferred the Conspicuous Service Cross. He has commanded HMA Ships *Warramunga* and *Anzac*, and was the Director of the Sea Power Centre – Australia (2002-03). He was promoted to commodore in December 2006 and is currently the Director General Strategic Plans in Australian Defence Headquarters. He holds a Bachelor of Arts degree and a Master of Maritime Studies degree.

Mr Brett Mitchell

Mr Brett Mitchell joined the Department of Defence in February 1988 and worked for the Naval Personnel Division before joining the Naval History Section as a Naval Historical Officer in 1992. Having read widely on RAN history, he has helped author numerous Navy historical publications, where he has collated and verified the accuracy of historical data. Brett has also provided research support to numerous naval veterans, Commonwealth agencies and other organisations.

Mr John Perryman

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 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.

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 joined the Royal Australian Naval College in 1974 and completed a Bachelor of Arts degree at the University of New South Wales. He undertook the Royal Navy's Principal Warfare Officer course in 1984 and specialised in anti-submarine warfare. Thereafter he served as a warfare officer on exchange in HMS *Hermione*, and was one of the first Australians to conduct a Falkland Islands peace patrol. In 1990-91 he was posted to the staff of the Australian Task Group Commander during Operation DAMASK and the 1990-91 Gulf War. 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.

Commander Greg Swinden, RAN

Commander Greg Swinden joined the Royal Australian Navy in 1985 and graduated from the Australian Defence Force Academy in 1987 with a Bachelor of Arts degree in Politics and History. After training as a Supply Officer he undertook numerous postings ashore and afloat including service in HMA Ships *Swan*, *Melbourne* and *Kanimbla*. He has also seen operational service in East Timor, the Solomon Islands, the Persian Gulf, and during 2003-04 was the Royal Australian Navy Liaison Officer in Singapore. He attended the Australian Command and Staff College in 2005 and is currently the Deputy Fleet Supply Officer in Fleet Headquarters.

Dr Andrew Tian Huet Tan

Dr Andrew Tan is currently an Associate Professor at the University of New South Wales. He was a senior lecturer in defence studies at King's College, London, where he taught at the Joint Services Command and Staff College. Previously he was with the Institute of Defence and Strategic Studies at Nanyang Technological University, Singapore. Born in Singapore he is a naturalised Australian and has published extensively on regional security issues.

Lieutenant Commander Chris Watson, RAN

Lieutenant Commander Chris Watson transferred to the Royal Australian Navy from the Royal Navy. A Principal Warfare Officer and ex-Cold War diplomat in the USSR and Poland, he was Executive Officer of the frigate HMS *Iron Duke*, First Lieutenant of HMS *Ocean*, and was the J2 intelligence chief in Gibraltar during the 1990-91 Gulf

War. He has contributed to information operations policy, planning and operations for a variety of countries and coalitions. A graduate in Political Theory and Institutions, he was awarded a Meritorious Service Medal for his work with United States European Command. He is now serving in the Joint Effects Directorate in Headquarters Joint Operations Command.

Dr Gary Weir

Dr Gary E. Weir is the Chief Historian at the National Geospatial Intelligence Agency, a Professor of History at the University of Maryland University College and a guest investigator at the Woods Hole Oceanographic Institution. He was previously the Head of the Contemporary History Branch of the United States Naval Historical Center in Washington DC. He specialises in the history of submarines, undersea warfare, and the ocean sciences and is the author of *Rising Tide: The Untold Story of the Russian Submarine that Fought the Cold War* (Basic Books). An earlier study, *Forged in War: The Naval-Industrial Complex and American Submarine Construction, 1940-1961* received the 1993 Theodore and Franklin D. Roosevelt Naval History Prize as the best book in naval history published in that year. Another book, *An Ocean in Common: Naval Officers, Scientists, and the Ocean Environment, 1919-1961*, a study of the United States Navy's role as participant and patron in oceanographic research, was selected by the Organization of American Historians as a recipient of the Richard W. Leopold Prize for 2002.

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Abbreviations

ADAS	Amphibious Deployment and Sustainment
ADC	aide de camp
ADF	Australian Defence Force
ADS	Aegis Defence Services
AFP	Australian Federal Police
AIS	Automatic Identification System
AMC	Australian Maritime College
AMIS	Australian Maritime Identification System
AMSA	Australian Maritime Safety Authority
ANZAM	Australia, New Zealand and Malaya
ANZUS	<i>Security Treaty Between Australia, New Zealand and the United States of America 1951</i>
AO	Order of Australia
APEC	Asia-Pacific Economic Cooperation
ARF	Association of Southeast Asian Nations Regional Forum
ASEAN	Association of Southeast Asian Nations
ASG	Abu Sayyaf Group
ASP90	<i>Australia's Strategic Planning in the 1990s</i>
ASP97	<i>Australia's Strategic Policy 1997</i>
ASSeT	Accompanying Sea Security Teams
ASW	Anti-submarine Warfare
ATOC	Acoustic Thermometry of Ocean Climate
AusAID	Australian Agency for International Development
AusSAR	Australian Search and Rescue
AUSN	Australasian United Steam Navigation
AWD	Air Warfare Destroyer
CARAT	Cooperation Afloat Readiness and Training
CGM	Conspicuous Gallantry Medal
CINPACFLT	Commander in Chief United States Pacific Fleet

CIVMAR	Civilian Mariner
CMF	Commonwealth Military Forces
CN	Chief of Navy
CNF	Commonwealth Naval Forces
CNO	Chief of Naval Operations
CODAG	Combined Diesel and Gas Turbine
COSL	Commander Ocean Systems Atlantic
CSCAP	Council for Security Cooperation in the Asia Pacific
CSI	Container Security Initiative
CUES	Code for Unalerted Encounters at Sea
dB	decibel
DEEP	Deployment Exercises and Engagement Program
DIEP	Defence International Engagement Plan
DIVEX	Diving Exercise
DSC	Distinguished Service Cross
DSM	Distinguished Service Medal
DSO	Distinguished Service Order
DWT	dead weight tonnage
EAS	East Asia Summit
EIS	Eyes in the Sky
ENC	Electronic Navigational Chart
EPBC	<i>Australian Environment Protection and Biodiversity Conservation Act 1999</i>
ESSM	Evolved Sea Sparrow Missile
EEZ	Exclusive Economic Zone
FBW	Fleet Base West
FPDA	Five Power Defence Arrangements
G8	Group of Eight
GAO	Government Accounting Office
HMAS	Her/His Majesty's Australian Ship
HMS	Her/His Majesty's Ship

HR	Human Resources
HARTS	Harbour Craft Transponder System
Hz	hertz
ICC	International Chamber of Commerce
IJN	Imperial Japanese Navy
IMB	International Maritime Bureau
IMF	International Monetary Fund
IMO	International Maritime Organization
INCSEA	Incidents at Sea
INTERFET	International Force East Timor
ISPS	<i>International Ship and Port Facility Security Code</i>
IP	International Policy (Division)
IPSP	International Port Security Program
ISA	<i>Internal Security Act (Malaya)</i>
ISSC	International Ship Security Certificate
IUU	Illegal, Unreported and Unregulated
JACIT	Joint Amphibious Capability Implementation Team
JCLEC	Jakarta Centre for Law Enforcement Cooperation
JWAC	Junior Warfare Officers Application Course
JWC	Joint War Committee
LHD	Amphibious Assault Ship (Landing Helicopter Dock)
LNG	Liquefied Natural Gas
LOFAR	Low Frequency Analysis and Recording
LOSC	<i>United Nations Convention on the Law of the Sea 1982</i>
LPA	Amphibious Transport (Landing Platform Amphibious)
LPG	Liquefied Petroleum Gas
LRIT	Long Range Identification and Tracking
LTTE	Liberation Tigers of Tamil Eelam
MAEMP	Maritime Activities Environmental Management Plan
MALSINDO	Malaysia, Singapore and Indonesia (Special Joint Task Force)
MCM	Mine Countermeasures

MID	Mentions in Despatches
MIED	Maritime Information Exchange Directory
MIMI	Miami and Michigan Universities
MIT	Massachusetts Institute of Technology
MMEA	Malaysian Maritime Enforcement Agency
MOU	Memorandum of Understanding
MTOFSA	<i>Maritime Transport and Offshore Facilities Security Act 2003</i>
MTSA	<i>Maritime Transport Security Act 2003</i>
MRCC	Maritime Rescue Coordination Centre
NATO	North Atlantic Treaty Organization
NAVFAC	Naval Facilities Engineering Command
NCAGS	Naval Cooperation and Guidance for Shipping
NCS	Naval Control of Shipping
NHS	Naval History Section
nm	nautical mile
NMECC	National Maritime Enforcement and Coordination Centre
NOAA	National Oceanographic and Atmospheric Administration
NZ	New Zealand
OECD	Organisation for Economic Co-operation and Development
ONR	Office of Naval Research
OSPAR	Oil Spill Preparedness and Response
OT	Ocean Technicians
OTS	Office of Transport Security
PACIO	Pacific and Indian Oceans
PACOM	United States Pacific Command
PANS	Pre-Arrival Notification of Security
PASSEX	Passage Exercise
PNG	Papua New Guinea
PRC	Piracy Reporting Centre
PSSA	Particularly Sensitive Sea Area
PSI	Proliferation Security Initiative

RAAF	Royal Australian Air Force
RAN	Royal Australian Navy
RANR	Royal Australian Naval Reserve
RANSIE	Royal Australian Navy Strategy for International Engagement
RANVR	Royal Australian Navy Volunteer Reserve
RAS	Replenishment at Sea
RDF	Radio Direction Finding
REDI	Regional Emerging Diseases Intervention
RIMPAC	Rim of the Pacific
RIRC	Rigid Inflatable Raiding Craft
RMAF	Royal Malaysian Air Force
RMN	Royal Malaysian Navy
RMP	Royal Malaysian Police
RMSI	Regional Maritime Security Initiative
RN	Royal Navy
RTN	Royal Thai Navy
SAM	Surface-to-air Missile
SEAAC	Seaman Officer Application Course
SEARCCT	Southeast Asia Regional Centre for Counter-Terrorism
SLOC	Sea Lines of Communication
SOFAR	Sound Fixing and Ranging System
SOLAS	<i>International Convention for the Safety of Life at Sea 1974</i>
SOSUS	Sound Surveillance System
SPC-A	Sea Power Centre – Australia
SR93	<i>Strategic Review 1993</i>
SS	Steamship
STCW	Standards of Training, Certification and Watchkeeping
SUA	<i>Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation 1988</i> (Suppression of Unlawful Acts Convention)
SWG	Shipping Working Group

TBD	Torpedo Boat Destroyers
TSCP	Theatre Security Cooperation Plan
TSS	Traffic Separation Scheme
UK	United Kingdom
UN	United Nations
US	United States
USN	United States Navy
USS	United States Ship
VC	Victoria Cross
VLS	Vertical Launch System
WMD	Weapons of Mass Destruction
WPNS	Western Pacific Naval Symposium
WRANS	Women's Royal Australian Naval Service
WST	Western Standard Time
WWI	World War I
WWII	World War II

OPENING PAPER





Admiralty War Staff I.D.

HMS *Suva*, Captain W.H.D. Boyle and the Red Sea Patrol 1916-18: The Strategic Effects of an Auxiliary Cruiser upon the Arab Revolt

Dr Gregory P. Gilbert

The Auxiliary Cruiser, HMS *Suva*

The *Official History of Australia in the War of 1914-1918* briefly mentions the war service of the auxiliary cruiser HMS *Suva*, where ‘she played a not inconsiderable part in supporting the Arab Revolt’.¹

SS *Suva*, a 2229-ton passenger-cargo steamer, was built by Workman, Clark and Co. Ltd of Belfast in 1906 for the Australasian United Steam Navigation (AUSN) Co. Ltd. Although built for the passenger/cargo service (the banana boat run) between Fiji and Sydney, she was also employed in the Queensland coastal trade. By early 1915 it became clear to the Admiralty that World War I (WWI) was going to be a long, hard struggle and that British naval commitments required many more auxiliary vessels in addition to the available purpose-built warships. Hence, *Suva* was requisitioned by the Royal Navy (RN) in July 1915 and converted to an auxiliary cruiser at Garden Island, Sydney.

Armed with several 4.7-inch guns and carrying seaboats for armed boarding parties, HMS *Suva* was to be used for constabulary duties in the Red Sea. The main task was to prevent gun-running between Red Sea ports. However, upon her arrival in Aden, she was deemed unsuitable for such action and she was sent back to Colombo. But the need for patrol vessels only increased, so with a refit at Bombay and with British naval ratings replacing the Australian crew, *Suva* returned to Aden in December 1915. Now ready for operations in a war zone, *Suva* was to serve for almost three years in the Red Sea. A chronology of the wartime service of *Suva*, along with other principal events, may be found on pages 12-14.²

Suva was an important element of the Red Sea Patrol under the command of Captain W.H.D. Boyle, RN.³ Between March 1916 and December 1918, *Suva*:

- bombarded seven Turkish garrison towns
- helped occupy three towns with her naval landing forces
- transported troops at least nine times
- conducted four dhow interdiction operations
- survived two ship groundings and two ship fires.

HMS *Suva* Auxiliary Cruiser

Armament:	three 4.7-inch guns (for war service 1915 to 1919)
Tonnage:	2229 tons (gross) 1159 tons (net)
Length:	300 feet 3 inches
Breadth:	41 feet 1 inch
Depth:	11 feet 8 inches (registered)
Machinery:	Triple expansion 3 cylinder 414 horse power
Speed:	14 knots (maximum at build) 11 knots (cruising) with 25 tons of coal/hour
Bunker:	700 tons capacity
Built:	Workman, Clark & Co. Ltd, Belfast, 1906

*HMS Suva (SP2072)*⁴***Suva's* Service**

AUSN - April 1906 to July 1915
RN - 19 July 1915 to June 1919
RAN - 23 June to 12 August 1919
AUSN - August 1919 to 1928
Renamed <i>Sirius</i> by Madrigal & Co. Manila 1928 to 1935?
Renamed <i>Bohol</i> by Cia Maritima, Manila 1935? to 1947
Deleted from Lloyds Register in 1947, but sunk by Japanese aircraft at Manila in December 1941

Although seemingly in action almost constantly, the majority of *Suva's* actions were more demonstrations than warfighting. For example, the operations against Qunfundah, south of Jiddah, during July and August 1916 involved the ship firing single rounds and shining the searchlight over the town at night. In addition, *Suva's* officers visited the important people of the town and Arab officials were invited to view firepower displays while on board the ship (see extracts from HMS *Suva* ship's log on pages 15-18). Although, such low-spectrum warfighting activities have not received much attention from the battle-centric naval historians of the past, they are illustrative of how non-lethal methods may be used to gain desired political results. They also provide insight into the difficulty of assessing the exact effects of such political operations. While some of the Arab population at Qunfundah sided with the Arab forces against the Turks, the majority remained essentially uncommitted, siding with the strongest power in their vicinity - either British or Turkish. By late 1916, it was clear to the coastal Arabs that British naval forces of the Red Sea Patrol predominated in the littorals, at sea and ashore, and hence they did not openly oppose British influence in the region.

Suva also provided transport and communications to the military staff of the Arab Bureau, who helped precipitate the Arab Revolt in the Hejaz. Even the famous Lieutenant T.E. Lawrence was welcomed onboard *Suva* in early November 1916, following discussions with Prince Faisal ibn Hussein.⁶ *Suva* provided an essential service transporting political officers, armaments, supplies and gold in support of the Arab Revolt, but it performed invaluable duty by its presence. The political will and military power of the British people in support of the Arab Revolt was frequently demonstrated by the Red Sea Patrol. This ranged from demonstration firings of Maxim guns, to the protection of the 'Holy Carpet' on its annual journey from Cairo to Jiddah.⁷

The ship returned to Australia in 1919 and was recommissioned as HMAS *Suva* for Admiral Jellicoe's inspection of Australia and New Guinea. In December 1919 she was returned to her owners, the AUSN, where she operated in Australian coastal waters until 1928. The ship's demise came under a new name, *Bohol*, when it was reportedly sunk by Japanese aircraft at Manila in December 1941.

Today, after more than 60 years of warship construction driven by high-end warfighting requirements, it is opportune to reconsider the careers of low-end vessels such as HMS *Suva*.⁸ The need for large numbers of ships capable of fighting at the lower end of the conflict spectrum, and with the flexibility to perform wide ranging diplomatic and constabulary tasks similar to the auxiliary cruisers of WWI, has been highlighted in recent years. Perhaps the need for modern auxiliary cruisers follows from our current unipolar naval system, where political effects are often as important, if not more important, as warfighting capabilities.⁹

Captain William Boyle and the Political Naval Officer

The career of Captain William Boyle, later Admiral of the Fleet and Earl of Cork and Orrery, is one of a consummate political naval officer. His autobiography is replete with examples of how 'good fortune' helped his career. 'My good fortune has been great, for I have spent my life in doing work which at the same time was my hobby.'¹⁰ But when his biography is examined, there is clearly an underlying pattern to the Admiralty's decisions that impacted on his career. Although it may have appeared somewhat haphazard to Boyle, the Admiralty purposely developed certain naval officers for the political and constabulary roles.

From an early age, William Boyle was treated as one of the select few of the British aristocracy who could be groomed by the RN for senior political appointments. His early service emphasised the basic sea duties of the times, including pulling and sailing boat experience, but also included extensive experience overseas where Boyle developed an understanding of other cultures. Before being promoted to commander, Boyle spent nine years in the Pacific, either with the China Squadron or the Australia Squadron. As a junior officer in the Pacific his responsibilities were generally much broader than those of his peers in Britain, and as a result he developed leadership and negotiation

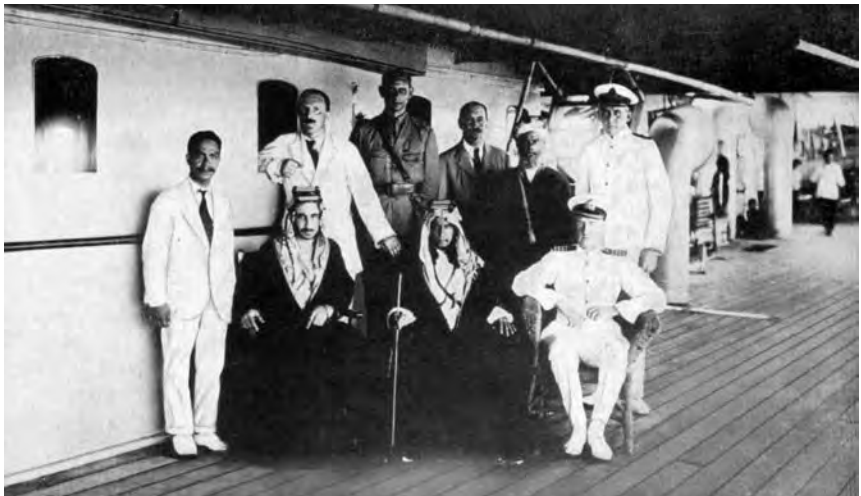
skills of a high order. Boyle's anecdote describing the King of Samoa's visit to HMS *Lizard* in 1897 is one of many examples that illustrate this point. The *Lizard's* crew fired a 21-gun Royal Salute after the departure of the Samoan King, but unfortunately some of the King's Court lingered too much and fouled the range for the salute. Despite injuring a number of the ministers with slow-burning powder, Boyle was able to avoid a diplomatic incident. Indeed, Boyle suggests in his understated manner that the Samoan King 'was delighted, the incident put him into a good temper and a great diplomatic success resulted'.¹¹ During 1913, Boyle was appointed as the Naval Attaché in Rome, a position he held until late September 1915. During the early part of WWI, Boyle's political skills were clearly of more value to the Admiralty than his warfighting skills. When he used his political influence to become unofficially attached to Rear Admiral Rosslyn E. Wemyss' staff during the Gallipoli Campaign, the Admiralty sent a signal message: 'Captain Boyle is to return to his post in Rome'. Boyle arrived back in Rome just prior to the Italian declaration of war against Austria on 23 May 1915.¹²

Boyle was determined to leave his comparative idleness in Rome; again using political influence, in September 1915 he was given command of the second-class cruiser HMS *Fox*, which was stationed in the Red Sea. When Admiral Wemyss assumed command of the station, he amalgamated what was previously the Northern and Southern Patrols into a single Red Sea Patrol squadron, under the command of Captain William Boyle.¹³ This appointment was one of the right man in the right place at the right time. Between January 1916 and November 1917, Captain Boyle conducted one of the most influential maritime campaigns of WWI. His operations helped generate the Arab Revolt in the Hejaz, and then helped sustain it until the main Turkish threat to the Red Sea area had been removed by the advances of a large British Army under General Edmund Allenby into Palestine. Boyle's diplomatic experience helped him to use the Red Sea Patrol to influence events ashore with the minimum use of force. The effects achieved were in line with those desired by Admiral Wemyss and the other commanders responsible for military and naval operations in the Middle East at the strategic level, that is:

- security of Egypt, the Suez Canal and the Red Sea
- projection of maritime power in the Red Sea littoral in support of the Arab Revolt, as a means to wear down Turkish military forces
- promotion of Britain's image as a friend of the Islamic peoples, both within and outside the British Empire.

Unfortunately, the longer term political effects of the policy to support the Arab Revolt, and the consequent division of the Ottoman Empire, were not foreseen by these commanders, or if they did predict the disintegration of the Ottoman Empire they placed greater importance on 'winning the war' than 'winning the peace'. This should not be taken as a criticism of Admiral Wemyss and his colleagues, but rather as a warning regarding human decision-making processes and our inability to predict the full consequences of specific human actions.

Of course, Captain Boyle's career did not end in 1917. He was fortunate, and some would say well-connected enough, to hold a number of senior commands and diplomatic appointments during the Inter-war years. At the height of the Great Depression he was retained as President of the Royal Naval College at Greenwich. He was promoted admiral and appointed Commander in Chief of the Home Fleet in 1933-35. He also inherited the title Earl of Cork and Orrery from his cousin, and after departing the Home Fleet took his place in the House of Lords. Promoted to Admiral of the Fleet before World War II (WWII), Boyle, now known as Admiral Lord Cork, commanded the Combined Expedition to Norway in early 1940, and in many ways was made a scapegoat for mistakes made by the Admiralty and the then First Lord, Winston Churchill.¹⁴ Afterwards, Admiral Lord Cork held discussions with the First Lord of the Admiralty and the First Sea Lord, and he later suggested 'the position in Norway had never been really understood, but [I] did not think this surprising under the circumstances'.¹⁵ Such is the typically subtle and understated rebuke of this political naval officer.



*Meeting at which the date and time of the Arab Revolt was decided, 1916.
Captain Boyle, RN, seated front right.*

The Red Sea Patrol and its Effects

In early 1916, the Red Sea Patrol consisted of two old cruisers, four Royal Indian Marine ships, two sloops, six armed boarding steamers, an armed tug and a launch.¹⁶ With this small fleet, Boyle not only protected the sea communications through the Red Sea and maintained an open blockade of the Turkish coast; he was able to decisively project maritime power ashore in the littoral. During the early part of 1916, the Red Sea Patrol was used for the transportation of arms, munitions, provisions and money from Suez

and Port Sudan to the Arabian coast, and to carry secret agents back and forth. These tasks brought Boyle's diplomatic and constabulary experience to the fore.¹⁷

The first action occurred on 21 March 1916, when *Fox* and *Suva* destroyed the Turkish forts at Umlejh and Wejh in the Hejaz district. 'Turkish truculence on the coast ceased.'¹⁸ During the next few months, the presence of the patrol was a symbol of the RN's ability to project power in the Red Sea littoral. It was a significant factor underpinning the negotiations both in Cairo and onboard vessels of the Patrol, which led to the Sharif of Mecca, Hussein ibn Ali's decision to lead the Arabs in revolt against the Turks in the Hejaz.¹⁹ Sharif Hussein's negotiations with Sir Henry McMahon, British High Commissioner in Egypt, led to an understanding on the dismantling of the Ottoman Empire after the war, which still remains contentious in the Arab world today.

On 6 June 1916, Sharif Hussein's irregular Arab forces attacked the Turkish garrisons at Mecca, Ta'if and Medina, but without artillery they made little headway. The situation at Jiddah on the Red Sea coast was different. Ships of the Red Sea Patrol anchored off Jiddah and commenced an intermittent bombardment of the Turkish positions. After five days, the patrol off Jiddah was joined by the seaplane carrier HMS *Ben-my-Chree*, and her planes joined in the bombardment.²⁰ Despite poor coordination with the irregular Arab forces, Jiddah fell on 9 June 1916. Some 1500 Turkish troops and 16 guns surrendered to the Arab forces. The capture of Jiddah was essential to the success of the Arab Revolt. It was through this seaport that British supplies were sent to the interior, unrestricted communications with Cairo (Egypt) and Suakin (Sudan) were opened, a leavening of Egyptian officers was dispatched to join the irregular Arab forces, and an artillery unit of the Egyptian Army was sent to support the Arab attack on Mecca. The victory at Jiddah was a significant morale boost for the Arab forces that captured Mecca on 10 June.

The campaign now turned to the Asir region, south of Lith, and its principal port of Qunfundah. The inland area was ruled by Seyyid Mohamed of the Idrissi family, but the coastal towns remained largely independent under Turkish rule. Seyyid Mohamed, although openly favourable to the British, was both suspicious and jealous of Sharif Hussein and hence was inclined to 'sit on the fence' rather than join Hussein's Arab Revolt. The Red Sea Patrol was ordered to seize Qunfundah on behalf of the Idrissi to ensure their support, and subsequently after a short bombardment on 8 July, the Turkish garrison of the town surrendered. The attacking force included HM Ships *Fox*, *Suva*, *Minto* and *Enterprise*. The Idrissi flag was hoisted, but the inhabitants were frightened that Bedouin would loot their town before the Idrissi Arabs arrived, so a small landing party from *Fox* were landed to temporarily garrison the place. *Suva's* ship's log shows that after several weeks the inhabitants of Qunfundah still did not welcome the loss of their relative independence under the Turks and being used as a gift for the Idrissi. However, such was the will of the British, demonstrated by the Red Sea Patrol's ability to project power ashore. The coastal cities of Yembo and Rabugh were captured with the assistance of the patrol, while the Arab forces accepted the

surrender of the Turkish garrison at Ta'if on 22 September 1916. Thus control of the country south of Medina passed into Arab hands.²¹

After their initial victories, British efforts were centred upon the creation and maintenance of a strong Arab military force. The irregular Arab forces were reinforced with Arab troops recruited from Turkish prisoners in Egypt and the Sudan. Specialist troops from the Egyptian Army and Sudanese Army, and a scattering of British political officers from the Arab Bureau in Cairo were shipped to the Hejaz.²² Lieutenant Colonel C.E. Wilson, the Governor of the Sudan Red Sea province, took up his quarters in Jiddah. In addition to the troop movements, ships of the Red Sea Patrol transported water, provisions, guns, munitions, uniforms, saddlery, and forage for horses and camels. They also transported large amounts of gold to essentially bank-roll the revolt.

During October 1916, Turkish forces under Fakri Pasha advanced against the Arab forces and pushed Prince Ali back to Rabugh and his brother Prince Feisal back to Yembo. Consideration was given to sending a British Army brigade to defend Rabugh, but was ultimately rejected, largely due to the sensitivities of landing a large body of British troops in what was Islamic Holy territory.²³ Once again, the Red Sea Patrol and Egyptian troops held back the Turks. A flight of planes from the Royal Flying Corps helped to defend Rabugh, while aircraft from the seaplane carrier HMS *Anne* assisted in the defence of Yembo. In addition, Prince Abdullah, another of Sharif Hussein's sons, led a successful raid on the Hejaz railway, which alarmed Fakri Pasha sufficiently to convince him to withdraw the Turkish forces back towards Medina to protect his overland communications. The importance of the naval forces in defending the Arab forces, at this critical time, should not be overlooked, for it was clearly the RN's ability to protect the Red Sea littoral that kept the Arab Revolt alive.

The role of the Red Sea Patrol remained politically sensitive. In late 1916, Captain Boyle's ships were used to convey the Holy Carpet (in an annual procession from Cairo to Mecca) with its escort from Suez to Jiddah. In 1916, the Turks had vowed that they would get their own Holy Carpet to Mecca from Medina first. But the Turkish effort was stillborn. 'The attention paid to this religious festival gave much gratification, and the whole pilgrimage passed off most satisfactorily.'²⁴

Working with the irregular Arab forces was not easy, and at times the British found that their Allies were more dangerous than the Turks. T.E. Lawrence describes one such incident.

There was a fight three days ago between 300 Ageyl and 400 Hadheyl over a question of camels. About 1000 rounds were fired, and two men were killed and six wounded. The fight was checked by Feisal himself, who went out bare-headed and bare-footed, as he happened to be and made peace at once. Some bullets struck the Monitor (M.31) in the harbour, and narrowly missed wounding or killing some of her crew. Sharif Feisal came off, when the matter was pointed out to him by Captain Boyle, and expressed his regret.²⁵

A manoeuvre to the northern coastal town of Wejh followed. A squadron consisting of HM Ships *Fox*, *Suva*, *Anne*, *Espiegle* (sloop) and the *Hardinge* (loaded with Arab troops) were used to occupy Wejh on 24 January 1917, after most of the Turkish garrison had fled during the night. The occupation of Wejh paralysed the Turks at Medina by its threat to the Hejaz railway, but it also allowed Prince Feisal to get in touch with the northern Arabs and encourage them to join the rebellion. This formed part of the newly developed British strategy to encourage the Arab Revolt to expand outside the Hejaz and into Syria, which is indeed what happened from late 1917 until the end of the war. The Arab forces would then contribute towards the efforts of General Allenby who, during late 1917, was advancing across the Sinai towards Palestine and Syria. But for the Arab Revolt to move into Syria, it was first necessary to seize the port city of Akaba (located in the north at the head of the gulf of Akaba). On 19 April 1917, three warships raided Akaba and naval landing parties demolished mine-laying facilities. Following this raid, Admiral Wemyss planned for a combined attack to capture Akaba, using Prince Feisal's Arab troops marching overland, supported by Huweitat irregulars, acting with Arab troops embarked on RN ships landing from the sea. After a series of sharp actions, Feisal's troops, with Lawrence, entered the abandoned port of Akaba on 6 July 1917. Apparently Feisal had jumped the gun, as the British had planned the combined land and sea assault at Akaba for 15 July. In order to gain reinforcements before a Turkish counter-attack, Lawrence set out across the Sinai to alert the British command of Akaba's capture and in response HMS *Dufferin* arrived on 13 July with food and supplies.²⁶

The capture of Akaba secured the northern Red Sea, and Boyle's ships had little to do in the north beyond carrying stores. The Arab Revolt lost 'its amphibious character, and developed into land warfare pure and simple'.²⁷ But the Red Sea Patrol was still in high demand, as operations in the southern Red Sea were now given priority. It is beyond the scope of this paper to examine the southern operations of 1917 and 1918; however, there were many more examples of the utility of this credible naval force in the Red Sea.²⁸

One of the difficulties with operations in the Red Sea littoral was the need to defeat the Turkish troops without occupying the Islamic Holy Lands and without harming the local Arab population. The British remained politically sensitive to the Arab desires and avoided actions that might inflame Islamic communities across the world. With 100 million Muslims in the British Empire, 20 million under French rule and 20 million within the Russian Empire, the Allied commanders were cautious not to act in any manner that would incite rebellion by their Muslim subjects. Despite a call for Islamic holy war by the Turkish Sultan (Sheik el-Islam) in November 1914, the Muslim communities by and large remained loyal to their respective empires, and many contributed troops and material that helped the Allies gain victory in 1918.²⁹

Lessons Learnt from a Side-show

Although the Red Sea Patrol operated in a theatre that has frequently been called a side-show, there are a number of lessons that can be learnt from its experience. Between 1916-18 the British were able to project power ashore in the Red Sea physically and culturally with surprising flexibility and economy of effort. Even the auxiliary cruiser *Suva* contributed significantly to influence events ashore, and it did so using minimal force. Having gained sea control in the littorals, Captain Boyle was able to achieve effects that far exceeded the material effort involved. It was more effective to 'fire a Lawrence of Arabia' than to destroy indiscriminately parts of the littoral with lethal force. Using modern terminology, the Red Sea Patrol was used to support information operations, with the desired outcomes achieved using non-lethal means. Non-kinetic targeting was the preferred option during the Arab Revolt.

Sea power not only supported the Arab Revolt with gold, arms and supplies, but the very presence of RN ships helped sustain the political will of those leading the revolt against the Turks. In many ways the effects of Boyle's patrol exceeded the expectations of those responsible for the strategic direction of the war. The subsequent disintegration of the Ottoman Empire was not necessarily foreseen by the military strategists at the time. The Foreign Office was probably wary of the influence that military and naval victories would have on the Post-war political environment, but they were not able to



The Holy Carpet on its way ashore at Jiddah, 1917

prevent decisions taken to gain military advantage in the war. The decisions made in 1916, reinforced by the efforts of the Red Sea Patrol, have had a resonating effect on the modern world far beyond that which anyone could have imagined.³⁰

This paper is based on that presented at the 2007 Naval History Symposium, held at the United States Naval Academy, Annapolis, Maryland, 20-22 September 2007.

Chronology of HMS *Suva*'s War Service 1915-1918

(Related principal events are in bold)³¹

1914

- 29 October** Ottoman Empire enters war against Russia, France and Britain
- 1-8 November** British bombardment of Akaba
- 14 November** Turkish Sultan declares Islamic holy war against Britain, France, Russia, Serbia and Montenegro

1915

- 3-11 February** Turkish attack on the Suez Canal defeated
- 19 July HMS *Suva* requisitioned by the Admiralty at Brisbane
- August/September On transit to Aden via Colombo with Australian crew, but the ship was considered unsuitable and ordered to return to Colombo
- October/November Refitting at Bombay; British naval officers and ratings replace the Australian merchant marine crew
- December Steams via Aden to Suez

1916

- 5 January Commenced first patrol in northern Red Sea
- From 1916 until 1918 *Suva* operates with the Red Sea Patrol using Suez and Port Sudan as bases
- 21 March Bombardment of Wejh Fort
- 5-6 April Operations at Akaba
- 19-20 May Seizure of Dhow off Lith

5 June	Sharif of Mecca (Hussein) enters into an alliance with the British and French; he begins the Arab Revolt against the Turks
9-10 June	Jiddah and Mecca captured by Arab forces
8 July	Bombardment of Qunfundah and prisoners taken
28 and 30 July	Bombardment of Qunfundah
1-3 August	Maxim parties ashore at Qunfundah
22 August	Fire in cold storage room put out
September	Seizure of dhows
22 September	Ta'if captured by Arab forces
5 October	Seizure of dhow off Berbera
17 October	Captain W.H.D. Boyle, RN, takes command of <i>Suva</i>
1-4 November	Patrol from Rabugh, via Yembo to Jiddah, including Commander in Chief's inspection and passage by T.E. Lawrence
10-11 November	Transported troops from Port Sudan to Rabugh
22-24 December	Transported Egyptian troops from Yembo to Rabugh
1917	
10-11 January	Transported Arab troops from Yembo to Umm Lejh
20 January	Captain Boyle transfers command and leaves <i>Suva</i>
24-25 January	Occupation of Wejh
31 January	Departs Aden for Bombay
February to May	Refitting at Colombo
June/July	Returns to Red Sea Patrol, operating in southern area
June	Occupation of Salif
June	Bombardment of Hodeida
6 July	Akaba captured by Arab forces
2-8 September	Captain Boyle embarked from Port Sudan to Suez
19-22 September	Transported troops from Suez to Akaba
22-26 September	Transported Arab troops from Akaba to Jiddah
27-29 September	Ship grounded on shoal off Jiddah and refloated
30 September - 1 October	Transported troops from Port Sudan to Jiddah

27-31 October	General Allenby defeats Turks at Gaza and Beersheba, Palestine
27-28 October	Took HMS <i>Pyramus</i> in tow
30-31 October	Transported Arab troops from Yembo to Jiddah
2-5 November	Transported Arab troops from Yembo to Akaba
8-26 November	Refitting at Suez
30 November	Depart with troops from Suez
2-3 December	Disembark Egyptian troops at Wejh and French troops at Yembo

1918

January-March	On Perim patrol (Bab el-Mandeb Strait)
19 January	Fire in bunker extinguished
10 February	Perim bombardment and dhow actions
April/May	Refitting at Colombo
4 June	Arrived at Aden, again with Red Sea Patrol
12-13 June	Bombardment of Loheiya
17-20 June	Bombardment of Loheiya
20-21 August	SS <i>Cardian</i> in tow
14 September	Bombardment of Qunfundah
19 September	Bombardment of Loheiya
23 September	Ship grounded off Kamaran
October/November	On Perim patrol
11 November	Armistice day
13-20 December	Bombardment of Hodeida (because the garrison refuses to acknowledge the armistice)

Summary of HMS *Suva* Ship's Log

Qunfundah Operations – 8 July, and 28 July to 3 August 1916

8 July 1916

The Surrender of Qunfundah

0000-0015	Searchlight shown on town and trenches
0200-0215	Searchlight shown on town and trenches
0400-0415	Searchlight shown on town and trenches
0945	Action Stations
1011	Warning gun fired by HMS <i>Fox</i>
1014	Commenced bombardment of town
1040	Ceased firing
1049	<i>Fox</i> hoisted White Flag as symbol
1050	Man observed, with White Flag, to leave town and approach beach
1400	Secured guns
1640	Lowered lifeboats and whaler
1717	Steam cutter with Maxim and armed party proceed to pier with lifeboats and whaler in tow to bring off Turkish prisoners
1832	Idrissi flag hoisted at Qunfundah
1850	Prisoners embarking
2030	Last batch of prisoners embarked, hoisted whaler and life boats
	Number of prisoners – 10 officers, 190 other ranks and 2 children
	Ammunition and rifles taken from prisoners dispatched to <i>Fox</i>
	Received one Petty Officer and twelve others from <i>Fox</i> as armed guard

Despite the surrender of the Turkish garrison on 8 July 1916, elements of the Arab population did not support the pro-British Idrissi leadership at Qunfundah.

28 July 1916**At Qunfundah**

- 0100 Fired one round of common shell from port foremost gun, over town
- 0300-0320 Searchlight shown on town
- 1040 Captain and party of officers left ship and proceeded to land to visit town
- 1310 Captain and officers returned to ship
- 2030 Steam cutter proceeded to shore for Sheikh and guard
- 2230 Sheikh returned to shore
- 2300 Fired one round of common shell over town, searchlight shown on town

29 July 1916**At Qunfundah**

- 0200-0220 Searchlight shown on town
- 1030 Party of officers left ship to visit town
- 1325 Officers party returned to ship
- 1800-1900 Ship proceeds to new position off reef SSE of island
- 2035 Steam cutter with whaler in tow proceeded to shore
- 2100-2120 Searchlight shown on town
- 2245 Steam cutter and whaler returns to ship
- 2305-2320 Searchlight shown on town and surroundings

30 July 1916**At Qunfundah**

- 0015 Fired one round of common shell behind town
- 0200-0220 Searchlight shown on shore and to rear of town
- 1030 Held Divine Service
- 1100-1127 Ship proceeds to new anchorage SE of island
- 1715 Fired one round common shell from after gun, behind town
- 1721 Fired second round from after gun
- 2100 Fired one round common shell over town
- 2217 Action stations; fired two rounds common shell over town, searchlight shown on town

1 August 1916**At Qunfundah**

0400 Fired one 4.7 blank charge
0405 Maxim parties left ship in steam cutter and whaler to take up station close in shore
0735 Maxim parties returned to ship
0930 Sheik and party arrived on board
1000 Exercised landing party
1030 Fired one blank charge No. 1 Gun and 150 rounds with Maxim
1100 Landing party dispersed
1140 Steam cutter and whaler proceed to shore with Sheikh
1200 Fired one blank charge
1520 Large dhow arrived and anchored
1850 Fired one blank charge from after gun
1920 Exercised night firing at target
2030 Fired one round common shell from after gun

2 August 1916**At Qunfundah**

Night Searchlight shown every half hour for 10 minutes throughout the night
0405 Steam cutter and whaler left ship with two Maxim parties to take up station close in shore
0700 Maxim parties returned
2025 Fired one round common shell

3 August 1916**At Qunfundah**

Night Searchlight shown to the right of town for 10 minutes every half hour
0330 Steam cutter and whaler left ship and proceeded close in shore with two Maxim parties
0725 Maxim parties returned to ship
0940 Sheikh and party from town arrived on board to visit ship
Fired 150 rounds from Maxim fitted in steam cutter

1145	Sheikh and party left ship HMS <i>Lunka</i> arrived and anchored Received four bags of mail from <i>Lunka</i>
1300	Hands to make and mend clothes
1400	Received one packing case containing pump from <i>Lunka</i>
2100	Dispatched to <i>Lunka</i> two bags mail, one packet letters

**Short Biography of Admiral of the Fleet,
the 12th Earl of Cork and Orrery,
William Henry Dudley Boyle, RN, GCB, KCB, CB, GCVO,
(1873-1967)**

1887	Entered the Royal Navy as naval cadet on <i>Britannia</i>
1888-1894	Served in <i>Monarch</i> , <i>Victoria</i> and <i>Colossus</i> in the Mediterranean
1894	Commissioned as sub-lieutenant Served in the gunboat <i>Crescent</i> in the China Squadron
1895	Promoted to lieutenant
1895-1897	Served in the gunboat <i>Lizard</i> in the Australia Squadron including anti-‘Blackbirding’ patrols in the South West Pacific and patrols to Samoa, Fiji and New Zealand
1898	Served with the Channel Fleet in the cruiser <i>Furious</i>
1898-1901	Served in command of the sloop <i>Daphne</i> in the China Squadron Participated during the Boxer Rebellion
1902	Married Lady Florence Keppel
1902-1904	Commanded the destroyer <i>Haughty</i> in Scotland
1904	Served as first lieutenant (Gunnery) on the cruiser <i>Astraea</i> in the Mediterranean
1905-1906	Commanded <i>Astraea</i> in the China Squadron

1906	Promoted to commander
1906-1908	Commanded the battleship <i>Hiberia</i> in the Channel Fleet
1909-1911	Served with the Naval Intelligence Department of the Admiralty
1911-1912	Commanded the armoured cruiser <i>Good Hope</i> , in the Atlantic Fleet
1912	Commanded the destroyer <i>Skirmisher</i> with the Dover Patrol
1913-1915	Appointed Naval Attaché in Rome
1913	Promoted to captain
1913	Observer during the Second Balkan War
February-April 1915	Attached to Rear Admiral R.E. Wemyss' staff off Gallipoli, (although unofficially absent from Rome)
October 1915	Commanded the cruiser <i>Fox</i> in the Red Sea
December 1915	Appointed Senior Officer Red Sea Patrol
October 1916 - January 1917	Commanded <i>Suva</i> (while <i>Fox</i> in dockyard hands)
November 1917	Left the Red Sea
1917-1919	Commanded the battle cruiser <i>Repulse</i>
1922-1923	Naval aide de camp (ADC) to the King
1923	Promoted rear admiral
1923-1925	Commanded 2nd Battle Squadron of the Atlantic Fleet
1926-1928	Commanded 1st Cruiser Squadron on the China Station
1928	Promoted vice admiral
1929-1933	President of the Royal Naval College, Greenwich
1932	Promoted admiral
1933-1935	Commander in Chief, Home Fleet
1934	Succeeded cousin as 12th Earl of Cork and Orrery
1936-1937	First and Principal ADC to the King
1937-1939	Commander in Chief, Portsmouth
1938	Promoted Admiral of the Fleet (retires 1941)
1940	Commanded Combined Expedition in Norway
1941-1942	Lieutenant colonel with the Home Guard

Notes

- ¹ Arthur W. Jose, *Official History of Australia in the War of 1914–1918, Vol. IX, The Royal Australian Navy*, Angus and Robinson, Sydney, 1928, p. 494; see also pp. 238-239, 481, 494-495.
- ² *Suva's* groundings are somewhat understandable, given the Red Sea coast was essentially a coral formation with outlying reefs, with harbours mostly inlets between reefs that were only approachable at certain times of the day. Surveying was almost non-existent until 1917 and many of the buoys and beacons had been removed by the Turks in the early part of the war. 'Naval operations in the Red Sea, 1916-17', *Naval Review*, Vol. 13, 1925, p. 652.
- ³ Captain William Boyle, RN, was Senior Officer of the Red Sea Patrol between December 1915 and November 1917. His career is discussed elsewhere in this paper and his autobiography is Earl of Cork & Orrery, *My Naval Life, 1886–1941*, Hutchinson & Co., London, 1942.
- ⁴ The image of HMS *Suva* is from the Imperial War Museum UK, SP2072, <www.telstudies.org.uk/telstudies_org_uk/legacy1/gallery/photos/1914-18/r107.htm>, published with permission.
- ⁵ The HMS *Suva* logs are retained in the United Kingdom (UK) National Archives, ADM 53/61865-61894. A summary of *Suva's* activities may also be found on Log Extract Cards at the Royal Navy's Historical Branch, Portsmouth, UK.
- ⁶ *Suva* is mentioned several times in Thomas E. Lawrence's (Lawrence of Arabia) books, *Seven Pillars of Wisdom: A Triumph, The Complete 1922 Edition*, Castle Hill Press, Fordingbridge, 1997; and the condensed version, *The Arab Revolt*, Jonathon Cape, London, 1927. The navy is often mentioned by Lawrence, particularly in T.E. Lawrence, 'The Arab Campaign: Land and sea operations: British Navy's help', *The Times* (London), 26 November 1918, reprinted in S. and R. Weintraub (eds), *Evolution of a Revolt*, Pennsylvania State University Press, University Park Pennsylvania, 1967, pp. 33-39. The biography by Lawrence James, *The Golden Warrior: The Life and Legend of Lawrence of Arabia*, Abacus, London, 1995, is also valuable.
- ⁷ For the 'Holy Carpet', see Boyle, Earl of Cork & Orrery, *My Naval Life*, pp. 101-102.
- ⁸ Here the terms 'high-end' and 'low-end' refer to positions on the spectrum of operations that range from benign peace actions (low) to national wars of survival (high).
- ⁹ The proposed high/low mix of the future British sustained surface combatant capability recognises three levels of required capability, with the command, control and communication general purpose corvette substituting for the WWI auxiliary cruiser. Paul Halpern has highlighted the British capacity to source auxiliary cruisers 'that after conversion performed tasks scarcely dreamed of before the war'. Paul G. Halpern, *A Naval History of World War I*, Naval Institute Press, Annapolis, 1994, p. 8.
- ¹⁰ Boyle, Earl of Cork & Orrery, *My Naval Life, 1886–1941*, p. 3.
- ¹¹ Boyle, Earl of Cork & Orrery, *My Naval Life, 1886–1941*, p. 29.
- ¹² Boyle, Earl of Cork & Orrery, *My Naval Life, 1886–1941*, p. 92.
- ¹³ For the role of Admiral Wemyss during the Arab Revolt, see Lady Wester Wemyss, *The Life and Letters of Lord Wester Wemyss*, Eyre and Spottiswoode, London, 1935, pp. 275-280, 317-360.
- ¹⁴ For an overview of the Norway Campaign, see Stephen W. Roskill, *The War at Sea 1939–1945, Vol. 1, The Defensive*, Her Majesty's Stationary Office, London, 1954, pp. 169-204; and Correlli Barnett, *Engage the Enemy More Closely: The Royal Navy in the Second World War*, Hodder & Stoughton, London, 1991, pp. 97-139.

- ¹⁵ Boyle, Earl of Cork & Orrery, *My Naval Life, 1886-1941*, p. 196.
- ¹⁶ The ships were cruisers *Fox*, *Minerva*; R.I.M. Ships *Northbrook*, *Dufferin*, *Hardinge*, *Minto*; Armed Boarding Steamers *Suva*, *Lunka*, *Lama*, *Perth*, *Scotia*, *Enterprise*; Armed Tug *Slieve Foy*; Armed Launch *Kameran*. Boyle, Earl of Cork & Orrery, *My Naval Life, 1886-1941*, p. 96.
- ¹⁷ There are few accounts of the activities of the Red Sea Patrol, although some material remains untouched in the UK National Archives and the Royal Navy's Historical Branch. The main sources for this paper are: 'Naval operations in the Red Sea, 1916-17', pp. 648-667; and 'Naval operations in the Red Sea, 1917-18', *Naval Review*, Vol. 14, 1926, pp. 48-56, both of which were probably written by Captain Doyle as his autobiography is similar for this period. Despatches detailing military operations in the Hejaz were published in the Fifth Supplement to *The London Gazette*, dated 15 December 1919 (15605-15612), while more material on the military aspects of the campaign may be found in the numerous books relating to the life of T.E. Lawrence, see Note 6.
- ¹⁸ 'Naval Operations in the Red Sea, 1916-17', pp. 653-654.
- ¹⁹ Although Sharif Hussein's support was mostly localised in the Hejaz, he later proclaimed himself 'King of the Arabs' on 4 November 1916. It was the Allied recognition of Hussein as 'King of the Arabs', and the subsequent expectation that Hussein's family rule part of a dismantled Ottoman Empire, which ultimately led to much conflict later in the 20th century. The widely used phrase 'Arab Revolt' is used in this paper, although the 'Sharifian Revolt' is probably more accurate. See Efraim Karsh and Inari Karsh, 'Myth in the desert, or not the Great Arab Revolt', *Middle Eastern Studies*, Vol. 33, No. 2, 1997, pp. 267-312.
- ²⁰ The important contribution made by naval aviation during the Arab Revolt is mentioned in R.D. Layman, *Naval Aviation in the First World War: Its Impact and Influence*, Chatham Publishing, London, 1996, pp. 153-155. Detailed accounts may be found in Henry A. Jones, *The War in the Air*, Vol. 5, University Press, Oxford, 1935, pp. 218-224; and Cecil E. Hughes, *Above and Beyond Palestine. An Account of the Work of the East Indies and Egypt Seaplane Squadron 1916-1918*, Ernest Benn, London, 1930.
- ²¹ The Turkish force in Medina, numbering about 10,000 men under Fakri Pasha, managed to resist the Arabs until the end of the war. Their operations were handicapped by their need to protect their supply line from Syria and in particular the Hejaz railway between Ma'an and Medina.
- ²² General Reginald Wingate arrived with his staff to command the Hejaz Force on 4 October 1916. Of much less importance, T.E. Lawrence did not arrive in Rabugh until 19 October.
- ²³ The region south of Wejh is considered Islamic 'holy territory into which no Christian prior to the war was allowed to penetrate'; from 'Naval operations in the Red Sea, 1916-17', p. 649. A small number of British officers were admitted into the region, although even Lawrence of Arabia was often mistakenly taken as a Syrian (due to his accent) when operating in the Hejaz. The use of Egyptian and Sudanese troops of the Muslim faith in the area was also not accidental, but a conscious decision by commanders with a sound cultural awareness of Islamic customs.
- ²⁴ 'Naval operations in the Red Sea, 1916-17', p. 658; Boyle, Earl of Cork & Orrery, *My Naval Life, 1886-1941*, p. 101.
- ²⁵ From a letter from T.E. Lawrence at Yembo to Colonel C.E. Wilson at Jiddah dated 19 December 1916 (Public Records Office FO882/6) reprinted in Malcolm Brown (ed), *The Letters of T.E. Lawrence*, Oxford University Press, Oxford, 1991, p. 97.

- ²⁶ This reconstruction of the events surrounding the capture of Akaba in 1917 is based upon that in James, *The Golden Warrior, The Life and Legend of Lawrence of Arabia*, pp. 180-188, and endnotes, which refer to the relevant primary sources.
- ²⁷ 'Naval operations in the Red Sea, 1916-17', p. 662.
- ²⁸ See 'Naval operations in the Red Sea, 1916-17', pp. 662-667; and 'Naval Operations in the Red Sea, 1917-18', pp. 48-56, for an overview of the Red Sea Patrol's activities from July 1917 until the end of the war.
- ²⁹ For the war against the Ottoman Empire and the Muslim contributions, see Hew Strachan, *The First World War*, Simon & Schuster, London, 2003, pp. 97-124, 315-316.
- ³⁰ A number of decisions taken during WWI influenced the development of the Middle East during the 20th century and continue to resonate in the Middle East today. William L. Cleveland, *A History of the Modern Middle East*, 2nd Edition, Westview, Boulder, 2000, pp. 146-167.
- ³¹ Based upon official records. Note that some of the important dates listed vary with the sources used, hence the most generally accepted is used here.

FULBRIGHT SYMPOSIUM 2006





HMAS Stuart and USS Paul Hamilton on patrol during Exercise RIMPAC

Introduction

On 28-29 June 2006, the University of Tasmania in Hobart hosted the 2006 Fulbright Symposium, which examined the topic *Maritime Governance and Security*, with a focus on Asia and the South Pacific.

The annual symposium publicly demonstrates the Fulbright Commission's mission: to promote 'mutual understanding between the peoples of the United States (US) and Australia through educational and cultural exchange'.

A number of experts from Australia and the US were brought together to discuss the following issues:

- regimes, laws and the oceans: Australia and US responses
- aid and intervention in the South Pacific
- terrorism and counter-terrorism
- interests, alliances and strategic policy in Asia
- great powers and the Asia-Pacific: the maritime context
- capability sharing in maritime security and oceans governance
- marine environment.

The last decade has seen increased attention to arrangements and policy outcomes (governance) affecting the management of seas and oceans at national, regional and international levels. At the same time, policy responses to address new 'non-traditional' security threats have increased in salience. The 2006 Fulbright Symposium provided an opportunity to explore emergent issues arising from the nexus between maritime governance and security.

With the permission of the University of Tasmania, three papers examining maritime terrorism and Australia's role in maritime security cooperation in the Asia-Pacific are included in this publication.



The Boarding Team of HMAS Ballarat conduct combined interaction patrols with the US Coast Guard. Interaction patrols involve interacting with local vessels and crews to encourage positive relations between coalition forces and the people they are protecting.

The Threat of Maritime Terrorism in South East Asia: What Are We Dealing With?

Dr Sam Bateman

South East Asia sits astride the major 'choke points' for ships moving between the Pacific and Indian Oceans. Recent attention has focused on security and safety in the Malacca and Singapore straits. However, the various routes through the Indonesian archipelago and the Torres Strait between Australia and Papua New Guinea offer a range of options for ships transiting between the two oceans, albeit at additional cost, should vessels be compelled by virtue of size or security concerns to use a route other than the most direct one.¹ Similarly, straits through the Philippine archipelago carry important trade between East Asia and North America, South America and Australia.

Australia has a vital interest in the safety and security of shipping passing through the Indonesian and Philippine archipelagos. The straits through the eastern part of the Indonesian archipelago – particularly Lombok, Makassar, Ombai and Wetar straits – carry important minerals and liquefied natural gas (LNG) between the north-west of Australia and North East Asia, while much of Australia's commodities trade with South East Asia, including petroleum products from Singapore to Darwin and other ports in northern Australia, passes in an east-west direction through the Indonesian archipelago.

Maritime security in South East Asia has attracted increased attention in recent years. This is a function of both the importance of seaborne trade in the region and perceptions of risk. The incidence of piracy and armed robbery against ships in South East Asia, as well as the presence of terrorist groups and separatist movements, has led to assessments that there is a high risk of maritime terrorist attack in the region. However, balanced assessments of risk require that the ships most at risk, and those not at risk, be identified. This requires a detailed appreciation of the pattern of shipping traffic, and of the types of vessels using the straits, as well as of the *modus operandi* of the possible attackers.

Seaborne trade is considered by many analysts to be vulnerable to terrorist attack. This assessment is based on the quantities of cargo involved; international shipping's diverse and large international labour force; difficulties of enforcement both in port and at sea; and the poor regulatory environment of the international shipping industry with low levels of accountability, complicated chains of ownership, and a high incidence of fraudulent documentation. Terrorists could potentially exploit these weaknesses to use sea transport for their purposes, or to launch an attack on shipping and port infrastructure that could cause massive economic disruption.

The need to counter the threat of maritime terrorism has led to fundamental changes in the international maritime security environment. The new countermeasures have imposed large additional costs on the global transport system and have required significant effort from both government and industry. However, at this stage, the maritime terrorist threat has had no significant impact on the volume or pattern of international trade. There has been stronger than expected economic growth in Asia, and this situation would not have been any different without the terrorist attacks in the United States (US) on 11 September 2001. While the maritime terrorist attacks that have occurred in recent years have been relatively minor in terms of their overall impact, the 2001 attacks are regarded as examples of the extreme events that might be possible, including on maritime targets, and for which countermeasures are required.

Assessing the Threat

Several best sellers have been written around the threat of maritime terrorism. These usually describe the seizure of an oil tanker or other ship by terrorists who threaten to cause massive nuclear or oil pollution by sinking the vessel unless their demands are met. In 1980 Frederick Forsyth published his novel, *The Devil's Alternative*, in which terrorists hijack a ultra-large crude carrier, the *Freya*, a gigantic vessel of fictitious proportions (515 metres long and 90 metres wide), carrying one million tonnes of crude oil.² They threaten to blow the ship up, causing massive pollution of the North Sea, unless colleagues held in a German jail are released.

It may only be a coincidence but Forsyth is a shareholder of Aegis Defence Services (ADS), the British company that has made some of the more extreme assessments of the risks of maritime terrorism in recent years.³ A study published by ADS in October 2003 identified several new and disturbing developments for maritime terrorism in South East Asia, including the assessment that an attack on the chemical tanker *Dewi Madrim* in March 2003 had been a case of terrorists learning to drive a ship. However, the International Maritime Bureau (IMB) stated that its Piracy Reporting Centre (PRC) in Kuala Lumpur had received confirmation from the owners of the ship that the attack was not as described by ADS.⁴ No mention was made of the size of the vessel. The *Dewi Madrim* is in fact very small, only 737 gross registered tons,⁵ and no great skill would have been required to drive her. In another somewhat extreme prediction, the intelligence director of ADS claimed in December 2004 that Al Qaeda was likely to launch a spectacular maritime attack during 2005.⁶

In June 2005, the London insurance market's Joint War Committee (JWC) declared the Malacca and Singapore straits a 'war risk zone'.⁷ This was on the basis of ADS assessments that the levels of piracy in the straits were increasing, and the pirates were making greater use of small arms and light weapons, although this might be seen as symptomatic of the more general problem associated with the ready availability of these weapons around the world. ADS also suggested that there were potential links between

the incidence of piracy and the risk of terrorism due to the intensification of weaponry and techniques being used by pirates that made them largely indistinguishable from those of terrorists. This latter assessment has been criticised as there is little or no real evidence to suggest that pirates are forming links with international or regional groups in order to carry out a devastating maritime attack.⁸ The JWC later lifted its 'war risk' assessment of the Malacca Strait.

Despite fictional accounts of maritime terrorism, the reality is somewhat different and there have been relatively few confirmed acts of maritime terrorism. Passenger ships and ferries have been preferred targets; the sinking of *Superferry 14* in February 2004 near Manila in the Philippines is the most serious act of maritime terrorism so far in terms of loss of life, with 116 people killed.⁹ However, the attacks on the USS *Cole* in Aden in October 2000 and on the French tanker MV *Limburg* off Yemen in 2004 usually attract the most attention in writings on maritime terrorism because they were initiated by Al Qaeda and occurred in the context of September 2001. The numerous maritime terrorist attacks by the 'Sea Tigers' of the Liberation Tigers of Tamil Eelam (LTTE) on both merchant ships and Sri Lankan warships are also often cited as examples of what might be possible, including the assessment that Al Qaeda has benefited from the technologies and techniques of the LTTE.¹⁰

It is not too difficult to conjure up 'doomsday' scenarios for a maritime terrorist attack. A ship carrying a highly dangerous cargo could be hijacked and used as a floating bomb to destroy a port and cause large loss of human life, or a shipping container or a ship itself could be used to import a nuclear bomb or other weapons of mass destruction (WMD).¹¹ These are very low probability, high consequence scenarios that can lead to some lack of balance in decision-making both by governments and the business sector. Assessments of the threat of maritime terrorism must be rational and represent a reasonable balance between the likelihood of an attack occurring and the costs of providing adequate security against such an attack. The assessments depend on a multitude of factors, especially the capabilities and intentions of prospective maritime terrorists, the vulnerability of particular targets, and the consequences of an attack should one occur.

Terrorist Capabilities

The main maritime terrorist threat in South East Asia is usually seen as coming from Al Qaeda and its associated groups, particularly Jemaah Islamiyah, and the Abu Sayyaf Group (ASG). These groups have training camps in the southern Philippines where they train together and share expertise.¹² Members of these groups routinely move between Sabah, Indonesian Borneo and these camps by speedboat, local craft and ferries. The ASG in the Philippines has already shown that it can attack ships, having claimed responsibility for the *Superferry 14* attack and, more recently, has been blamed for the bomb attack on the ferry *Dona Ramona* in August 2005 as the ship was about to depart

from the port of Zamboanga.¹³ These attacks show that ferries, and potentially cruise liners, are vulnerable to attack. With passenger ships and ferries, it is not so much the bomb that does the damage, but rather the fire and panic that might follow an explosion with so many people in a relatively confined area.¹⁴ In March 2004, Philippine military sources were quoted as saying that the ASG was training with Jemaah Islamiyah to prepare for possible seaborne and underwater attacks outside the Philippines.¹⁵

In relative terms, maritime targets may be less attractive than land or air targets. Ships at sea are difficult targets, and an attack on port infrastructure may have rather less impact than an attack on a major building or facility (such as a mass transportation system) that has both high economic and iconic value. Unless a ship itself was used as a bomb or as a means of introducing a weapon of mass destruction, a maritime terrorist attack may not cause large loss of life. The destruction of a port facility would have significant economic impact, but might not figure prominently in the public consciousness. The potential list of targets for a terrorist is limitless, but maritime targets may not figure prominently on it. Even if a ship could be successfully hijacked to use as a 'floating bomb', the technical difficulties associated with causing a major explosion means that the terrorists could not be confident of the outcome. Rationally they would prefer an attack with a higher probability of success. The preferred targets for terrorists are likely to remain on land where, as shown by the attacks on mass urban transport in London and Madrid, success is more readily assured.

Piracy and Terrorism

The incidence of piracy and armed robbery against ships in some parts of the world has led to perceptions of higher risks of terrorist attack in those waters.¹⁶ The number of acts of piracy and armed robbery against ships (actual and attempted) worldwide reported by the IMB in 2006 was 239, a decrease of 37 (14.1 per cent) over 2005 (276 incidents).¹⁷ This was the lowest number of recorded attacks since 1998. The greatest concentration of incidents remained in South East Asia (88 incidents – 36.8 per cent of total incidents), while there was a marked increase in the number of attacks off Bangladesh (47 incidents in 2006, compared with 21 in 2005), and the number of attacks off Somalia also remained significant (10 incidents in 2006, compared with 35 in 2005). Of the attacks in South East Asian waters, 50 occurred in Indonesian waters, 10 in Malaysian waters and 11 in the Malacca Strait. There were six reported attacks in 2006 in Philippine waters compared with none in 2005.

The following table shows the number of attacks (actual and attempted) in South East Asia for each year from 1999 to 2006. The significant increase in the number of attacks in 2000, particularly in the Malacca Strait, may be attributed to two main factors. First, it may have been a consequence of the economic downturn of the late 1990s, with more people turning to sea robbery for income. Second, several high profile pirate

attacks in the late 1990s elevated concerns about piracy. This may have led to some increased reporting of incidents.

Location	1999	2000	2001	2002	2003	2004	2005	2006	Total
Cambodia/Vietnam	2	6	8	12	15	4	10	3	60
Indonesia	115	119	91	103	121	94	79	50	772
Malacca Strait	2	75	17	18	28	38	12	11	201
Malaysia	18	21	19	14	5	9	3	10	99
Philippines	6	9	8	10	12	4	0	6	55
Singapore Strait	14	5	7	5	2	8	7	5	53
Thailand	5	8	8	5	2	4	1	1	34
South China Sea	3	9	4	0	2	8	6	1	33
TOTAL	165	252	162	167	187	169	118	87	1307

*Piracy in South East Asia – actual and attempted attacks 1999–2006*¹⁸

Some reservations should be noted about these statistics. On the one hand, there could be some under reporting of attacks. Both the IMB and the International Maritime Organization (IMO) have noted the reluctance by some shipmasters and shipowners to report incidents due to concerns that any investigation might disrupt the ship's schedule, and insurance premiums might increase.¹⁹ On the other hand, over reporting is also possible. Many incidents recorded now are very minor, and in the past these may not have been reported. Many constitute either unsuccessful attempts to board or petty theft (of small items such as paint, mooring ropes, or outboard motors). Some inflation of the number of incidents may have occurred through awareness of the existence of the PRC and the reporting channels available. Many incidents, particularly relatively minor ones, may previously have gone unreported.

Aggregate figures also obscure trends with different types of ship. The current categorisation of attacks by vessel type used by the IMB is unsatisfactory for making proper assessments of the risks of piracy to different types of ship. The IMB currently uses 37 different ship types in its data base, but most of these do not lend themselves to valid threat assessments (eg. cable layer, storage ship and dredger) as only very few attacks have occurred in each of these categories over the last decade. On the other hand, some major categories (eg. container ship, bulk carrier and tanker) put together many ships of vastly different size and purpose. These categories record many attacks but the large figures can distort the picture. For example, smaller, feeder container ships and product tankers on local voyages are much more vulnerable than larger vessels.²⁰ This can give the impression that 'mainline' container vessels and large tankers on international voyages through the Malacca and Singapore straits between Europe or

the Middle East and East Asia are being attacked, when in fact they are not, unless they slow down, anchor or stop.²¹ These vessels are also more likely to be taking all the precautions recommended by the IMO and the shipowner's associations.

The potential for cooperation between pirates and terrorists has probably been overstated.²² Piracy and maritime terrorism are closely related activities involving 'armed violence at sea which is not a lawful act of war'.²³ But a distinction exists between the two acts as piracy is conducted for private ends while terrorism has political motives. In risk assessments of maritime terrorism, pirates are seen as having skills and expertise that might be attractive to a terrorist group, but these are not so specialised that they are not readily available. Former naval personnel and fishermen, as well as the multitude of people throughout Asia that have some experience as commercial seafarers, all offer knowledge that could be of use to a terrorist group. The many terrorist attacks by the Tamil Tigers on merchant ships and Sri Lankan warships were largely possible because many members were formerly fishermen.

Threats to Ships

Ships are more vulnerable in port, or in the approaches to a port, than when they are at sea where they might gain considerable protection from their size and speed. Most large, modern merchant ships travel at speeds in excess of 14 knots and it is both difficult and dangerous for small craft to attempt to approach them at this speed. Smaller ships and vessels alongside or at anchor figure prominently in the statistics on acts of piracy and armed attacks on ships collected by the IMB. In port, ships face threats from the landside, small boats and underwater swimmers. The attack on the *Cole* demonstrated this vulnerability. This has led to the United States Navy (USN) and other Western navies giving much greater attention to the force protection of their ships during port calls.²⁴

The ships that are most vulnerable to terrorist attack are those carrying hazardous or dangerous cargoes that could turn the ship into a bomb, as well as passenger ferries, cruise liners and naval vessels. Smaller tankers with cargoes of lighter, more volatile crude oils, as well as refined products such as gasoline, kerosene and diesel, are potentially a greater risk than large ships carrying heavy crude oil which is difficult to ignite. While most attention has focused on the larger tankers and LNG carriers, smaller vessels such as product tankers, liquefied petroleum gas (LPG) carriers and chemical tankers are more prominent in the piracy statistics and may be more vulnerable to terrorist attack.²⁵ These vessels are generally slower than larger vessels, and have smaller crews and lower freeboards. But generally, gas carriers and tankers are more vulnerable when loading or unloading than at sea. Thus the problem is more one of terminal security rather than of ship security and of providing security for ships entering port.

Threats to Ports

There are at least 1600 ports around the world used by ships trading internationally. Port security and maritime security are very different to aviation security. The public generally understands and accepts the need for aviation security, but this may not be so with maritime security. The security of ports and ships must consider all environments: land, air, sea surface and sub-surface. Airports have defined perimeters and usually some form of 'buffer zone' between an airport and other activities. Access to an airport is more easily controlled than to a sea port. Airline passengers expect to be screened with their baggage, and airline and airport workers can be closely monitored. In comparison, ports may not have a clearly defined perimeter, even on the landside where they might be located in or adjacent to heavily populated urban areas.

Ports vary greatly with regard to their physical attributes, while airports are all basically similar. Each port is different by virtue of its geography, topography, surroundings and population.²⁶ Ports by their very nature are vulnerable. They are busy areas with access by land and sea. While separate facilities may not be large in area, the geographical extent of a port may be very wide. The public in many countries expect to be able to visit ports to watch ships or to fish.

Waterside security will generally be more difficult and costly than landside security. While tight physical security might be possible on the entry points to a port from the landside, it is extremely difficult to secure a port and the ships in it from attacks launched from the seaward, particularly if there is a high level of small craft activity in the port. Singapore has recognised this vulnerability with the introduction of the Harbour Craft Transponder System (HARTS) that requires all watercraft using its ports to be fitted with a transponder that identifies the craft to monitors onshore. Singapore also uses Accompanying Sea Security Teams (ASSeT) teams to board and protect selected ships deemed to pose a greater risk to the port prior to their entering harbour or while they are transiting through Singapore's waters.²⁷

Attack Scenarios

It is instructive to identify potential types of attack that terrorists might make against maritime targets. Possible attack scenarios are grouped below according to the ones that are deemed less credible and those that are considered more credible. The focus of these scenarios are on threats to ships and port infrastructure emanating from the sea, rather than the use of the maritime transportation system for terrorist purposes, such as the importation of illicit materials by sea container. The groupings below are based on judgments relating to the capabilities of known terrorist groups, the ease with which particular types of attack might be launched, and the probability of a successful outcome for the terrorists.

Less credible scenarios

- **Ship sunk to block the Malacca and Singapore straits.** This is a popular attack scenario among some academics and sections of the media, but in reality this scenario must be assessed as less credible, if not even as impossible.²⁸ There are several reasons for this. First is the width of the straits. Even at the most narrow point of the traffic separation scheme (TSS) off One Fathom Bank, the channel is still 0.6 nautical miles (or about 1000 metres) wide. Thus more than one large vessel would have to be sunk in the correct position to effectively block this side of the TSS. Even then it would be a simple matter of traffic management to temporarily route deep draught vessels on the other side of the TSS, and vessels of lesser draught could be readily routed outside of the TSS. The second reason concerns the difficulties of hijacking a large vessel and then, with the strong tidal streams in the area, managing to sink it in an optimum position. This would be an extremely demanding task even for highly experienced seafarers with the assistance of tugs. An associated scenario of attacking a large tanker in a narrow part of the TSS, and causing a fire and explosion onboard so that a large burning oil slick was created is only marginally more credible.²⁹
- **Ship with hazardous or dangerous cargo used as ‘floating bomb’.** This is another popular scenario among many commentators, but it is also assessed as less credible. The types of ship that are often considered in this scenario are the larger tankers and LNG carriers – although consideration should also be given to vessels such as chemical tankers, and ships with volatile cargos, such as ammonium nitrate. Again there would be problems with successfully hijacking such a vessel and then navigating it into a position where maximum damage might result from an explosion onboard. More importantly, even the most technically competent terrorists could not be confident that an attack of this nature would be successful. Missile attacks on tankers during the ‘tanker war’ of the 1980s showed how difficult it is to ignite a fire on a tanker.³⁰ Similarly, expert opinion suggests how difficult it would be to cause an LNG carrier to explode. A smaller tanker, LPG carrier, or chemical tanker with a volatile substance onboard may be a better prospect from a terrorist viewpoint,³¹ although the extent of damage caused will be less than that which might result from an attack on a larger vessel. As demonstrated by the analysis of attacks by pirates and sea robbers discussed above, these smaller vessels might be more easily hijacked than a larger ship, and with their smaller crews it might even be possible to hide from port authorities that the vessel had been hijacked and was being operated by a terrorist crew.
- **Underwater swimmer attack on ship or port facility.** There have been reports of Al Qaeda and ASG groups developing skills in underwater diving with a view to developing a capability to attack a ship or port facility.³² The skills and capabilities required to make such an attack successful are relatively sophisticated, and in relative terms may not be worth the investment by terrorists; however, warships,

particularly in a port where the waterfront might be less secure, could be vulnerable to this type of attack.

More credible scenarios

- **Bomb attack on cruise liner or passenger ferry.** While maritime security experts generally believe that passenger vessels do not make good targets because they have so many people onboard and are not easy to board, they are nevertheless vulnerable to terrorist attack by placing bombs onboard. This has been demonstrated by several attacks on passenger ferries in the Philippine and Indonesia archipelagos in recent years, including the *Superferry 14* in February 2004.³³ The problem is not so much the actual explosion, but the fire and panic that invariably follow. The large loss of life on the *Superferry 14* was not caused by the bomb but by poor firefighting and evacuation procedures.
- **'Choke point' blocked by sea mines.** This scenario is one that might cause the highest level of economic disruption possibly without any direct damage caused. The mining of a ship in the Malacca and Singapore straits, the sighting of a mine, or even just a declaration that mines had been dropped in the straits could lead to the re-routing of most shipping traffic away from the straits. During the 1980s 'tanker war', the laying of mines was arguably more successful in disrupting shipping traffic than the use of anti-ship missiles.³⁴ In comparison with the other scenarios discussed in this section, this scenario might seem a low-cost option for a terrorist group. The waters of the straits are shallow and ideal for mining by either floating mines or mines placed on the sea bottom. This scenario would require a multinational response, and this has been recognised by the Western Pacific Naval Symposium, which conducts mine countermeasure exercises, including in waters off Singapore.³⁵
- **Suicide attack by small craft.** Following the small boat suicide attacks on the tanker *Limburg* and the *Cole*, as well as attempted attacks on other US warships, speedboats may be 'emerging as the weapon of choice' of maritime terrorists.³⁶ While these small craft offer advantages in terms of manoeuvrability, speed, stealth and surprise, there also has to be some qualifications as to where such attacks are likely. The *Limburg* and *Cole* attacks both occurred in potentially 'unfriendly waters'. This type of attack would be less likely in more secure 'friendly waters', where it would be difficult for the terrorists to establish a launching area for the attack.

International Responses

The global solutions to problems of maritime security have been pitched at several levels, including the physical security of ships and ports, operational cooperation at sea, the tracking of vessels, the integrity of container cargo, and enhancing seafarer

identity documentation. They include the new measures by the IMO, particularly the *International Ship and Port Facility Security (ISPS) Code*; other amendments to the *Safety of Life at Sea (SOLAS) Convention, 1974*, such as the mandatory fitting of ship-borne Automatic Identification Systems (AIS); and planned amendments to the *Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation 1988* (SUA Convention) and its Protocol covering offshore facilities.³⁷

The ISPS Code has been a great success. It has had benefits going well beyond the greater security of ships and port facilities that are required to conform to the code. These benefits include greater awareness of security throughout maritime industry, and the reduction of other forms of maritime crime, including cargo fraud and cargo pilfering. An officer on board a ship with a specific responsibility for managing the security of that ship may also reduce the vulnerability of the ship to sea robbery and piracy.

Notwithstanding the benefits, there are residual problems with the ISPS Code's effectiveness as a maritime security measure. It applies only to the so-called 'SOLAS ships' - that is, commercial ships over 500 gross tonnage employed on international voyages. Unless extended by national legislation,³⁸ it does not apply to fishing vessels, ships under 500 gross tonnage, recreational vessels, or to ships employed only in the domestic trade. The number of vessels to which the ISPS Code does not apply is particularly large in the Asia-Pacific region where there are large fishing fleets, many smaller trading vessels, and big domestic commercial fleets, particularly in China, Japan, Indonesia and the Philippines.³⁹

The ISPS Code imposes significant additional costs on shipowners, including possibly having to employ extra crew.⁴⁰ The Organisation for Economic Co-operation and Development (OECD) estimated that the initial burden on ship operators to be at least US\$1279 million and US\$730 million per year thereafter, primarily for additional management staff and security-related equipment.⁴¹ There may be some irony here in that the international shipping market is buoyant at present, and the market may be absorbing the costs of the new maritime security measures. A 'crunch' may well come with the next slump in global shipping.

Lastly, and despite some rhetoric to the contrary, the ISPS Code, like other instruments of international law, cannot be enforced effectively. The IMO can monitor compliance but ultimately it depends on individual countries effectively implementing the code. Flag States have to ensure compliance of ships flying their flag; port States have to manage implementation of the code in their ports and port facilities, and seafarer supplying countries, such as Bangladesh, Indonesia and the Philippines, have to have the bureaucracy in place to implement the new seafarer identity documentation.

Tracking Ships

In an ideal world, ships would move around the world like civil aircraft, being passed from one system of traffic control to another. With initiatives promoted by the US and now under consideration by the IMO for the Long Range Identification and Tracking (LRIT) of vessels, a system may eventually emerge for commercial ships above a certain size and making use of AIS data. The US intends to develop a system that will integrate current and future surveillance and tracking resources to identify and track the world's 121,000 merchant ships of more than 300 tonnes.⁴² It will use a database similar to that used for tracking Soviet submarines during the Cold War. However, many other vessels using the world's oceans remain outside its scope. This inability to monitor the movement of fishing vessels, cruising yachts, and other private vessels remains a major gap in international arrangements for maritime security.

Even with current LRIT plans, there are still unresolved issues, including the confidentiality of LRIT information and the costs of receiving such information.⁴³ It is by no means certain, for example, that a coastal state has a right to identify and track ships exercising the freedom of navigation either through its exclusive economic zone or on the high seas, and not intending to proceed to a port or an anchorage located within the territory of that coastal state.⁴⁴ As well as tracking at sea, an effective international system should also include standardised reporting of shipping arrivals and departures, but this might arouse both security and commercial sensitivities. And again, there will be issues with enforcing the system. For example, while the ISPS Code requires that ships be fitted with an AIS transponder, anecdotal evidence suggests that many ships are in fact turning the transponders off when at sea. If queried on this, it is all too easy to say that the equipment was malfunctioning.

Conclusions

The maritime transportation industry has been greatly affected by the threat of maritime terrorism. It now has a vastly different regulatory environment to the one that prevailed prior to 2001. However, there are still grounds for reservations about the credibility of the threat and the cost benefits of the new countermeasures. We have had a plethora of assertions about the risks and outcomes of a catastrophic maritime terrorist attack, including assessments of a nexus between piracy and maritime terrorism. To some extent, these have distorted perspectives of the probability of a major attack in the future. The maritime terrorist incidents that have occurred have had miniscule impact on the free movement of shipping and seaborne trade in comparison with the massive costs of implementing the new countermeasures.

It is yet to be seen how effective the new measures will be, or indeed how enduring they might be in an international industry that has been characterised by double standards and regulation avoidance. It is essential that a proper balance is maintained

between security on the one hand, and the free movement of trade on the other. The basic question is one of 'how much security is enough?'. All the new measures for maritime security imply extra costs for shipowners, port operators and shippers, including potential delays in the handling of cargo. Additional barriers to competition are involved and some ports, especially ones in developing countries, face difficulties due to their lack of capacity to introduce such measures.

So far the approach to countering the threat of maritime terrorism has been a generalised one, with all ships and ports being required to meet new international standards. In the US, for example, the Department of Homeland Security has been criticised for spending millions of dollars on port security without sufficiently focusing on those that are most vulnerable.⁴⁵ The security measures in the US to deal with the risk that terrorists might smuggle a nuclear weapon into the country, particularly the '100 per cent scanning requirement', continue to attract strong criticism from the shipping industry.⁴⁶

There would appear to be a need now to modify the current approach to the maritime terrorist threat somewhat by concentrating on key vulnerabilities, including the security of the full supply chain, and the identification of ships, port facilities and cargoes that pose the greater risks. For example, a petro-chemical port facility located in a built-up area is clearly much more vulnerable than a bulk ore or grain loading facility in a remote area. Probably too much emphasis has been given to 'worst case' scenarios. In the interests of responsible public expenditure and avoidance of unreasonable burdens on the private sector, new security measures should be subject to rigorous analysis and testing against realistic and commonsense risk assessments. Lack of this analysis is a major gap at present in making judgments about the threat of maritime terrorism and the counter-measures required.

Recent countermeasures to the threat of maritime terrorism have imposed major additional costs on shipowners, ports and shippers.⁴⁷ They are also imposing delays on port operations and slowing down the process of international trade.⁴⁸ Ports are imposing significant extra charges to cover the costs of additional security, insurance companies have increased security premiums, and providers of security services and equipment are doing good business. Furthermore, the new focus on maritime security has led to an environment of increased naval and military spending generally. When developing countries should be pursuing programs that would drive down poverty and social unrest, and thus remove root causes of piracy and terrorism, they are being pressed to improve their capacity to protect their domestic supply chain and to provide maritime security in their adjacent waters.

It is time now for a reality check and to consider the broader maritime strategic and security environment rather than remaining fixated on the threat of maritime terrorism. Problems such as the root causes of piracy and terrorism and the ready availability of small arms around the world must be addressed. There must also be some limit to

the current booming levels of naval arms spending in parts of the world, particularly the Asia-Pacific.⁴⁹ This spending has significant opportunity costs, particularly with regard to the provision of resources to address poverty and injustice. Meanwhile, the international community seems to give lower priority and fewer resources to environmental threats, including climate change, land-based marine pollution and the loss of marine biodiversity.

Notes

- ¹ An Asia-Pacific Economic Cooperation (APEC) study concluded that a five-week closure of the Malacca Strait would cost APEC economies US\$1.7 billion (in 2002 dollars) in terms of oil supply disruption. L. Hogan, L. Fairhead, A. Gurney and R. Pritchard, *Energy Security in APEC: Assessing the Costs of Energy Supply Disruptions and the Impacts of Alternative Energy Security Strategies*, Australian Bureau of Agriculture and Resource Economics, Canberra, 2005.
- ² Frederick Forsyth, *The Devil's Alternative*, Corgi Books, London, 1980. Forsyth published another thriller, *The Afghan*, in 2006 also dealing with maritime terrorism.
- ³ The Chairman and CEO of Aegis Defence Services is Lieutenant Colonel Tim Spicer, whose previous companies include Executive Outcomes and the Sandline Corporation, which have achieved some notoriety for their mercenary activities in developing countries. <www.sourcewatch.org/index.php?title=Aegis_Defence_Services>.
- ⁴ Michael Richardson, *A Time Bomb for Global Trade - Maritime-Related Terrorism in an Age of Weapons of Mass Destruction*, Institute of Southeast Asian Studies, Singapore, 2004, pp. 32-33.
- ⁵ Teo Yun Yun, 'Target Malacca Straits: Maritime terrorism in Southeast Asia', *Studies in Conflict and Terrorism*, Vol. 30, 2007, p. 547.
- ⁶ 'Sea attack by Al-Qaeda is likely: analysts', *The Straits Times*, 11 December 2004.
- ⁷ Bobby Thomas, 'Malacca Straits a "war risk zone"? Lloyds should review its assessment', *Commentaries*, 57/2005, Institute of Defence and Strategic Studies, Singapore, 19 August 2005.
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- ⁹ Other attacks on ferries in South East Asia include the February 2000 bombing of the Philippine ferry *Our Lady Mediatrix*, which killed 40 people; and the December 2001 bombing of the Indonesian ferry *Kailifornia*, which killed 10. John F. Bradford, 'The growing prospects for maritime security cooperation in Southeast Asia', *Naval War College Review*, Summer 2005, p. 67.
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- ¹³ 'Ferry blast injures 30 in Southern Philippines', *The New York Times* online, 28 August 2005.
- ¹⁴ Sam Bateman, 'Ferry safety: A neglected aspect of maritime security?', *Commentaries*, 31/2006, Institute of Defence and Strategic Studies, Singapore, 3 May 2006.
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- ¹⁷ The data in this paragraph is from the International Chamber of Commerce(ICC) International Maritime Bureau (IMB), *Piracy and Armed Robbery Against Ships - Annual Report for the Period 1 January - 31 December 2006*, International Maritime Bureau, January 2007.
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- ¹⁹ International Maritime Organization, 'Piracy and armed robbery at sea', *Focus on IMO*, January 2000, p. 2.
- ²⁰ An assessment of the types of ship using the Malacca and Singapore straits and the relative risks they face may be found in Sam Bateman, Joshua Ho and Mathew Mathai, 'Shipping patterns in the Malacca and Singapore straits: An assessment of the risks to different types of vessel', *Contemporary Southeast Asia*, Vol. 29, No. 2, 2007, pp. 309-322.
- ²¹ Bateman, Raymond and Ho, *Safety and Security in the Malacca and Singapore Straits*, p. 22.
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- ³¹ Bateman, Raymond and Ho, *Safety and Security in the Malacca and Singapore Straits*, p. 24.

- ³² 'Terrorists train for seaborne attacks'.
- ³³ The bomb attack on the Philippine passenger ferry *Superferry 14* off Manila in February 2004 constitutes the most serious maritime terrorist attack by an extremist Muslim group. Sixty-three people were killed and 53 others missing presumed dead.
- ³⁴ Tracy, *Attack on Maritime Trade*, p. 229.
- ³⁵ The Western Pacific Naval Symposium (WPNS) is a consortium of eighteen Western Pacific navies and four observer navies. In June 2001, Singapore hosted the first WPNS mine countermeasures and diving exercises involving 16 countries, 15 ships and 1500 personnel. Andrew Forbes, 'Western Pacific Naval Symposium' in Andrew Forbes and Michelle Lovi (eds), *Australian Maritime Issues 2006: SPC-A Annual*, Sea Power Centre - Australia, Canberra, 2006, pp. 183-188.
- ³⁶ James Pelkofski, 'Before the storm: Al Qaeda's coming maritime campaign', *Proceedings*, December 2005, p. 22.
- ³⁷ A new Protocol to the SUA Convention has been adopted by the IMO. It includes new offences and expanded provisions on ship-boarding. New provisions allow flag states to request assistance with ship-boarding and law enforcement, or another party to seek the approval of a flag state to board and search a suspect ship claiming the nationality of the flag state.
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HMAS Arunta with Singaporean Navy ships RSS Vigilance and Victory performing manoeuvres during Exercise SINGAROO 06

Australia's Naval Contribution to Regional Maritime Security Cooperation

Mr Andrew Forbes

Regional stability is vital to Australia's national security and given the maritime nature of South East Asia, security operations have a predominantly naval focus. Critically, South East Asia contains the major international sea lanes for regional and global seaborne trade, while also having a complicated maritime geography, adjoining territorial seas, and unresolved boundary delimitation issues. The trunk route between Europe and North Asia must pass through the Malacca Strait, where it branches out through Hong Kong northwards to East Asia or the west coast of the United States (US), or branches out southwards from Singapore to the Australian ports. For this reason, events in South East Asia also assume global significance if seaborne trade is disrupted or threatened.

This paper examines the Australian naval contribution to regional maritime security cooperation and comprises four sections. First, the paper examines Australia's defence policy framework to provide the strategic rationale for regional activities, before considering the development of international engagement policies and how they influence Royal Australian Navy (RAN) regional activities. Second, it looks at the broad range of RAN regional activities and considers what they aim to achieve. Third, the paper briefly examines regional maritime security concerns before considering initiatives to meet these concerns.

Defence Policy Framework

The key defence policy document is a white paper, usually developed every six to seven years as directed by government. White papers examine the broad issues of overall defence policy, revise strategic priorities and provide options to government on managing defence capabilities within the context of the current and future strategic environment. White papers project up to a 15-year timeframe to describe the key international trends that will shape Australia's strategic environment, and to explain how the different elements of defence policy will develop to meet these challenges. A strategic review is prepared every three years with a three to five-year outlook, assessing any influences on strategic interests and the implications for the capabilities and readiness of the Australian Defence Force (ADF) in the medium term. These reviews are a primary document supporting the development of a white paper. Over the past few years, Defence Updates have been issued in lieu of strategic reviews.

Review of Australia's Defence Capabilities

The 1980s were a watershed in the development of an independent Australian defence policy. The Department of Defence was unable to reach consensus on an overall defence policy, as there was major disagreement over the appropriate structure and roles of the Australian Army. In 1985 the government commissioned an external review by Paul Dibb to assess Australia's forward planning, determine defence capability requirements, and develop a costed force structure plan for the next 10 years. The *Review of Australia's Defence Capabilities* was released in 1986.¹

The review noted that some of the difficulty in defining national security interests was because there was no threat upon which to focus concerns. Australian national security became one of stating what had to be prevented rather than one that would promote Australian security.² In the absence of a defined national security policy, the review defined Australia's national security interests as:

- the avoidance of global conflict
- the maintenance of a favourable strategic situation in South East Asia and the South Pacific generally; this is Australia's *sphere of primary strategic interest* where developments can affect our national security; it covers more than 20 per cent of the earth's surface
- the promotion of a sense of strategic community between Australia and its neighbours: Indonesia, Papua New Guinea (PNG), the nearby island states of the South West Pacific and New Zealand (NZ); this is Australia's *area of direct military interest* where we should aim to be able to apply independently military power; it accounts for almost 10 per cent of the earth's surface
- the defence of Australian territory and society from threat of military attack
- the protection of Australian interests in the surrounding maritime environment, including our overseas territories and proximate sea lines of communication and focal points.³

The defence policy proposed by the review was a strategy of denial that was, in essence, a defensive policy that would seek to deny any enemy the ability to cross the sea-air gap surrounding Australia and to prevent the landing of any forces on Australian territory. The denial strategy would involve a series of layered defences through which an enemy would have to pass before reaching Australia:

- intelligence and surveillance to know about regional military developments and to detect any threat approaching Australia
- a maritime force of air and naval assets to destroy an enemy in the sea-air gap; this means a refocusing to the north, and for a higher level of conflict, the ability to strike an adversary's bases and interdicting his lines of supply

- defensive capabilities close to Australian shores to prevent enemy operations in our focal areas or shipping lanes or on our territory; this might include surface ships, mine countermeasures capabilities, air defence assets and mobile land forces
- highly mobile and dispersed ground forces to deny population centres and military infrastructure if an enemy force landed.⁴

The review noted that a fundamental security interest was for a stable region free of external pressures. Indonesia was assessed as Australia's most important neighbour, as the Indonesian archipelago was a protective barrier to the Australian north, while Australia was a stable and non-threatening country on Indonesia's southern flank. This relationship was important, as any major threat to Australia would have to come through the Indonesian archipelago. In order to promote a sense of shared strategic interest, the review proposed cooperation with South East Asian and South Pacific states in the development of their defence capabilities and to exercise and train with them.⁵ The remainder of this section will focus on defence policy as it relates to South East Asia.

The Defence of Australia 1987

The Australian Government's 1987 Defence White Paper, *The Defence of Australia 1987*, adopted the concept of self-reliance, pursued within a framework of alliances and agreements, as the new Australian defence policy.⁶ Australia's area of primary strategic interest was stated as South East Asia, the South West Pacific and the East Indian Ocean, with military cooperation seen as the method to achieve good defence relations. The white paper noted that military cooperation with the South East Asian nations was modest.⁷ Support for security in South East Asia was for practical cooperation through activities such as consultation on security prospects and policies, reciprocal visits by defence representatives and military units, combined exercises, specialist consultancy arrangements, training and joint projects.⁸

Australia's Strategic Planning in the 1990s

The government on 27 November 1989 endorsed *Australia's Strategic Planning in the 1990s* (ASP90), but an unclassified version of this strategic review was not publicly released until September 1992. ASP90 noted that Australia was a bridge between the politically, ethnically and culturally diverse states of South East Asia and the large expanses of open ocean with small scattered island states of the South West Pacific.⁹ Australia's strategic neighbourhood was defined as PNG, the South Pacific, NZ and Indonesia, while the broader strategic environment included Malaysia, Singapore, the Philippines, Thailand, Vietnam and Cambodia, with the external strategic influences including the US, Japan, the Korean Peninsular, China, the Soviet Union and India.¹⁰ ASP90 stated that the defence of Australia went beyond the protection of territory to direct security interests, such as offshore resources and sea lines of communication.

There were other relevant national defence tasks, such as alliance obligations, support for diplomatic initiatives such as peacekeeping, natural disaster relief, protection and evacuation of Australian nations in the South Pacific, and other activities as directed by the government.¹¹

Strategic Review 1993

In December 1993, the government released *Strategic Review 1993* (SR93), the follow up strategic assessment to ASP90, which was prepared ahead of the planned 1994 White Paper. Whereas ASP90 had been drafted as the Cold War was ending, SR93 was written at a time of clear uncertainty and noted that for its security, Australia relied on:

- a national defence capacity to provide for the self-reliant defence of Australia and its interests against threats that could arise in the region
- encouraging the growth of a 'regional security community' both in South East Asia, and more broadly throughout the Asia-Pacific region, to reduce the likelihood of instability and conflict in Australia's region
- an alliance relationship with the US that contributes to our national defence capacity, broader regional security, and global stability, while providing direct benefits such as training, science, technology, equipment, logistics and intelligence
- maintaining a high level of defence commitment to the United Nations (UN) and other multilateral operations that support Australian security through contributing to a more secure global environment.¹²

SR93 expanded the conception of the region with which Australia should be concerned and enhanced the methods of regional cooperation required to maintain security. Importantly there was recognition that all aspects of national policy were important to active regional involvement, and that the defence posture had to be seen in the context of economic and other activities in the region.¹³ The region in which Australia now had to operate was defined as the Asia-Pacific, including the Sub-Continent, South East Asia, North East Asia and the South West Pacific. While earlier policy documents also included these areas, there was now a perception of greater involvement in these regions, particularly in North East Asia. Of perhaps greater focus was the 'Nearer Region', defined as South East Asia and the South West Pacific.¹⁴ South East Asia was defined as Indonesia, Malaysia, Singapore, Thailand, the Philippines, Brunei, Burma and the three countries of Indochina. The South West Pacific was defined as PNG, the South Pacific Forum states, French and US colonial possessions and NZ.

SR93 delineated separate approaches for dealing with the major regions of concern to Australia's interests. A strategic partnership with South East Asia was proposed, noting its importance to Australia because of its size, economic dynamism (with increased and growing economic linkages) and location across Australia's strategic approaches. The concept of partnership was due to the growing military capabilities of the South

East Asian nations that offered opportunities for more substantial and beneficial relations.¹⁵ While there had been a gradual move in this direction, SR93 proposed a policy of constructive contact with major Asian powers in the region. This was due to their increasing power and influence in the Asia-Pacific region, and because of their growing influence, interests and intentions in South East Asia. The countries involved included Japan, China, India, North and South Korea, and Taiwan.¹⁶

Defending Australia: Defence White Paper 1994

In its revised Defence White Paper, *Defending Australia*, published in November 1994, the government noted that Australia's future security, like its economic prosperity, was inextricably linked to the security and prosperity of the Asia-Pacific region.¹⁷ A major focus of this white paper was the concept of regional engagement. It was proposed that Australia would conduct bilateral programs for cooperation in developing defence capabilities; foster through dialogue an accurate understanding of Australia's strategic interests and security concerns; and ensure that Australia understands the perceptions, concerns and capabilities of neighbouring countries – reflecting an increased transparency in defence policy and planning.¹⁸ The highest priority in this regional approach would be the countries of South East Asia. As these countries grew economically and technologically with expanding military capabilities and a heightened self-reliance, they were assessed as becoming more valuable strategic partners to Australia.¹⁹

Australia's Strategic Policy 1997

The next strategic review after the 1994 White Paper was *Australia's Strategic Policy 1997* (ASP97), which continued the trend of highlighting the Asia-Pacific as the region of concern to Australia because of its flow-on impacts back into South East Asia.²⁰ Priority was to be given to Australia's nearer neighbours – Indonesia, PNG and the South West Pacific – while the great powers in North East Asia were also to be engaged – China, Japan, the US, and North and South Korea.²¹

Defence 2000: Our Future Defence Force

The latest Defence White Paper, *Defence 2000: Our Future Defence Force*, was released on 6 December 2000. *Defence 2000* stated the key strategic drivers for Australia's security were globalisation and the primacy of the US. The Asia-Pacific region would be the most dynamic region in the world, relying on economic growth for stability. The major power relationships impacting the Asia-Pacific region were China, Japan, India, Russia and the US and, critically, these countries could have a major impact on the strategic environment of South East Asia.²²

The defence strategy remained one of self-reliance, with a maritime strategy to control the air and sea approaches; however, a more proactive approach was adopted where

Australia would seek to attack hostile forces as far as possible from Australia.²³ *Defence 2000* made changes to security interests and priorities; in priority order, defence strategy was to be based on:

1. ensuring the defence of Australia and its direct approaches
2. fostering security in Australia's immediate neighbourhood (Indonesia, East Timor, PNG, NZ and the South West Pacific)
3. promoting stability and cooperation in South East Asia
4. contributing to strategic stability in the wider Asia-Pacific region
5. contributing to the international community, especially the UN.²⁴

The policy goals for South East Asia would be achieved through regular exchanges on strategic issues, with the aim of developing bilateral and multilateral relationships to encourage these countries to work together. Australia would encourage regional cooperation and would help to develop appropriate regional capabilities.²⁵

Three Defence Updates have been released since *Defence 2000*, with a particular focus on the threat of terrorism. While both proposed variations to some of the roles and force structure of the ADF, the continued importance of South East Asia was emphasised.

There has been a consistent trend in Defence policy to emphasise the importance of South East Asia to Australia's national security, relying on the ADF to conduct a range of activities; implicit in RAN activities is regional maritime capacity building. How the department and the RAN implement these policy objectives is examined below.

The Defence international engagement framework

The International Policy (IP) Division is responsible for developing Defence's policies for international engagement and for managing Defence's international relationships. This occurs at two levels: IP Division works closely with the Department of Foreign Affairs and Trade and the Department of Prime Minister and Cabinet with regards to foreign policy objectives, and with the single Services of the ADF for international exercises and training activities.

The Defence International Engagement Plan (DIEP) is the key planning document and the basic reference for the management of Defence's international relationships. It has six objectives developed to meet the five strategic tasks contained in *Defence 2000*. These objectives are:

1. engage and develop Australia's defence capability through effective international engagement
2. maintain effective alliance relationships
3. reduce the likelihood of security threats in or from the Asia-Pacific region and enhance regional stability

4. position and support the ADF for operations as required by government
5. influence the development of armed forces and security institutions in support of Australia's strategic objectives
6. enhance global security through effective relationships with major powers and non-regional countries, and by participating in UN and other multilateral activities.

Activities detailed within the DIEP to meet these objectives on a country by country basis are necessarily classified, but their linkage to ADF and RAN activities should be self-evident.

The Royal Australian Navy international engagement framework

The DIEP provides the strategic guidance to the single Services and in the case of the RAN influences the RAN Strategy for International Engagement (RANSIE). The RANSIE melds the navy-related objectives of the DIEP with the RAN-specific objectives that it wishes to achieve in the region. The RANSIE is a classified document developed in Navy Headquarters in Canberra, and provides the strategy, objectives and priorities for engaging other navies.

The RAN's priorities for regional engagement are varied but include interoperability, integration, continued engagement with allies and regional navies, technology, continued dialogue and access to the region. The RANSIE provides guidance for ship visits and exercises, planning of exercises, country-specific objectives and what should be achieved in navy-to-navy relationships.

Fleet Headquarters in Sydney uses the guidance provided in the RANSIE, as well as the ADF's Program of Major Service Activities, to create the Deployment Exercises and Engagement Program (DEEP), which incorporates specific activities the fleet wishes to achieve in the region. The DEEP, combined with platform availability plans from each force element group, enables creation of the fleet activity schedule, which is a rolling program for each ship detailing its activities ranging from when it will be in maintenance or refit, through work-up, training, exercises and operations.

Royal Australian Navy Regional Activities

Elements of the RAN have operated in South East Asia since 1955 through deployments as part of the Far Eastern Strategic Reserve, and such deployments have continued until the present, albeit under differing regional security arrangements.

The RAN conducts its international engagement at three levels: strategic, operational and tactical. At the strategic level, this involves dialogue and reciprocal visits between the respective navy chiefs, and also established navy-to-navy talks. At the operational level, this involves visits by the Fleet Commander to his regional counterparts as well as RAN participation in multilateral and bilateral operations and exercises. At

the tactical level, this includes ship visits, passage exercises, individual training and training exchanges.

Navy-to-navy talks

The RAN conducts navy-to-navy talks with the US, the United Kingdom (UK), NZ, Japan, Singapore, Indonesia, Malaysia, Korea, Thailand and India. It conducts counterpoint talks with Papua New Guinea (PNG) and the Philippines. The RAN also attends the International Seapower Symposium and is a key member of the Western Pacific Naval Symposium (WPNS).

Navy-to-navy talks are held at the Deputy Chief of Navy or Director-General level to discuss issues common to each navy or areas of interest where the RAN's knowledge is limited. Future initiatives are aired and tested for their feasibility. Discussions tend to focus on broader strategic, organisational, managerial, personnel, training and operational issues/problems common and of mutual interest or benefit to each navy. Counterpart talks are similar to navy-to-navy talks but at a lower level; set topics usually include a regional appreciation, capability developments, RAN management and personnel issues and forthcoming exercises/involvement.

The International Seapower Symposium is a biennial forum hosted by the United States Navy (USN) in November of odd years and is attended by most navy chiefs. Discussions focus on common maritime issues such as the law of the sea, freedom of navigation, changing maritime relationships and protecting the maritime environment.

The WPNS is a biennial forum in October/November of even years hosted by alternate member countries, attended by member navy chiefs. The aim of the WPNS is to promote maritime understanding and naval cooperation in the Western Pacific region. WPNS members are Australia, Brunei, Cambodia, China, Fiji, France, Indonesia, Japan, Korea, Malaysia, NZ, the Philippines, PNG, Russia, Singapore, Thailand, Tonga, the US and Vietnam. Observer countries are Bangladesh, Canada, Chile and India.

The key to naval cooperation is trust and understanding between navies. At a strategic level, visits provide the opportunity for navy chiefs to meet and discuss issues. This occurs formally through presentations, where they gain an understanding of issues facing each navy as well as each country's respective views. More important perhaps is the personal contact, where chiefs can engage their counterparts and talk privately about specific issues. This allows each chief to brief his own government on regional concerns and how countries might react to particular events. Moreover, with the trust gained, chiefs are able to contact each other to forestall problems or quickly solve them on a one-to-one basis.

Exercises

Exercises are critical to the development and maintenance of sea keeping and warfighting skills. The training regime for all navies begins with individual training (does the individual have the skills and training necessary for the job), before progressing to collective training where a ship's company trains to operate and fight as a unit. Depending on the navy, training will then progress to operating at a task group level, which is a number of ships working together. Through exercises, navies practice and hone these skills at varying levels, depending on strategic requirements. As an example, the RAN conducts a number of Fleet Concentration Periods, bringing together as many vessels as possible to exercise skills at the collective and task group level. The final level is combined exercises with other navies, either bilaterally or multilaterally.²⁶

Australia conducts a significant military exercise program in South East Asia. These exercises might be bilateral, multilateral or held under specific arrangements. Bilateral exercises are conducted with most South East Asian countries. Given differences in skills and capabilities between navies, the aims of each exercise may vary widely.

- The RAN trains with the Royal Malaysian Navy under Exercise MASTEX, which aims to improve interoperability in combined maritime procedures and tactics and is a basic task unit exercise.²⁷
- The RAN (in conjunction with the Royal Australian Air Force) trains with the Royal Thai Navy (RTA) under Exercise TAA NOK SII, which aims to progressively develop a RTA maritime air surveillance capability. Exercise AUSTHAI, last conducted in 2006, aims to develop basic interoperability in aspects of maritime warfare common to both navies.²⁸
- The RAN trains with the Royal Brunei Navy under Exercise PENGUIN, which aims to enhance interoperability by practising maritime patrol and surveillance procedures.²⁹
- The RAN trains with the Philippines Navy and the Philippines Coast Guard under Maritime Training Activity LUMBAS, which aims to develop interoperability in coordinated or combined maritime patrol and surveillance operations.³⁰
- The RAN trains with the Republic of Singapore Navy under Exercise SINGAROO, which aims to improve interoperability in combined maritime procedures and tactics. Exercise SINGAROO 06 aimed to improve interoperability in all facets of naval warfare in order to undertake effective maritime combined and coalition operations.³¹ These exercises are task group multi-threat exercises.
- The RAN conducts passage exercises with Indonesia on an opportunity basis, and recently commenced Exercise CASSOWARY to develop maritime interoperability between Australian and Indonesian maritime patrol forces.³²

Australia hosts a major multilateral exercise as part of its KAKADU series. Exercise KAKADU VII in 2005 included Indonesia, Malaysia, NZ, Brunei, Philippines, Thailand, Singapore and PNG, and was conducted to develop relations and interoperability with the participating nations.³³ Exercise KAKADU 2007 included a seminar at HMAS *Watson* in Sydney, and it is planned that in future years a seminar will be conducted in odd years and a seagoing activity in Darwin conducted in even years. Importantly, where some countries might have sensitivities concerning training together in a bilateral exercise, participation in a multilateral exercise often provides a circuit breaker allowing trust between parties to develop. Importantly, where a lack of resources impacts upon the ability of a navy to participate in an exercise, or if their naval capability is too 'low' to gain anything from the exercise, that navy might send personnel to observe the exercise.

The defence forces of Britain, Singapore, Malaysia, Australia and NZ regularly exercise under the auspices of the Five Power Defence Arrangements (FPDA). Exercises are focused around a joint and combined operation in a multi-threat environment for the defence of peninsular Malaysia and Singapore, with the aim of enhancing interoperability and to strengthen the professional relationship between the defence forces.³⁴ The standard naval exercise is Exercise BERSAMA LIMA, which aims to practice and develop operational procedures and tactics in a joint/combined maritime exercise.³⁵ Exercise BERSAMA LIMA runs for two consecutive years in September, Exercise BERSAMA PADU runs in July of the third year and Exercise SUMAN PROTECTOR runs every fourth year as a joint task force headquarters command post exercise.

At the sixth WPNS Workshop in 1997, Australia proposed that mine countermeasures (MCM) cooperation could be a significant area for cooperation, given the emergence of like capabilities in the region, especially in South East Asia. This initiative was also significant from the positioning of MCM as a common naval capability in otherwise quite differently structured navies. The concept was developed within the RAN and internationally through a workshop held at HMAS *Waterhen* in Sydney, where the notion of an exercise based on international doctrine was explored. It was agreed to hold such an exercise and Singapore in conjunction with Indonesia agreed to host MCMEX and DIVEX 2001 during June 2001, involving 16 countries, 15 ships and 1500 personnel. The exercise program included mine hunting and mine sweeping operations, diving, sea riding and medical exchange programs. Singapore and Indonesia hosted MCMEX and DIVEX 2004 during April-May 2004, conducted in the Singapore Strait and off the Indonesian Island of Palau Bintan, involving 18 countries, 20 ships and 1600 personnel. In addition to the 2001 elements, these exercises included: combined maritime explosive ordnance disposal training, live mine disposal charge firings at sea, and shore-based training on formation minesweeping tactics. In December 2005, Australia hosted an international MCM Seminar in Sydney. Malaysia hosted MCMEX and DIVEX 2006 during June 2006, involving 21 countries, and 18 ships. A key focus

of this exercise was to hunt, defuse and destroy mines in coastal waters of the South China Sea.³⁶

All exercises are aimed at improving procedures, tactics and professional skill, through benchmarking and learning from each other. Occasional multilateral exercises test all forces involved and are the highest level of exercise training available. The training benefit to South East Asian navies is the chance to operate with a more advanced navy, similar to the benefits the RAN gains when operating with the USN. As the capabilities of the South East Asian navies increase, and that is demonstrated by the nature of country-specific exercise aims, the RAN benefits by exercising with a peer navy.

For a variety of reasons, planned exercises may not occur. During the Asian Financial Crisis of 1997, many exercises were cancelled as countries had other issues on which to focus, as well as not having the funds available for an exercise program. Operational deployments also impact upon the exercise program as ships may be on other tasks – commonly called a concurrency problem. In 1999, Australia cancelled a number of exercises as the ADF increased its preparedness levels for a possible deployment to East Timor. The ADF is currently operating at its highest operational tempo since Vietnam and this has an impact on exercise programs. A forgotten consequence of continued operations is its impact on training and preparedness. When a ship is committed to long-term operations, skills actually decrease if they are not practiced. This problem was also evident when regional exercises resumed after the 1997 Asian Financial Crisis, as there had been deterioration in the skills of some navies.

Ship visits, passage exercise and training

Exchanges and visits promotes an understanding of different cultures, traditions and organisations, while training through attendance at courses and staff colleges provides technical knowledge and skills.

The RAN conducts regular port visits to Malaysia and Singapore, about every four to six months, and irregularly to the Philippines and Thailand, aiming to visit about once a year. The purpose of the port visit is to ‘show the flag’, demonstrate the Australian Government’s friendship with the country visited, while providing an opportunity for locals to visit the ship and for RAN personnel to absorb the local culture to gain an understanding of regional neighbours.

A passage exercise (PASSEX) occurs when RAN warships transit an area, and conduct a day of exercises with adjacent naval forces. Single ship or in-company transits maintain operational capability, so activities are usually at a low tactical level testing seamanship skills. Importantly, a PASSEX provides the opportunity for a regional navy to get the chance to exercise with another navy at minimal cost to itself, while for the RAN it is an activity done as the ship proceeds elsewhere, while also meeting Australia’s diplomatic objective of regional engagement.

Australia provides two types of training to personnel from foreign navies. First there is 'individual training' for individuals attending RAN courses in Australia. Second there is operational training where foreign personnel might be attached to RAN ships. Over 200 foreign naval personnel train in Australia each year, and they come from Indonesia, Malaysia, Philippines, Singapore and Thailand. Importantly many senior foreign officers have been trained in Australia and the contacts thus gained assist when dealing with sensitive issues.

Interoperability

One of the key RAN international engagement objectives is interoperability with other navies. This was also a key objective for the WPNS at its inception, but was unachievable for a number of reasons, the most obvious of which is different equipment across regional navies. Given the disparate levels and broad origin of hardware capability across South East Asian navies, the harmonisation of procedures and development of manuals has become the optimal solution to assist navies to operate together, and the WPNS has led the way in this regard.

The development of a number of documents was agreed at the 1st WPNS Workshop in 1992 to assist navies in dealing with each other. Australia proposed the development of a Maritime Information Exchange Directory (MIED), which would provide guidance on what information navies wished to have reported to them and how this information should be provided. The basis for this proposal was to have navies voluntarily report on civilian vessels sighted as they were transiting areas under the jurisdiction of other WPNS nations. This was expanded upon to create a reference book on specific time-critical information participating navies would like to have reported to them. More recently, Australia proposed the development of an interoperability matrix, outlining the equipment each navy could make available for humanitarian assistance/disaster relief, search and rescue, and mine countermeasures. The compilation of a Replenishment at Sea (RAS) Handbook, which detailed ships' layouts and RAS procedures, was agreed and developed by the Malaysians. The US provided a simple Tactical Signals Manual for use by all WPNS members, which was subsequently revised with other member input. During the Cold War, the Soviet Union and the United States had agreed procedures for the prevention of incidents at sea (INCSEA). Despite some suggestions that an INCSEA might be useful in the WPNS context, navy chiefs did not see the need for that type of document, principally because INCSEA related to bilateral tensions and were agreements at the political level, whereas the WPNS related to multinational cooperation at a professional level. Australia then developed the Code for Unalerted Encounters at Sea (CUES), which was endorsed by the chiefs for voluntary adoption by WPNS members and any other navy.³⁷

Collaboration through multilateral activities provides an understanding of how each navy thinks, operates, and what capabilities it possesses. It also provides an opportunity

for personnel to interact, exchange ideas and professional expertise, and gain an understanding of each other. Competency building through specific activities allows navies to train together to further enhance their skills. Cooperation and capacity building allow more experienced navies to pass on knowledge and expertise to other members. Importantly 'experience' is not limited to larger navies; rather it is based on specific skill sets across a range of navies.

The focus of Australia's defence international engagement is on encouraging the region to develop their own capabilities so they have the ability to contribute to regional security. This is so they can defend themselves from external threats and deter transnational threats from operating within their borders. This is, of course, of great benefit to Australia's security; it is also of considerable benefit to the RAN.

Regional Maritime Security Issues

Two key maritime security issues confront South East Asia: the threat of terrorism and the protection of seaborne trade; the latter issue also has a maritime terrorism element.

Maritime terrorism

The new strategic uncertainty in South East Asia is the spectre of terrorism. The threat is identified as coming from terrorist groups in Indonesia, with offshoots in Malaysia and the Philippines, where many training camps are located, with trained personnel then travelling by boat from the Philippines to Indonesia or Malaysia.³⁸ The Australian view is that counter-terrorism is a law enforcement issue in the first instance, with the provision of military forces as a last resort. Moreover, in the case of terrorist movements by sea between the Philippines and Malaysia, under international law Australia would not be able to operate in the territorial sea of either country to capture the suspect terrorists.

The naval cooperation undertaken by Australia with these countries provides assistance to manage the maritime aspects of the terrorist problem. However, to complicate effective maritime counter-terrorist activities, in many cases the maritime law enforcement response to an incident will be by a regional coastguard or the maritime police. Currently, for a variety of practical and legal reasons, navies do not generally operate with para-military and maritime law enforcement agencies.

There is a growing concern that South East Asia is vulnerable to a maritime terrorist attack, either against shipping or directed against Singapore. The maritime transportation system is vulnerable and there have been some incidents of maritime terrorism indicating the capacity of some groups to undertake attacks and possible attack methodologies for other groups to adopt. However, it is not yet clear there is a direct and organised maritime terrorist threat to Western shipping and trade. As an example, the attacks on USS *Cole* and MV *Limburg* do not necessarily translate

to all-out attacks on regional shipping; nor do attacks on oil/gas platforms in Saudi Arabia/Iraq translate to attacks on regional installations. Similarly, Liberation Tigers of Tamil Eelam (LTTE) attacks on shipping are for a secessionist purpose in Sri Lanka and are not necessarily indicative of general maritime terrorist capabilities.

Naval exercises conducted in the region assist to develop sea keeping and warfighting skills. To meet the emerging security challenges in the region, in 2005, some serials for the FPDA maritime exercises were reorientated towards anti-piracy and counter-terrorism activities.

The framework for the protection of shipping

Traditionally, navies have been responsible for the protection of merchant shipping when attacks have been conducted by enemy armed forces, but changes to the international shipping industry and the growth of many stakeholders, as well as the demise of national fleets, have complicated the legal picture. The protection of seaborne trade is a complex task and will almost always involve more than one country. Consequently, some form of cooperation will be necessary and clearly there would be benefit in having them agreed before an incident. Regional cooperative mechanisms provide a good foundation for this.

One of the foundation measures for Australian sea lines of communication (SLOC) security cooperation is the Radford-Collins Agreement of 1951 with the US.³⁹ It delineated national areas of responsibility for naval control of shipping, local defence and anti-submarine warfare in the Indian and southern Pacific Oceans. The agreement remains a key bilateral defence agreement of significance to the safe passage of friendly shipping through affected areas and it places an onus on Australia to maintain a capability for trade protection.

Under the agreement, the parties periodically hold exercises to test and assess common procedures, which usually take the form of Naval Control of Shipping (NCS) command post exercises. The RAN is involved in a number of annual or biennial NCS exercises with a number of countries. Over the years these have included Exercises LONGEX/ROLL CALL, TRADE LINES, EXPANDED SEA, ROLLER COASTER and BELLBUOY. These exercises may be either command post exercises, which test the administrative procedures involved in controlling shipping, or where fleet units are available, they may be used in actual scenarios. Exercise BELLBUOY is conducted annually in the Indian and Pacific Oceans to test and evaluate procedures during a time of tension, and involves Australia, the US, Canada, the UK, South Korea and Chile. Fleet units may be used when available, otherwise the exercise involves briefing shipmasters and having appropriately trained staff practise their procedures.

As well as the Radford-Collins Agreement there are also international naval trade protection fora known as Shipping Working Groups (SWGs). The two main ones are the

North Atlantic Treaty Organization (NATO) and the Pacific and Indian Oceans (PACIO) SWG. The members of the PACIO group are the US, UK, Republic of Korea, Australia and Chile. Singapore and South Africa have observer status and the US tends to look after Japanese interests. Working group efforts are designed to ensure all participants know how each views trade protection, to develop common strategic and operational level concepts, and to test communications links annually.

Initiatives to Improve Regional Maritime Security Cooperation

Focusing on the possibility of maritime terrorism in South East Asia, it is clear that cooperation between countries is required to negate it. Indonesia and Malaysia reject any external involvement in the Malacca Strait as an impingement of their territorial sovereignty as coastal states. Singapore as a maritime state feels threatened and, given her total reliance on seaborne trade, seeks assistance to manage and defeat the threat. So, given maritime jurisdictions in the Malacca Strait, no external country can conduct patrols or intervene in these waters except with the agreement of the coastal states concerned, although the littoral states are willing to accept assistance. Bilateral arrangements rather than multilateral arrangements would appear to best suit Malaysia and Indonesia (whereas multilateral arrangements best suit Singapore).

The varying level of capability across regional navies provides the rationale for cooperation and assistance, but is also a hindrance if this assistance impacts upon national sensitivities. Scalability of capability packages and support is a pre-requisite, as is consideration of the manner in which assistance is offered.

The opportunity to participate in regional exercises, either on a multilateral or bilateral basis with other navies, provides an opportunity to learn new skills, enhance existing skills, and understand how to conduct combined operations. So, what form should this cooperation take?

First, before further cooperation can be contemplated, there needs to be agreement on what the actual common threats are facing each country in order to demonstrate a common purpose. From this flows the identification of possible responses to the common threat, leading to assistance in developing relevant capabilities if required. This is perhaps the most critical issue, as there is no apparent general agreement on a common (maritime) threat assessment in South East Asia. Importantly, as countries recognise mutual threats and the need for greater cooperation, it is possible to move from bilateral to multilateral exercises and cooperation.

Second, maritime domain awareness is vital to identify if, when and where an attack might occur, and is also critical for tracking the movement of terrorists between countries. This will involve the fusing of intelligence and surveillance information and its transmission to those who need access to it. This will entail inter-agency cooperation within each country, evolving over time to a combined activity between countries. In

the case of seaborne terrorist movement between the Philippines and Malaysia, a strong maritime picture and intelligence would be necessary to intercept specific vessels amongst the large traffic flows in those waters. Recently the International Maritime Organization agreed to the introduction of a Long Range Identification and Tracking (LRIT) system, to enable countries to identify all vessels transiting their waters and particularly those intending to enter port. All SOLAS-compliant ships will have LRIT satellite systems that will provide the ship's identity and location. It has already been accepted that flag states will be able to access the data from their ships anywhere in the world, while port states will be able to access the data from a nominated port following a declaration from the ship of an intention to enter that port.⁴⁰

Third, joint and/or combined operations centres are required to fuse the intelligence and surveillance picture, and also plan and conduct exercises, planning and operational activities. Importantly, the common threat assessment must be high enough to justify this level of cooperation.

Fourth, training, exercises and exchanges remain critical, initially to improve individual skill sets, then collectively across a vessel and then between vessels. In general, the current RAN regional exercise program focuses on basic sea keeping and limited warfighting skills at a bilateral level. Involvement in multilateral exercises increases the benefits gained by participating navies. However, given the law enforcement role in counter-terrorism, an interagency approach to training is also required, so that all agencies concerned with maritime security are involved in all relevant training, and importantly gain an understanding of individual agency culture. Joint exercises and patrols enable navies and coastguards to work together. Basic passage exercises and more involved serials provide the skill sets for basic sea keeping tasks for surveillance, interception and eventually enforcement. At this level, both organisations should be able to communicate with each other and, more importantly, have a thorough understanding of each other's doctrine and operating procedures. An option is to use the WPNS as the appropriate vehicle for cooperation. The attraction of the WPNS is that it already includes all the major parties involved in Malacca Strait security, although it would continue to exclude coastguards.

Fifth, the most suitable framework for the protection of shipping in the Malacca Strait might be the adoption of NATO NCS standards, as the doctrine, administration and training already exist. As most regional countries are not members of the SWGs and associated fora, there is a need for other cooperative measures to ensure the protection of maritime trade in our region. These include measures for cooperation among East Asian nations and between Australia and these nations. The PACIO SWG could be the administrative mechanism to bring these standards into effect, while also providing the framework for command post exercises to test administrative procedures, as well as exercises to test NCS scenarios.

Notes

- ¹ There was also a classified version that had limited distribution within the Department of Defence.
- ² Paul Dibb, *Review of Australia's Defence Capabilities*, Australian Government Publishing Service, Canberra, March 1986, p. 36.
- ³ Dibb, *Review of Australia's Defence Capabilities*, p. 37; emphasis in the original.
- ⁴ Dibb, *Review of Australia's Defence Capabilities*, pp. 50-51.
- ⁵ Dibb, *Review of Australia's Defence Capabilities*, pp. 48-49.
- ⁶ Department of Defence, *The Defence of Australia 1987*, Australian Government Publishing Service, Canberra, 1987, p. 1.
- ⁷ Department of Defence, *The Defence of Australia 1987*, p. 13.
- ⁸ Department of Defence, *The Defence of Australia 1987*, p. 15.
- ⁹ Department of Defence, *Australia's Strategic Planning in the 1990s*, Departmental Publications 113/92, Canberra, 1992, p. 5.
- ¹⁰ Department of Defence, *Australia's Strategic Planning in the 1990s*, pp. 5-19.
- ¹¹ Department of Defence, *Australia's Strategic Planning in the 1990s*, p. 21.
- ¹² Department of Defence, *Strategic Review 1993*, Defence Publications 8009/93, Canberra 1993, p. 39.
- ¹³ Department of Defence, *Strategic Review 1993*, p. 21.
- ¹⁴ Department of Defence, *Strategic Review 1993*, p. 1.
- ¹⁵ Department of Defence, *Strategic Review 1993*, pp. 22-27.
- ¹⁶ Department of Defence, *Strategic Review 1993*, pp. 31-32.
- ¹⁷ Department of Defence, *Defending Australia: Defence White Paper 1994*, Australian Government Publishing Service, Canberra, 1994, p. 3.
- ¹⁸ Department of Defence, *Defending Australia*, p. 85.
- ¹⁹ Department of Defence, *Defending Australia*, p. 86.
- ²⁰ Department of Defence, *Australia's Strategic Policy*, Defence Publications 29785/97, Canberra, 1997, pp. 9-10.
- ²¹ Department of Defence, *Australia's Strategic Policy*, pp. 10-15.
- ²² Department of Defence, *Defence 2000: Our Future Defence Force*, Defence Publishing Service, Canberra, 2000, pp. 15, 17, 19.
- ²³ Department of Defence, *Defence 2000*, p. xi.
- ²⁴ Department of Defence, *Defence 2000*, p. x.
- ²⁵ Department of Defence, *Defence 2000*, pp. 36-37, 39.
- ²⁶ It is important to remember that these exercises might also have a 'joint' element where armies or air forces are also involved.

- ²⁷ Department of Defence, *Portfolio Budget Statements 2004–05*, Canberra, 2004, p. 119; *Portfolio Budget Statements 2005–06*, Canberra, 2005, p. 110; Department of Defence, *Annual Report 2005–06*, Exercise Tables, <www.defence.gov.au/budget/05-06/dar/web_only_section/03_exercise.html>.
- ²⁸ Department of Defence, *Portfolio Budget Statements 2004–05*, p. 118; *Portfolio Budget Statements 2005–06*, p. 111; *Portfolio Budget Statements 2006–07*, Canberra 2006, p. 122; Department of Defence, *Annual Report 2005–06*, Exercise Tables.
- ²⁹ Department of Defence, *Portfolio Budget Statements 2004–05*, p. 119.
- ³⁰ Department of Defence, *Portfolio Budget Statements 2004–05*, p. 119; *Portfolio Budget Statements 2006–07*, p. 122; Department of Defence, *Annual Report 2006–07*, Web Section 5 - Exercises, p. 469.
- ³¹ Department of Defence, *Portfolio Budget Statements 2006–07*, p. 121; Department of Defence, *Annual Report 2006–07*, Web Section 5 - Exercises, pp. 467, 470.
- ³² Department of Defence, *Annual Report 2005–06*, Exercise Tables; Department of Defence, *Annual Report 2006–07*, Web Section 5 - Exercises, p. 469.
- ³³ Department of Defence, *Portfolio Budget Statements 2005–06*, p. 109.
- ³⁴ Department of Defence, *Annual Report 2003–04*, Defence Publishing Service, Canberra, 2003, p. 102.
- ³⁵ Department of Defence, *Portfolio Budget Statements 2004–05*, p. 118; *Portfolio Budget Statements 2005–06*, p. 108; *Portfolio Budget Statements 2006–07*, p. 121.
- ³⁶ 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; '21 Pacific navies begin anti-sea mine exercise in South China Sea', *The China Post*, 7 June 2006.
- ³⁷ Forbes, 'The Western Pacific Naval Symposium', pp. 183-188.
- ³⁸ Department of Foreign Affairs and Trade, *Transnational Terrorism: The Threat to Australia*, Canberra, 2004, p. 52.
- ³⁹ 'The history of the Radford-Collins Agreement', *Semaphore*, Issue 15, Sea Power Centre - Australia, Canberra, November 2007. The declassified version of the Radford-Collins Agreement can be found in Forbes and Lovi (eds), *Australian Maritime Issues 2006: SPC-A Annual*, pp. 47-68.
- ⁴⁰ Andrew Forbes, 'Maritime Security Regulation' in Forbes and Lovi (eds), *Australian Maritime Issues 2006: SPC-A Annual*, pp. 123-128.

New Threats, New Approaches: Australia's Maritime Security Cooperation in South East Asia

Dr Christopher Chung

Transnational and intra-state threats, such as climate change, terrorism, money laundering and ethnic conflict, lie at the heart of the so-called 'new' security agenda. They represent, as Gwyn Prins puts it, 'threats without enemies'.¹ While this new agenda stands in stark contrast to the inter-state conflict focus of the 'old' security agenda, it does not replace it. Rather, as Alan Dupont notes, they co-exist.² This co-existence is clearly evident in relation to maritime security. On the one hand, the traditional role of navies to deter and prevail against external threats coming from or over the sea endures. Continued investment in upgrading the warfighting capabilities of navies reflects this. On the other hand, new threats in the maritime domain associated with combating piracy, illegal fishing, drug and people trafficking, and terrorism at sea require responses based primarily on international cooperation, capacity building and law enforcement. Often the role of the military in these situations is more of a constabulary one rather than power projection.

Non-traditional maritime security threats are especially relevant to South East Asia. The region's geography is predominantly maritime, porous borders abound, marine resources are heavily exploited or degraded, and strong sensitivity to any infringement of sovereignty constrains joint activities. In addition, the region has a high dependence on seaborne trade that could be significantly affected by an escalation of maritime threats. In 2005, for example, Asia accounted for the largest share of world seaborne trade at 2.6 billion tonnes out of a world total of 6.8 billion tonnes; South East Asia accounted for about 0.6 billion tonnes of this, or almost seven per cent.³

Australia has launched a number of new approaches to strengthen cooperation with South East Asian countries to prepare against and respond to maritime security threats. This reflects strong reciprocities in their political, economic and security interests. As Michael Richardson notes:

a stable and increasingly prosperous and democratic Southeast Asia ... is very much in the strategic and economic interests of Australia. ... For its part, Australia is valuable to Southeast Asia as a market and source of imports of goods and services, technology, expertise, capital and other resources.⁴

This paper takes stock of Australia's maritime security cooperation efforts in South East Asia by reviewing progress, problems and prospects. First, however, the context is set by reference to Australia's maritime interests in South East Asia.

Australia's Maritime Interests in South East Asia

Australia is highly dependent on safe and secure regional sea lines of communication (SLOC) in support of seaborne trade valued at more than \$180 billion annually.⁵ Almost all of the country's trade by weight and just under three-quarters by value is seaborne, with coal, iron ore, grain, oil and liquefied natural gas (LNG) being the main commodities exported.⁶ Australia's two-way trade with the member countries of the Association of Southeast Asian Nations (ASEAN) was valued at \$67.8 billion in 2006;⁷ this compares to just under \$44 billion in 2005.⁸ Singapore and Thailand ranked respectively as Australia's fifth and eighth largest merchandise trading partners in 2006.⁹ To date, Australia has concluded free trade agreements with Singapore and Thailand while negotiations with Malaysia and ASEAN (the latter in conjunction with New Zealand) continue. In this context, then, it is unsurprising that 'one major interest [for Australia] is the continuation of the free movement of shipping through maritime South East Asia' because 'interruption of or interference with international shipping would have immediate effects on Australia's economy and its export competitiveness'.¹⁰

Beyond the critical importance of open SLOC in support of its trade relationships in South East Asia (and beyond), Australia also has a long-established interest in the region's security. As the Defence White Paper released in 2000 put it:

Our key strategic interest [in Southeast Asia] is to maintain a resilient regional community that can cooperate to prevent the intrusion of potentially hostile external powers and resolve peacefully any problems that may arise between countries in the region. We would be concerned about any major external threat to the territorial integrity of the nations in our nearer region, especially in maritime Southeast Asia, whether that threat came from outside or inside the region.¹¹

Reaffirming this, the 2007 Defence Update notes that Australia's bilateral defence relations with South East Asian countries are an important strategic asset. Moreover, it asserts that 'no other country matches the range and quality of defence engagement that we have with Southeast Asian nations'.¹²

The Five Power Defence Arrangements (FPDA), concluded in 1971, commit Australia, Malaysia, New Zealand, Singapore and the United Kingdom to immediately consult with each other if either Malaysia or Singapore is threatened or attacked. Its perceived value to Australia is that it 'serves enduring Australian interests in the security of maritime South East Asia, and complements its bilateral relationships in the region'.¹³

Focusing initially on air defence, FPDA exercises have progressively broadened to include land and sea components and, since 1997, combined air and sea operations.¹⁴ From 2000 tri-Service joint exercises were launched, and in 2003 defence ministers agreed to exercises involving asymmetric and non-conventional threat scenarios, such

as maritime security and to the involvement of non-military agencies.¹⁵ Australia's then Defence Minister, Robert Hill, noted in 2005: 'the capacity to respond to non-conventional threats will make the FPDA more relevant to a security environment where threats include terrorism, breaches of exclusive economic zones, smuggling, piracy and illegal fishing'.¹⁶

The first FPDA exercise focusing on maritime security took place in the South China Sea in October 2004, with a second in September 2005. Leading on from this, in September 2006 Singapore hosted Exercise BERSAMA PADU (meaning 'together united' in Malay) involving military personnel, Singapore's Maritime and Port Authority, Police, Coast Guard, immigration authority and customs service.¹⁷ Venturing further into the non-traditional security realm, the 2006 meeting of FPDA defence ministers agreed to explore cooperation in humanitarian assistance and disaster relief.¹⁸

Beyond the FPDA, Australia has longstanding bilateral security relationships with Malaysia, Singapore, Thailand and the Philippines. It is also building defence ties with Cambodia, Brunei, Laos and Vietnam.¹⁹

Defence cooperation with Manila has recently been reinforced through a Status of Forces Agreement signed in May 2007. This allows for joint military exercises and sea patrols and the transfer of surveillance technology. Australia and Indonesia have also intensified their security cooperation after a period of estrangement. In November 2006, both countries signed the Agreement on the Framework for Security cooperation, the so-called Lombok Treaty. Australia ratified it in June 2007. Two aspects of this instrument stand out. First, its emphasis on non-traditional security issues. Of the nine areas of cooperation identified in the document, only one focuses on traditional defence cooperation. Second, its framework structure. This provides flexibility to accommodate a diverse range of activities, such as counter-terrorism capacity building, combating transnational crime and strengthened defence and police cooperation, within an overarching arrangement.

Terrorism in South East Asia sits high on the Australian government's security concerns. The 2003 Foreign Affairs and Trade Policy White Paper notes that 'South-East Asia is our front line in the war against terrorism'.²⁰ It further states that 'our proximity to South-East Asia gives us a strong stake in this region's stability. The region encompasses important communication links and sea lanes vital to our trade interests.'²¹ Terrorism remains a major threat in South East Asia according to the 2007 Defence Update, underlying closer cooperation with Indonesia and the Philippines to build stronger networks and counter-terrorism capabilities.²²

A maritime terrorist attack in the region is no longer hypothetical. The February 2004 attack by Abu Sayyaf on *Superferry 14* in Manila Bay that left 63 dead and a further 53 unaccounted for demonstrated that the threat is real and deadly. Concern about a terrorist attack on a major regional port such as Singapore or Port Klang or in the

Indonesian and Philippine archipelagos or chokepoints in the Malacca, Sunda, Lombok and Makassar straits or in the South China Sea is thus not unreasonable. Ships carrying Australian commodities and energy exports such as LNG transit a number of these waterways to reach markets in North East and South East Asia.

Given the range of Australia's maritime interests in South East Asia, what progress has been made in strengthening cooperation with regional neighbours?

Progress

A range of regional, multi-country or bilateral approaches relating to maritime security cooperation have been launched by Australia. This section provides a snapshot to illustrate their breadth and the role of inter-departmental cooperation (commonly referred to as a whole-of-government approach) in their implementation.

High priority has been placed on enhancing terrorism cooperation, including in the maritime domain. Australia has signed bilateral Memorandums of Understanding (MOUs) with Cambodia, Indonesia, Malaysia, Thailand and the Philippines, with the aim of strengthening operational and counter-terrorism capabilities.²³

Building on the MOU with the Philippines, defence, police and intelligence officials of the two countries met in July 2005 to consider how they could best cooperate in the maritime and law enforcement domains and on information exchange.²⁴ Concern about possible attacks in the southern Philippines against ships carrying Australian exports to North East Asia, including LNG tankers, may have prompted this closer cooperation.²⁵

The Australian Federal Police (AFP) has concluded MOU with counterpart agencies in Indonesia (2002), Thailand (2003), the Philippines (2003) and Vietnam (2006). They provide for cooperation and information sharing between law enforcement agencies on terrorism, piracy, people smuggling and trafficking, drug and arms trafficking, money laundering and identity fraud.

Through the Fighting Terrorism at its Source initiative, the International Liaison Network of the AFP has placed advisors in Indonesia, Malaysia, the Philippines and Thailand to work with counterparts in strengthening counter-terrorism efforts. Extending this, the 2007-08 Federal Budget provided extra funding for AFP liaison officers to be posted to Laos, a key transit country for drug and people smugglers.²⁶ The AFP and the Indonesian Government have also been instrumental in the establishment and operation of the Jakarta Centre for Law Enforcement Cooperation (JCLEC). By May 2007, 1900 people had completed JCLEC courses in investigations management, criminal intelligence, forensics, financial investigations and communications.²⁷

In the wake of the *Superferry 14* bombing, the AFP's offer of technical, forensic and investigative assistance was quickly accepted by the Philippines National Police.²⁸ Other AFP initiatives in the Philippines include implementation of a \$3.7 million joint

project with the Australian Agency for International Development (AusAID) to enhance the capabilities of local law enforcement agencies in counter-terrorism intelligence and investigation, bomb investigation techniques, forensic analysis, and establishing a computer-based case management and intelligence system.²⁹ Regional cooperation efforts were enhanced through the allocation in the 2006-07 Federal Budget of an extra \$25 million over four years to fund further training programs.³⁰

Defence cooperation with regional neighbours in the maritime domain has been based on a number of activities, including exercises under the FPDA and with Indonesia, the Philippines, Singapore and Thailand.³¹ A staunch supporter of the Proliferation Security Initiative (PSI),³² Australia has also participated in PSI exercises in Australia (2003 and 2006), Japan (2004 and 2007) and Singapore (2005). In September 2005, Chief of Navy Vice Admiral Russ Shalders indicated that, if requested, Australia would be willing to share its experience in air patrolling with the Malacca Strait littoral states of Indonesia, Malaysia and Singapore. This would supplement their experience with the 'Eyes in the Sky' initiative launched in 2005.³³ Following a December 2005 meeting with Malaysia's Defence Minister, Foreign Minister Alexander Downer indicated Australia's willingness to consider sending Orion maritime patrol aircraft based in Butterworth, Malaysia, to patrol the waterway with observers from the littoral states on board.³⁴ Malaysia was non-committal. Indonesia, on the other hand, gave its guarded support for the proposal.³⁵ However, no action has yet occurred.

Progress has been made in strengthening port security. The Department of Infrastructure, Transport, Regional Development and Local Government currently has maritime security liaison officers in Jakarta and Manila. In 2006 its predecessor, the Department of Transport and Regional Services, working in conjunction with AusAID, launched a \$3.5 million capacity building project in the Philippines. Its focus is three-fold: to improve compliance with the International Maritime Organization's *International Shipping and Port Security Facility (ISPS) Code*, to build a national framework for port security and to strengthen the security of local ports in the Sulu archipelago.³⁶ Reinforcing this effort, the 2006-07 Federal Budget provided funding to enable the installation of explosives and drugs trace detection technology at high risk ports in Indonesia, Malaysia, the Philippines and Thailand.³⁷

Australia has also supported workshops in Indonesia, Thailand and Vietnam to assist them in complying with the ISPS Code.³⁸ More broadly, APEC's 'Secure Trade in the APEC Region' (STAR) initiative, launched in 2002, focuses on improving maritime, aviation and supply chain security, passenger information management systems, capacity building and project planning. Within this process, cooperation against piracy and compliance with ISPS requirements are priority activities for Australia.

Cooperation on border control has taken several forms. In 2005 the Australian Customs Service worked with regional counterparts to improve border controls around the Sulu and Sulawesi Seas. Building on this experience, the 2006-07 Budget allocated just over

\$7 million over three years to help other countries strengthen their border controls. Particular emphasis is given to training in analysing intelligence, conducting ship searches, identifying chemical precursors (explosives and drugs) and commodities, undertaking passenger screening and raising counter-terrorism awareness.³⁹

Combating people smuggling and trafficking is a further element of border control. In the wake of a large number of people arriving illegally from Indonesia in 2000-01, the Australian foreign minister and his Indonesian counterpart convened a Regional Ministerial Conference on People Smuggling, Trafficking in Persons and Related Transnational Crime in Bali in February 2002.⁴⁰ This has become known as the Bali Process, an ongoing effort involving 50 countries within and beyond the Asia-Pacific, and multilateral institutions such as the Asian Development Bank, World Bank, United Nations Office on Drugs and Crime, and Interpol. Its objectives include developing more effective information and intelligence sharing, improving cooperation among regional law enforcement agencies, strengthening cooperation on border and visa systems to detect illegal movements and placing greater emphasis on tackling the root causes of illegal migration. On the Australian side the process is led by the Department of Foreign Affairs and Trade through the ambassador for combating people smuggling and trafficking, coordinating inputs from the AFP, Customs, Attorney-General's Department, and the Department of Immigration and Citizenship. Numerous capacity building activities and workshops have been held throughout Asia involving foreign affairs, justice, police and immigration ministries from the region. Strengthened cooperation between Australian and Indonesian police, immigration and foreign affairs agencies has been a notable development since the launch of the process.

Problems

As shown above, Australia has implemented a number of approaches with its neighbours to enhance regional maritime security. Commendable progress has been made in a short time. However, a number of problems can be identified.

First, with the multitude of activities either underway or anticipated, 'cooperation fatigue' can set in.⁴¹ Staff within Australian and regional government agencies face considerable challenges in working simultaneously on domestic, bilateral and regional maritime security projects. There is a risk of burn-out and unclear or contradictory prioritisation of projects, as well as pent-up frustration or disillusionment with the pace and results of cooperation programs. Moreover, process may come to be seen as more important than innovative policy-making.

Second, there is a need to recognise that some regional governments have little capacity to allocate extra resources to combat maritime security threats because of competing priorities, resource constraints or other factors. Indonesian analyst Rizal Sukma argues, for example, that it is incorrect to say that Indonesia has not understood the nature and

challenge of maritime terrorism threats.⁴² In his view, Jakarta understands very clearly the national and international trade and economic consequences of maritime terrorism but faces a number of constraints to action. The priority placed on maintaining the country's territorial integrity means that the navy's attention and resources have been focused on separatist activities and communal violence in Aceh, Papua, Kalimantan and Sulawesi. More fundamentally, Sukma argues that the navy's capabilities need upgrading as it is under-funded and has inadequate vessels and weaponry.⁴³

Third, and related to the above, different countries have differing perceptions about the spectrum of maritime security threats. Australia's maritime security agenda gives strong emphasis to the PSI to counter the spread of weapons of mass destruction (WMD), and to combating the threats of piracy and maritime terrorism. In contrast, Malaysia and Indonesia give highest priority to countering threats to their sovereignty. As Mark Valencia notes: 'WMD are simply not Malaysia's or Indonesia's chief concern'.⁴⁴ The divergence in threat perception is also apparent in Indonesian analyst Landry Haryo Subianto's view that 'transnational crime is one of the most serious challenges to [Indonesia's] national security, and *must be put at the top of our priority list*'.⁴⁵

Fourth, flexibility to adapt to a changed budget outlook and the associated implications for program delivery is needed. Simply put, the scale of current funding is no guarantee that it will continue into the future. Since 2001 the Australian Government has allocated significant sums of money for counter-terrorism activities domestically and abroad, including in the maritime area. Perversely, rapidly rising budget allocations may distort the incentive to ensure expenditure is targeted and effective. At some point, however, the money will begin to slow as other priorities in foreign and domestic policy ascend the political agenda. A shifting budgetary landscape will have implications for the delivery of maritime security cooperation programmes, among others. In this context, it is noteworthy that in the lead up to the 2007 federal election neither major political party focused its campaign on national security issues. Rather, they emphasised social policy areas such as education, health care and infrastructure, and amendment to the workplace relations regime. This contrasted strongly with 2004 when national security figured prominently in the election campaign.

Fifth, to ensure institutional arrangements are not a barrier to operational cooperation, officials on both sides need a clear understanding of the institutional responsibilities and limits of their counterpart agency. In some cases the lead agency in Australia does not correspond directly to its counterpart overseas. For example, in Australia the immigration and customs agencies have a strong role in border protection. In some South East Asian countries; however, responsibility for this lies with the marine police. The difficulty is that the latter may have established good links with the AFP as their counterpart and be reluctant in or mistrustful of working with an institutional partner whose credentials are unknown and yet who in the Australian bureaucracy is recognised as the lead agency.

Finally, overcoming barriers associated with language and cultural awareness, is particularly relevant for effective cooperation at the sub-national level, such as with regional port authorities and logistics companies in the supply chain. Some Australian Government agencies have recognised the importance of improving language and cultural skills among their advisory officers. The AFP, for example, has initiated language training in Indonesian, Tagalog, Cantonese, Mandarin and Thai to enhance the effectiveness of its advisors working on counter-terrorism programs with regional counterparts.⁴⁶

Prospects

Overall, good progress has been made in strengthening Australia's maritime security cooperation with South East Asian countries, albeit with a strong focus on the counter-terrorism dimension. The prospects for deepening this appear positive. Nevertheless, a number of areas merit attention if a broader-based agenda for cooperation is to emerge.

First, the environmental and economic dimensions of maritime security needs to be revitalised. In the late 1980s and 1990s Australia funded a number of bilateral and regional marine science research, mangrove and coral reef protection and coastal zone management projects in South East Asia. Since then this type of cooperation has been much reduced. Yet, in areas such as the development of a national ocean's policy, marine protected areas management, and policy measures to address the impacts of climate change on coral reefs, Australia has valuable recent experience to share. Fisheries management is another area that merits increased attention. Indonesia, Thailand, Vietnam and the Philippines are among the top 12 fish producing countries in the world; Indonesia is the fourth largest country in world fish production.⁴⁷ Nearly 100 million people are directly dependent on the fishing industry and related service sectors in South East Asia.⁴⁸ The health of the region's waters and fish stocks is vital to food security, employment and export revenue. Illegal, unreported and unregulated (IUU) fishing in South East Asian waters undermines environmental, social and economic sustainability. To address this, Australia and Indonesia jointly promoted the concept of a regional plan of action to promote responsible fishing and combat IUU fishing activities. Covering the South China, Sulu, Sualwesi, Arafura and Timor seas, the plan of action was signed by fisheries ministers from 10 countries in May 2007: Australia, Brunei Darussalam, East Timor, Indonesia, Malaysia, Papua New Guinea, the Philippines, Singapore, Thailand and Vietnam.

Second, while Australia has stationed liaison officers in several South East Asian countries, reciprocal personnel exchange arrangements would enable training in, and short-term study visits to, Australia by policy-makers and key operations staff, such as harbour masters and tanker farm managers. This provides them with an opportunity to gain a deeper understanding of maritime security policy frameworks, institutional

arrangements and operational methods, and to build personal relationships. South East Asian countries might also consider posting a maritime security liaison officer to their embassy/high commission in Canberra to act as the focal point for interaction with Australian Government agencies and for channeling information back to relevant home-country agencies.

Third, partnerships require a balance between firmness and pragmatism, and sensitivity to local environmental conditions, and greater recognition is needed of this. In that context, little is gained by 'megaphone diplomacy'; indeed, much of the good progress achieved to date risks being undone by incautious words or actions or inadequate appreciation of how domestic politics can act as a brake on the foreign policy behaviour of states and their representatives. At the same time, further effort is required to understand how each side prioritises maritime security threats and to identify areas where mutual interests intersect, providing a basis for strengthening dialogue and cooperation.

Conclusion

Australia and its neighbours in South East Asia have made commendable progress in strengthening their capacity to deal with maritime threats relating to port security and terrorism at sea. While Australia's cooperation on maritime issues with Malaysia, Thailand and Vietnam has increased, greater emphasis has been placed on strengthening relations with Indonesia and the Philippines. This recognises their vulnerabilities as archipelagic states spread over a large sea space and with few resources to adequately patrol it. Self-interest has also been a factor behind Australia's initiatives since these two countries are located near sea lanes vital to Australia's security and trade interests. Supplementing these bilateral measures, Australia has actively supported counter-maritime terrorism and anti-piracy initiatives in regional forums such as APEC.

One implication of Australia's focus on the PSI, piracy and maritime terrorism is that it has narrowed the lens through which maritime security is viewed. Other dimensions, such as naval modernisation, incidents at sea, search and rescue, marine resource management, pollution control, marine scientific research and oceans governance, have been overshadowed.⁴⁹ However, their relevance has not diminished. In South East Asia, this includes the recent acquisition of new and more sophisticated naval platforms by a number of countries in the region,⁵⁰ continued degradation or loss of mangrove forests and coral reefs,⁵¹ and inter-state tensions arising from illegal fishing and unresolved maritime territorial claims. This is not to suggest that countering the spread of WMD or combating piracy and maritime terrorism threats is unimportant. They clearly are important. But it is to remind us that a broader conceptualisation of maritime security is required to reflect the diversity of challenges in the maritime domain in the 21st century.

Notes

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- ⁴⁹ The term 'marine industry' includes shippers, shipping associations, shipbuilders, fisherfolk, maritime unions, port authorities, petroleum exploration and production associations, and logistics entities.
- ⁵⁰ For example, Malaysia's acquisition of two *Scorpena* submarines in 2002 and a further two scheduled for delivery in 2009; Singapore's new stealthy Formidable class frigates, of which five of a total of six have been launched; Indonesia's recent commitment to buy two Russian Kilo class submarines and the possibility of purchasing up to eight more, the acquisition of two Sigma class corvettes and orders for a further pair, and an ambition to establish a 'green water' navy by 2020; and Vietnam's construction of three new corvettes. See for example, Geoff Thompson, 'Russia, Indonesia sign \$1.2b arms deal', *ABC News*, 6 September 2007; Tim Huxley, 'Southeast Asia's naval forces: Aligning capabilities with threats', *IJSS Strategic Comments*, Vol. 12, No. 1, 2006.
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SYNNOT LECTURES





Admiral Sir Anthony Synnot, KBE AO RAN

Introduction

The Synnot Lecture series is named in honour of Admiral Sir Anthony Synnot, KBE AO RAN. Admiral Synnot was one of the most highly respected officers ever to serve in the Australian Defence Force (ADF).

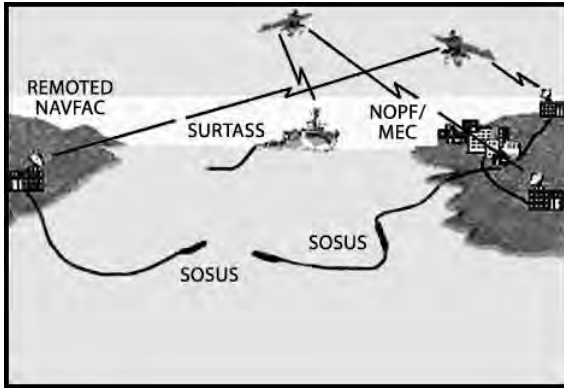
Over the course of an extensive career at sea and ashore, Admiral Synnot made a significant contribution to the development of the Royal Australian Navy (RAN) and to the ADF. During the course of his career, he demonstrated three attributes: the absolute requirement for a core of professionalism of the highest standards as the centre of an effective navy; the importance of every individual in achieving the aim; and the dependence of the whole upon personal example and leadership from command.

Some of the senior appointments he held included Captain of the Navy and then Chief of Naval Staff of the Royal Malaysian Navy (1962-65), Chief of Naval Staff (1976-79), and Chief of Defence Force Staff (1979-82). He passed away on 4 July 2001.

During his tenure as Chief of Naval Staff, he devoted considerable energy to a cause that was eventually lost: the quest for a replacement for the aircraft carrier HMAS *Melbourne* and the renewal of the fixed wing Fleet Air Arm. While the government's decision, after his retirement, to not replace *Melbourne* was one of his most bitter disappointments, his legacy was the way in which senior officers who served closely with and under him set about reorientating the RAN to remain a credible maritime force. This came about through his approach to planning and staff work, where he engendered within the RAN and amongst its leadership an increasingly sophisticated understanding of the decision-making process within government; and just as important, the requirement for a balanced fleet; so that the RAN has a sufficient mix of capabilities to deal with the unexpected, and to present government with real options. With his courteous, patient and thoughtful approach, he also did much to evolve the Office of the Chief of Defence Force Staff.

Additional information on the career of Admiral Synnot can be found in David Shackleton. 'A tribute to Admiral Sir Anthony Synnot, KBE, AO, RAN', *Journal of the Australian Naval Institute*, Spring 2001, pp. 5-9; and Gregory P. Gilbert, 'Synnot, Anthony Monckton (1922-2001)' in Gregory P. Gilbert (ed), *Australian Naval Personalities: Live from the Australian Dictionary of Biography*, Papers in Australian Maritime Affairs, No. 17, Sea Power Centre - Australia, Canberra, 2006, pp. 191-193.

The RAN conducts the lecture series annually. The most recent series were conducted over the period 23 July to 3 August 2007. Dr Gary Weir, Chief Historian of the United States National Geospatial Intelligence Agency gave a number of presentations in Sydney, Canberra, Wollongong, Jervis Bay and Adelaide, and two of these presentations are included in this publication.



The Sound Surveillance System, or SOSUS, consists of bottom mounted hydrophone arrays connected by undersea communication cables to facilities on shore. The hydrophone arrays are located within the SOFAR, or deep sound channel, along the continental slope and seamounts, and therefore this system can detect even relatively quiet sounds over hundreds of kilometres.¹



This is a typical Lofargram, in which frequency is portrayed along the horizontal axis and time along the vertical axis. The presence of spectral energy is indicated by a darkening of the paper. In this representation, a long, narrow, vertical line indicates a persistent narrowband component centered on a single frequency - perhaps a 'tonal' caused by rotating machinery - along the bearing line of interest. Wider gray areas result from broadband noise sources or the ambient background.²

The American Sound Surveillance System: Using the Ocean to Hunt Soviet Submarines, 1950-61

Dr Gary Weir

The most ambitious and effective defence project undertaken during the Cold War next to the hydrogen bomb succeeded completely, made not a sound, and remained invisible for a half-century. Dreading an increase in the capability and geographical reach of a Soviet deep-water submarine force,³ the United States Navy (USN) decided in 1950 to turn the ocean itself against the Soviet Navy. Over the next three decades there emerged a sophisticated surveillance network with global reach that used the ocean's own characteristics to identify submarine activity. Sound Surveillance System (SOSUS), as the sound surveillance system became known, gradually made it impossible for the Soviets to sortie a submarine anywhere in the world without detection. The present historical analysis of this system highlights the importance of the environment in naval warfare, further illuminates the relationship between naval and civilian ocean science, and reveals significant challenges to naval culture and habits directly related to the nature of SOSUS.

In hot or cold war, the natural environment holds warriors and weapons captive and warring adversaries traditionally beg technology to set them free. Driven by World War I (WWI), technological innovations such as the submarine and airplane emerged as major players in armed conflict by permitting adaptation to the natural environment. In these and many other cases through history, the technology either opened doors to an unexploited environment or enabled better performance in a difficult natural setting. These observations offer nothing new. This analytical assessment appears across the entire spectrum of military and naval historiography and has become commonplace, underpinning a great many effective historical efforts.

However, the creation of global ocean surveillance by the United States (US) during the Cold War overthrows this interpretive commonplace. The navy needed no novel or dedicated technology to accomplish this goal. The necessary components initially came, completely tested, off the vendor's shelf. All of it existed to support the telephone communication system in the US or the efforts of energy companies to locate ocean bottom oil deposits and to define potential drill sites. Even the low frequency analysis and recording actuator, which recorded on paper the submarine detection data for SOSUS, emerged from a desire at AT&T Bell Laboratories to examine more closely human voice patterns with an eye toward enhancing basic customer services.

When analysed historically SOSUS turns the familiar WWI adaptive paradigm on its head. In this case new technology did not make the environment more accessible. Rather, environmental understanding enabled the technology. Truly knowing the

ocean made effective submarine surveillance conceivable, and that cast the available technology in a new light, revealing unrecognised potential in existing methods and means.

Suddenly the ocean became the most critical factor. In the early Cold War the overwhelming power of the Red Army on the European continent remained a constant threat to the North Atlantic Treaty Organization (NATO). With American personnel on the ground in Europe and allies to support, the USN once again became concerned about the safety of the sea lanes that extended from North America to the United Kingdom and Western Europe. If the Soviet Union developed a navy with a significant deep-ocean submarine component, the NATO allies would face a potential replay of the battle of the Atlantic against the Germans. Only this time they would probably face high-speed Russian submarines capable of prolonged submergence without the benefit of Ultra signals intelligence. By any standard this constituted a nightmare neither the USN nor the Royal Navy (RN) wished to revisit. Taking a chapter from the history of the undersea clash with the *Kriegsmarine*, knowing the environment in which the battle might take place seemed wise. Thus the fledgling Office of Naval Research (ONR) after 1946 continued the systematic wartime effort to sponsor oceanographic research on a global scale. It also relentlessly pursued the fundamental technical skills and private sector partners necessary to make surveillance possible.⁴

In this case the most critical component of a high-priority naval mission required a sophisticated understanding of an environment that covers 70 per cent of the Earth's surface. While the navy would certainly fund this effort for its rich treasure of submarine intelligence, it held even greater promise for those who looked more closely. Given some thought, the possible civilian and environmental advantages that might derive from the knowledge generated to enable SOSUS passed imagining. Turning the ocean itself into the most important part of a global defence system revealed the Earth to humanity in a way heretofore impossible.

Driven by ideology and a consistent strategic goal – the consequent naval mission to locate, classify and track Soviet submarines, enabled by the power of environmental knowledge – gave rise to both a specialised system and a historically unique community within the USN. This community, their methods, and their distinctive task lasted as long as the threat remained constant and the world bipolar.

For the past half-century SOSUS has certainly attracted historians, if only for its alleged extraordinary capability and the mystery of hunting a deadly adversary deep in the ocean. Time and again highly classified and therefore unavailable sources have made it impossible to evaluate the system and its support community properly. Unlike secret programs emerging from World War II (WWII), ocean surveillance has remained hidden by security measures that protect the intelligence community's means and methods of operation. Evaluations of the system and portrayals of its capability, both under and overstated, have appeared mostly through the courtesy of

journalists and imaginative screenwriters. As the first historical effort made possible by access to the necessary sources, this effort will complement the particularly fine work on acoustic anti-submarine warfare by Willem Hackmann; my own work on the navy, oceanography and deep submergence; as well as analyses of social change in the naval service, especially in works by Paul Stillwell, Robert Schneller and Kathleen Broome Williams.⁵

Origins

Concerned in 1950 with supporting European allies and American forces across the Atlantic Ocean, the American Chief of Naval Operations (CNO), Admiral Forrest Sherman, requested the assistance of the National Academy of Sciences to explore the problem further. The introduction of high-speed submarines with increased submerged endurance in the form of the Type 21 U-boat by the Germans during WWII raised a concern that these technical advances would inform the Soviets in the same way they did the USN.⁶ If the Soviet Navy attempted to compensate for its immediate lack of an effective blue water surface fleet with Type 21 emulations, they might compromise any convoy system envisioned as a lifeline for the new NATO alliance. By arrangement with Sherman, Professor Jerrold Zacharias of the Massachusetts Institute of Technology (MIT) agreed to lead a summer study of this overseas transport problem, focusing on the submarine threat.⁷ According to local lore, the project derived the name Hartwell from a popular faculty watering hole near the MIT campus.

Given wartime advances in oceanography and the insights brought to the study by acousticians and representatives from the telephone industry, Hartwell suggested looking into the possibility of an acoustic detection system based upon a recently enhanced appreciation of long-range sound transmission in the ocean. In 1937 Lehigh University physicist William Maurice Ewing hypothesised the existence of a natural channel that would permit the transmission of sound in the ocean at a minimum velocity over hundreds of miles with minimal attenuation.⁸ Ewing and his student J. Lamar Worzel went on to confirm the existence of the channel experimentally in 1944.⁹ For the postwar scientists at Project Hartwell, the suggested ranges made a sound surveillance network tantalisingly possible. In the autumn of 1950 Mervin Kelly of AT&T entered into discussions with Admiral Sherman, resulting in Office of Naval Research contract 210[00] of 12 December with Western Electric. This arrangement provided for a thorough research program in underwater sound with an emphasis on designing and installing a system to detect and classify low frequency sound radiation from submarines.

Shortly after the contract signing, AT&T submitted a report outlining the general details of a new low frequency signal analyser. Called Low Frequency Analysis and Recording (LOFAR), the new technique and its hardware emerged from research conducted by Ralph Potter and David Winston at Bell Laboratories. The USN first took delivery of

LOFAR on 2 May 1951 as a production model that promised both submarine detection and classification.¹¹

From Concept to Reality

In 1952 construction began on the first surveillance facility, or NAVFAC, in the highly secret Caesar series, as well as its supporting submerged arrays. The facility initiated effective listening from Puerto Rico by February 1955.¹² The Naval Hydrographic Office, the Woods Hole Oceanographic Institution, and Hudson Laboratories did the ocean bottom surveys necessary to assure the best placement for both the hydrophone arrays and the connecting cables feeding the LOFAR-equipped NAVFACs on shore.¹⁰ Both the USN and AT&T laid the cable that enabled the system.

The CNO originally specified six Caesar stations, but this mandate expanded quickly. The final first generation NAVFAC went online as part of the Caesar program in 1961.

In the charged political atmosphere following the Cuban Missile Crisis in 1962, the system's identity changed from experimental Soviet submarine tripwire to a national strategic asset. The entire technical implementation emerged from the USN's partnership with AT&T and its Western Electric subsidiary.

Listening, Hunting and Revealing

The system design and architecture invited the operators, mostly enlisted ratings, to partner with the ocean in an effort to discover Soviet submarines on patrol. Fixed, rigid arrays lay at a variety of advantageous positions and angles on the ocean bottom, each attached to a NAVFAC on shore. The system's officers and ratings – the latter called Ocean Technicians (OTs) after 1969 – monitored the paper 'Lofargrams' generated by the actuators, which recorded graphically the acoustic signals captured by the arrays, enabling visual detection and interpretation.

SOSUS required of those who read and interpreted the Lofargrams a working intimacy with ocean acoustics and Soviet submarine systems. SOSUS personnel acquired this familiarity in very rigorous classes conducted in the highly classified area located behind a large green security door at the Fleet Sonar Sound School in Key West. In the early years, barely half of the 25 people in each successive training class passed the course and joined the system. For those who qualified, they never lost the knowledge they needed to understand what the Lofargram had to offer. If any part of the boat moved, pumped or circulated, the resulting sound radiated into the ocean and formed part of the trail that enabled the system to find the submarine and track it.¹³

The detection process relied on nature, both environmental and human, rather than mechanical devices. Only after discovering and confirming a potential target deep in the ocean, beyond visibility, did the mechanical processes take over. Describing his

on-the-job training at Point Magu California in 1963, a retired OT master chief recalled a very ambitious training regimen for students barely 20 years old:

Well, you were expected to maintain your position on the watch, which was doing Lofargram analysis, learning plotting techniques, learning how to track contacts, studying nautical slide rules, one-arm protractors, and ... learning all these various things as far as plotting and location and geography ... you had to know how to do very extensive maneuvering [sic] board solutions in order ... to detect localize, track, and report threat contacts ... and you also had to learn ... the dynamics of props and sound propagation, and underwater factors ... as well as apply the tools to do the jobs and report the contacts ... you had all these things ... to learn.¹⁴

The naval personnel who made this system work clearly understood the theory upon which it rested and never simply relied on 'black boxed' methods. The USN trained OTs and their officers in acoustic theory as it related to submarines and drilled them in every aspect of Soviet submarine hardware. By the time an operator completed training at Key West or, in later years, in Norfolk, they knew the physics, the adversary, and exactly how the system addressed the problem of long-range, deep-water submarine detection and classification. They could identify submarines, all manner of surface vessels, marine life, and submerged seismic events immediately upon seeing the acoustic signals as rendered by LOFAR, or in post detection analysis of magnetic tape recordings made of the sounds captured by the hydrophones. Beyond that, they helped install and regularly maintain the equipment at the NAVFACs in conjunction with Western Electric and other commercial ventures committed to the system's growth and refinement. As it turned out, the human being in this detection system did not merely play the role of observer, collector, or reporter. In reality, the machine did not achieve the goal. With SOSUS, an OT moved beyond the role of device operator.

In some cases, advanced technologies did not require much of an alteration in the appreciation of the individual's role. Wartime development of radar-enhanced fire control systems designed to target and destroy hostile ships and aircraft carefully took into account the affect human beings would have on the system, its integration, and effectiveness. In this model, however, the 'human factor' and the system still stood apart. The system would perform a function if properly operated and maintained; the human being enabled the system as machine operator and monitor.

Operators assumed a very different role in SOSUS. The individual proved an integral part of the system itself, merging the officers and ratings at the SOSUS stations so completely into the process of detection that the acoustic and mechanical systems became extensions of the OT's sensory capability. This did not compare to driving an automobile. Rather, it seemed as if the SOSUS operator physically became part of an intelligent or 'smart' vehicle. The sound surveillance system projected the intellect and senses of the operators well beyond their personal space, at times thousands of miles

across the ocean and hundreds of fathoms into its depths. As a result, SOSUS permitted first-hand, real-time human interpretation and analysis at a very high technical and interpretative level, something that not even the advent of the early digital age would radically change or improve.

In designing the critical link between the operator and the system technology, the architects of this type of surveillance designed the LOFAR actuator to provide an image of acoustic energy in transit through the ocean.¹⁵ The Lofargrams, generated by a stylus tracking across constantly moving heat-sensitive, carbon-based paper, provided a graphic sketch of the acoustic signals in black, white, and grey, offering an image of aural reality while filling the operations spaces in the NAVFACs with a carbon powder haze that only a small stylus-mounted vacuum would later subdue.

While a perfectly natural expression of scientific method and process, communicating data with this type of imagery achieved a result that went far beyond immediate utility. Operators found they were able to discern subtle nuances in sound signals embedded within the many varied graphic images, via intensity, colour, shape and shade that often made the difference between seeing a school of fish on a Lofargram or realising that the graphic trace actually represented the sound made by a submarine.

This approach also enabled hundreds of SOSUS personnel to master the technique of detection using artistic skills that would not play a role if the acoustic contacts emerged as numbers on a spreadsheet or a contact point on an early warning radar screen. For some, it actually raised conditions commonly perceived as physical handicaps to prized assets, which were very effective for interpretation. Colour blindness, which made people exceptionally sensitive to fine shades of black and white, emerged as one of these. The colour-blind world played out in the same varied shades of grey that appeared on the Lofargram. Operators looked beyond the data, the physics, and the engineering to the ways the LOFAR trace betrayed the personality and attitude of the detected signal that very often revealed its nature. In short, the use of graphic images enabled SOSUS personnel in a similar way the graphic-user interface commercially exploited by Steve Jobs in the Apple Mac had on the average computer user 30 years ago.¹⁶ It drew them into a comfortable relationship with the system that promoted ease of use while enhancing the final product.

The nature of the task and the acoustic imaging techniques employed by LOFAR made a well-trained and intellectually able operator with an artistic eye a necessity. Understanding the behaviour of sound in seawater and submarines represented only part of the challenge. With detection and identification of the target the primary goal, the SOSUS watch-standers tapped their technical knowledge of Soviet submarines and their appreciation of the ocean's influence to provide the proper interpretation of the signal graphically represented on the Lofargram. Some signals appeared in such regular and familiar ways that, after initial detection, future identification did not

present a problem. These visual patterns became the much-vaunted 'signatures' that betrayed particular targets or classes of targets.

Signatures and peculiar image variations suggesting a submarine threat, emerged with far greater ease to those with an artistic flair or with personal visual talents or gifts. If it became necessary to resort to the audio recordings, the NAVFAC staff would listen to the tapes and review the Lofargrams in a post-detection analysis session to determine the nature of the contact. This approach permitted naval officers and ratings, some of them rather junior, to play a role in the fine particulars of threat analysis and system development. The latter became possible because those who actually used the system daily, developing an intimate appreciation of its capabilities, eccentricities and possibilities, could effectively communicate that knowledge to their scientific and engineering counterparts. In this particular case, for this unique system, they communicated nearly as equals. This became particularly evident in the repeated attempts to adapt signal-processing techniques to detect and identify targets. Very often the naval personnel appreciated more quickly than anyone the possible effectiveness of the technique under consideration and the reasons for potential failure or the possible degree of success.

In every case, informed personal opinion led to confirmed targets, regularly highlighting the importance of individual knowledge and the visual interpretation of Lofargrams. SOSUS also encouraged competition among increasingly expert OTs, and the entire community became consumed by a hunger to dominate the object of the hunt. That object always seemed close and immediate. They appeared in black and grey on the Lofargrams near at hand for every hunter to see, if they knew the signs.

The competition to know the signs, to find the elusive target first, and to know that a threat existed even before the president himself, created an intense and competitive atmosphere. Occupied by a rigorous watch schedule, not even sleep seemed more important than the hunt and its signs. A veteran of multiple tours at NAVFAC Keflavik, established in 1966, Commander James Donovan, USN, remembered his early service as an enlisted OT and the importance of watching a target's signature and sound characteristics emerge for the first time on LOFAR. If a new Soviet boat passed over one of the Keflavik arrays, very few remained in their beds. As he recalled, the action lay elsewhere:

I remember a submarine being detected and it was coming toward a SOSUS array. It was really interesting. And I know when I was on watch in the daytime that we knew it was coming and probably at midnight. So I would wake myself up and come in at a quarter 'til midnight to be there, and sure enough there would be five or six guys from my watchteam doing the same thing; to watch the submarine. Then we would go back home and go back to bed.¹⁷

Unexpected Challenges

This unique naval experience also laid the groundwork for fundamental social change, almost unwittingly opening an important door for women. Admitted to the community from a very early stage, women played an important part in the success of SOSUS only because the mission departed so frequently from the normal naval cultural and operational routine. In this case, detection and analysis would not require women to serve on board ship because the system asked operators to reach out into the ocean and retrieve the necessary data from NAVFACs ashore via LOFAR. In this professional community, living accommodations could remain separate and ashore, talented women could easily rise to the demands of the training, and the USN needed large numbers of operators to keep pace with the system's promise and growth. Inviting women to join the community simply made good sense and had great immediate utility. In 1970 Norah Anderson received her assignment to NAVFAC Eleuthera, becoming the first woman to take a place on the operations floor.

The advantage of this choice for women went well beyond the obviously interesting work. Since the USN classified SOSUS activity as a warfare specialty, the door opened for hundreds of women to a navy career outside of medicine, education, or administration. SOSUS work appeared on your fitness report and record as combat experience equal in value to time at sea. The NAVFACs qualified as one of the Cold War's front lines. Thus, SOSUS presented the possibility of advancing to a very senior enlisted grade or, for officers of both sexes, it offered the holy grail of command. Lieutenant Commander Peggy Frederick, USN, became the first woman to attain the latter, taking command of NAVFAC Lewes in Delaware in 1977.

For the entire history of the OT rating, extending from 1969 to 1997, any day would find as many women on a NAVFAC operations floor as men. For most of the Cold War this represented the only way a woman could claim warfare experience and compete with her male counterparts on a nearly equal basis. SOSUS required intellect, nearly artistic discernment, and good judgment, diminishing the significance of physical strength and size. By removing many of the traditional barriers to female front-line service, this effort provided a common denominator for both sexes in the context of a mission capability the navy leadership prized very highly.

In a much broader sense, providing qualified personnel represented one of the most difficult cultural challenges for those commanding SOSUS. Early experience demonstrated that it took a great deal of time to train operators. A NAVFAC's capability suffered when one of its trained staff finished a tour and returned to a traditional fleet experience. When the system began the USN attracted people through recruitment and from a variety of ratings and officer experiences. Many of the assigned officers came from the reserves, a naval community with a style of staffing flexibility that initially served the system's needs. Finding and retaining talent remained haphazard and difficult.

By the mid-1960s short-term commitments and tours lasting only two or three years left the SOSUS system regularly short of qualified personnel. In 1964, Commander Ocean Systems Atlantic (COSL), the senior officer in the system, launched an appeal to create a rating for the SOSUS enlisted community, with a complete career track from able seaman through master chief. His effort benefited from a report composed by a panel expressly created at COSL in Dam Neck, Virginia, to design all aspects of the proposed rating.¹⁸ In spite of meticulous preparation it took nearly five years of rather intense debate between Ocean Systems Atlantic and the Bureau of Personnel to agree on the need for the OT rating. This innovation preserved a cadre of well-trained and experienced enlisted operators for the duration of a career rather than just an extended tour. Standards for the rating appeared in print to inform the enlisted community by early 1970.¹⁹

The dramatic debate that created the OT rating paled in comparison with the Bureau of Personnel reaction to suggestions that similar measures might retain highly qualified officers or permit OTs to aspire to oceanographic warrant officer positions while remaining within SOSUS. Retaining trained officers who wanted to stay with the system by means of service tour extensions did not properly address the need for informed and expert leadership at the NAVFACs.

The SOSUS leadership began their appeal in 1973 that officers might make a career of specialised service in this non-traditional system. They never succeeded. The bureau refused to entertain the possibility that this kind of exclusive work would provide the proper background to help shape an officer who would expect to rise in the ranks. The rarity of sea duty among officers serving in SOSUS alone seemed to make the suggestion absolutely foreign. For the remaining years of the Cold War officers who wished to remain with SOSUS extended their tours as long as possible and then left the Service, staying with the system in a civilian capacity. The closest SOSUS ever came to a reliable source of trained officers eventually took the form of possible promotion to Limited Duty Officer. In this case, individuals with experience in the system had their records marked accordingly and through their very traditional careers might find themselves called upon to return to a NAVFAC to fill a pressing need for experienced leadership. More frequently, the strong appeal of the work and the strict traditional definition of the way a naval officer developed drove very skilled personnel out of the USN and into the civil service or private companies.²⁰

SOSUS demanded unique knowledge, methods, relationships, and a need for secrecy equalled by few other defence projects. From the earliest months of SOSUS activity, its operators kept secret the nature and existence of their 'black' program. Knowledge of their mission could not go beyond their professional circle. Their workspaces remained non-descript and only carried the outward title NAVFAC. Watch bills kept them on duty for long periods of time on a 24-hour clock, but unlike the rest of the USN, never at sea. Upon transfer from one NAVFAC to another, a new arrival would usually know at

least one third of the people at the new site, having worked with them before at other locations. Varying slightly in number over time, roughly 1800 OTs and 150 SOSUS officers only had a small number of NAVFACs in the US and abroad to populate.²¹

They lived, worked, ate, smoked, worried, and hunted Soviet submarines together and did it in very close personal proximity. Despite the stated USN policy against fraternisation, many senior OTs married their watch officers and the official USN turned a blind eye.²² Thus families grew, prospered, and occasionally split within the confines of this professional culture. In spite of this kind of surveillance qualifying as a warfare specialty, in the beginning they did not have, and later could not wear, their uniform insignia in the same way a submariner might display gold or silver dolphins over his uniform breast pocket. This community had to live the secret.

Conclusion

Examining SOSUS forces the ocean environment into the analytical foreground, inviting new connections and suggesting questions that would not present themselves otherwise. The systems and methods that contributed to SOSUS strongly suggest a symbiotic relationship between independent civilian science and the national defence as it pertained to the ocean. Ocean surveillance encouraged investigation that advanced the science of acoustics and produced seminal research and essential publications. Given that much of it remained classified, the need for professional communication led the USN laboratories to create the classified *Journal of Underwater Acoustics* to permit the kind of community awareness necessary for science to prosper, even within a professional group closed by security concerns. In recent years some physicists and oceanographers have collected seminal scientific articles published in this fashion and submitted those still classified for security review to develop a widely available library of basic research and analysis in support of the current state of the art.²³

Indeed, a close look at oceanography's recent past suggests that a very powerful and ever-present civilian obverse of defence ocean science emerged from WWII. In serving their own interests the naval and civilian ocean science communities naturally, but often reluctantly, served one another as well. The SOSUS experience built on these developments and benefited from them. The emergence of acoustic tomography provides a case in point. After retiring from Bell Laboratories John Steinberg embarked on an academic career at the University of Miami in the early 1960s and pursued acoustics research in the Florida Straits sponsored by ONR. In the process of supporting the submarine community and SOSUS operators with his work, Steinberg discovered a way of acoustically monitoring various physical attributes of the ocean. Dubbed tomography, this technique has helped scientists understand the extent and effect of global warming through many productive civilian scientific projects including Acoustic Thermometry Ocean Climate (ATOC).²⁴

The importance of the ocean to the detection equation drove the USN to learn as much as it could about depths well beyond the limits imposed by a submarine's capability. This imperative drew USN sponsorship and personnel into every aspect of oceanography, to the extent of funding the creation of programs in universities around the country and offering support to those pioneering centres of ocean science already in existence. SOSUS and anti-submarine warfare did not create oceanography as an independent university-based science in the US, but it certainly made a major contribution. The system's increasing significance and the importance of undersea warfare in general guaranteed a continuing level of patronage for certain lines of scientific investigation, particularly physical oceanography and underwater acoustics.

SOSUS historically emphasises the importance of the environmental factor in understanding naval professional communities as well. Surveillance practitioners remained unique and separate, an intelligence subculture within the USN that often found them disturbingly different. Their relationship with the ocean and what it had to offer took a completely different form from those who sailed on its surface and that difference had social as well as operational consequences. Women found unexpected opportunity and the enlisted community discovered new alternatives in a career track that defined their professional purpose in a satisfying manner. For officers, relentlessly held by the USN to the tradition of diverse experience and sea duty, the appeal of SOSUS ended or redefined careers, affirming, for better or worse, the traditional road to senior naval leadership.

In the context of the relationship with science that made SOSUS possible, regardless of current personal opinions or cultural attitudes, both the naval and civilian science communities actually worked toward the same goal. Understanding the ocean in all of its complexity became the common denominator that bound them together, making it impossible for historians to understand one without knowing the other.

Notes

- ¹ Illustration credit: Naval Research Laboratory - National Oceanic and Atmospheric Administration.
- ² 'First-Generation Installations and Initial Operational Experience', *Undersea Warfare*, Vol. 7, No. 2, Winter 2005.
- ³ 'Study of Undersea Warfare' (The Low Report), Post 1 January 1946 Command File, US Navy Operational Archive, Washington, DC, 22 April 1950.
- ⁴ Gary E. Weir, *An Ocean in Common: American Naval Officers, Scientists, and the Ocean Environment*, A&M University Press, Texas, 2001, Chapters 10-17.

- ⁵ Willem Hackmann, *Seek and Strike: Sonar, Anti-Submarine Warfare, and the Royal Navy, 1914–1954*, Her Majesty's Stationery Office, London, 1984; Paul Stillwell (ed), *The Golden Thirteen: Recollections of the First Black Naval Officers*, Naval Institute Press, Annapolis, 1993; Robert J. Schneller Jr, *Breaking the Color Barrier: The US Naval Academy's First Black Midshipmen and the Struggle for Racial Equality*, New York University Press, New York, 2005; Kathleen Broome Williams, *Grace Hopper: Admiral of the Cyber Sea*, Naval Institute Press, Annapolis, 2004; Kathleen Broome Williams, *Improbable Warriors: Women Scientists and the US Navy in World War II*, Naval Institute Press, Annapolis, 2001.
- ⁶ Type 21 U-boats emerged from a very intensive development program within the wartime *Kriegsmarine* to create a boat that could stay submerged longer and move much faster. Employing the schnorchel to draw in air for propulsion and to dispose of exhaust, increased battery power for greater submerged speed, and a streamlined hull, by the end of the conflict the Germans produced a vessel capable of staying submerged longer and moving through the water at a sustained 17 knots for 30 minutes without a battery recharge. If this kind of submarine became the rule, it could easily defeat the anti-submarine capabilities of the victorious powers. In the immediate postwar years it presented the ultimate threat. Eberhard Rössler, *Geschichte des deutschen Ubootbaus*, J.F. Lehman Verlag, Munich, 1975.
- ⁷ Project Hartwell, 'A Report on Security of Overseas Transport', MIT, Post 1 January 1946 Command File, AR/NHC, 21 September 1950. In an effort to magnify the effect of the fluid professional dialogue that characterised the relationship between the USN and the civilian scientific community during WWII, the National Academy of Sciences and various universities employed summer studies to address critical defence and scientific problems. These experiences brought scientists, engineers, and naval professionals together for most of a summer at a fixed location to achieve a critical mass of intellect and experience in an effort to address the problem and compose possible solutions. Summer studies took place with relative frequency during the Cold War and also gave rise to regular consulting groups occupied with particular aspects of the defence problem, like the Jasons. Weir, *An Ocean in Common*, Interpolation 2, Chapter 18.
- ⁸ Weir, *An Ocean in Common*, pp. 172-178, 298, 315.
- ⁹ Weir, *An Ocean in Common*, pp. 172-178, 298, 315. M. Ewing, A.C. Vine, G.P. Woollard and J.L. Worzel, 'Recent Results in Submarine Geophysics', *Bulletin of the Geological Society of America*, Vol. 57, No. 10, October 1946, pp. 909-934; 'Sofar', Radio broadcast made over WGY, Schenectady, NY, 17 April 1946, W. Maurice Ewing Papers, Center for American History Archives, University of Texas, Austin; M. Ewing and J.L. Worzel, 'Long Range Sound Transmission', *The Geological Society of America Memoir* 27, 15 October 1948. Ralph Potter was a veteran of Project Hartwell. He brought the immediacy of the USN's anti-submarine warfare needs back to Bell with him after the summer study concluded. He and Winston adapted an effort at Bell to analyse voice patterns for telephone transmission to the USN's needs with LOFAR.
- ¹⁰ Project Jezebel, Final Report on Developmental Contract NObsr-57093, 1 January 1961 (covering the period 1 November 1951 to 1 January 1961); *ASW Surveillance*, Phase 1, Vol. II, Appendix A - History of ASW Surveillance, TRW Underwater Surveillance Office Archive, McLean, VA, 28 June 1968; David K. Allison and John Pitts, Interview with Captain Joseph Kelly, Navy Laboratories Archive, David Taylor Research Center, Carderock, Maryland, 9 November 1984.
- ¹¹ This was NAVFAC Ramey in Puerto Rico.

- ¹² Gary E. Weir, Oral History with Ramon Jackson, US Navy Operational Archive, Washington, DC, 9 October 2001. Jackson was one of the ocean bottom surveyors and cartographers with the Navy Hydrographic Office.
- ¹³ Gary E. Weir, Oral History with Michael Duggan, US Navy Operational Archive, Washington, DC, 7 November 2001.
- ¹⁴ Gary E. Weir, Oral History with OTCM Phillip Brown, USN (Rtd.), US Navy Operational Archive, Washington, DC, 2 June 1997.
- ¹⁵ Peter Galison, *Image and Logic: A Material Culture of Microphysics*, University of Chicago Press, Chicago, 1997, Chapter 1. Galison's analysis of the material culture of microphysics, examined largely through the nature of laboratory practice and instrumentation, illuminated for this study the importance of the nature of LOFAR and the choices made in its creation. The decision to employ a graph plotting time versus frequency combined with the means of rendering the graph, a stylus contact essentially burning its trace into heat-sensitive carbon-based paper, satisfied the need to collect data on the sound detected, but also provided an image with sufficient character and attributes to permit threat analysis based upon the graph-as-image as opposed to its usual function as a simple picture of related data points. This characteristic opened great possibilities for both the scientist and the system operators. For the most part, the latter treated the Lofargrams as images one could interpret as numerical value and as art, each with its own unique 'brushstrokes' suggesting that each contact had its own signature.
- ¹⁶ Michael Hiltzik, *Dealers of Lightning: Xerox PARC and the Dawn of the Computer Age*, Harper Business, New York, 1999, see especially Chapter 23.
- ¹⁷ Gary E. Weir, Oral History with Commander James M. Donovan, USN, US Navy Operational Archive, Washington, DC, 24 May 2001.
- ¹⁸ COSL to Chief of Naval Personnel, Classified Records Vault Shelf, Code N16, Commander Undersea Surveillance, FCTC Dam Neck, VA, 9 June 1964.
- ¹⁹ Proposed Occupational Standards, OT Rating, Classified Records Vault Shelf, Code N16, Commander Undersea Surveillance, FCTC Dam Neck, VA, c 1970; Revised 1975.
- ²⁰ Correspondence from Commanding Officer, NAVFAC Keflavik to Chief of Naval Personnel, 20 February 1973; Correspondence from Chief of Naval Personnel to Commanding Officer, NAVFAC Keflavik, 26 November 1973; COSL and COSP to CNO, Classified Records Vault Shelf, Code N16, Commander Undersea Surveillance, FCTC Dam Neck, VA, 15 February 1973. See also Weir, Oral History with Commander James M. Donovan.
- ²¹ Weir, Oral History with Commander James M. Donovan.
- ²² Weir, Oral History with Commander James M. Donovan. Many others interviewed for this project made this same point.
- ²³ Author correspondence with Dr Fred Spiess, Marine Physical Laboratory, San Diego, and the Scripps Institution of Oceanography, LaJolla, 2005, 2006.
- ²⁴ Weir, *An Ocean in Common*, pp. 298-315; Gary E. Weir, Oral History with Professor Harry DeFerrari, The Rosenstiel School of Marine and Atmospheric Science, Contemporary History Branch, US Naval Historical Center, 21 January 2000; J.C. Steinberg and T.G. Birdsall, 'Underwater Sound Propagation in the Straits of Florida', *Journal of the Acoustical Society of America*, Vol. 39, No. 301, 1966, p. 301.



Soviet Foxtrot class diesel submarine B-130

From Surveillance to Global Warming: John Steinberg and Ocean Acoustics

Dr Gary Weir

I would like to offer two scenarios separated by time and place but linked by both an individual and a historically significant perspective on the expansion of human knowledge.

I shall discuss the significance of the revolutionary work in ocean acoustics done by John Steinberg of Bell Telephone Laboratories. A physicist and acoustician, Steinberg made a second career for himself at the Institute of Marine Science at the University of Miami after his retirement from Bell in 1957.

The historically significant perspective to which I refer emerged from my work on the history of the United States Navy's (USN's) involvement in the ocean sciences. In my study *An Ocean in Common*, I suggested that the demands of war, the availability of unprecedented talent and resources, and the relentless application of cultural translation between 1940 and 1945 transformed the uncertain relationship between civilian ocean scientists and the USN into a regular professional dialogue, a fluid partnership that served both human knowledge and the considerable discrete ambitions of both civilian science and the navy.¹

In linking the following two episodes, I shall illustrate the dynamics of this early postwar naval-scientific dialogue, highlight John Steinberg's unheralded discoveries, and demonstrate the ease with which scientific revelations about the ocean passed from pure discovery, to military application, to civilian applied science, and back again. This amazing fluidity permitted knowledge, the associated technology, and a full appreciation of possible application to flow across significant and culturally formidable professional boundaries with great ease.

Five years ago I sat in a hotel room across from a man who smiled frequently, regularly displaying a shining gold tooth, a distraction I had never encountered before while doing an oral history. While his tooth flashed in the hotel room light demonstrating one of the attractive attributes of that precious metal, his words proved infinitely more valuable. This interview took place in the Sheraton Hotel in Moscow, and across from me sat an experienced Soviet submariner.²

Roughly 40 years earlier, Captain Second Rank Nikolai Shumkov, then commanding officer of the Soviet Foxtrot class diesel submarine *B-130*, found himself in a truly unenviable position. On 25 October 1962, off the American coast and barely 100 feet below the surface in uncomfortably warm tropical waters, he realised the game had ended. Immediately above his head sat the American anti-submarine warfare (ASW)

carrier USS *Essex* and her entire task group. A secret Soviet naval operation codenamed ANADYR brought Shumkov and his crew to this fateful meeting. For the crew of *Essex* and their shipmates in the task group, this was the Cuban Missile Crisis.

When asked how he felt that the Americans managed to track his progress and discover his position, Shumkov cited a number of technical problems his boat had experienced and its geographic proximity to the centre of east coast American naval power. He also mentioned a disturbing American radio message. His communications officer intercepted an order broadcast in the clear from a shore facility to a USN P-2V Neptune ASW aircraft authorising an anti-submarine prosecution and giving *B-130*'s coordinates with astonishing accuracy. I did not have to ask the obvious question. He stared at me for a moment, his smile fading along with his tooth. Then this experienced submarine commander looked me in the eye and in his heavy Russian accent said, 'SOSUS'.³

He had heard of the newly installed American network of deep ocean acoustic sensors and their possible capability. In 1962 he knew nothing more; very few people on either side of the Cold War did. Only one year earlier the USN and the Western Electric and Bell Laboratories components of AT&T had completed the installation of the first generation acoustic arrays off the east coast of the US. It fell under the codename Project Caesar. The system had yet to work out all of its technical flaws and few could then imagine its future capability.⁴ Shumkov knew from experiences after 1962 that this network had probably tracked him for days, given his proximity to the American coast. With a depleted battery and significant technical failures, *B-130* soon came to the surface on that October day in 1962 to the great satisfaction of the *Essex* Task Group commander and the USN. To this day, Shumkov vividly remembers the humiliation of the experience. At the time, he could not know the extent of his acoustic vulnerability.⁵ However, John Steinberg knew.

Almost 30 years later, as the Cold War began to loose much of its heat, a group of scientists conducted an experiment at Australia's Heard Island in the Indian Ocean. Driven by a desire to better understand the progress of global warming, in January 1991 these international experts sought to examine, over global distances, the range and behaviour of powerful acoustic signals introduced into the ocean at Heard Island.

During World War II (WWII) American submarine commanders used the newly introduced bathythermograph to measure the temperature of the water outside the hull. Familiarity with temperature, depth and, to a lesser degree, salinity could make the difference between life and death. The ocean's temperature and depth would bend and direct the active sonar signals used by Japanese destroyers to hunt American submariners. With this knowledge in hand, American boats would evade by seeking acoustic shadow zones – areas missed by the active sonar because of the bathymetry of the water. The characteristics of the ocean all around them often became their greatest ally.

Employing this process conversely, signals introduced into the ocean and carefully examined would reveal through their behaviour temperature variations as well as other physical attributes of the ocean over time and distance. Combined with critical characteristics of the sound related to phase, acoustic signal processing could both reveal, and provide a means to accurately monitor on an unprecedented scale, many critical characteristics of the ocean. Since seawater covers 70 per cent of the Earth's surface, ocean temperature would provide an excellent measure of the extent and variation of warming on a global scale. The Heard Island Feasibility Test called for monitoring stations in Asia, Africa, on the ocean surface in the Atlantic and Pacific, and on both American coasts to gather data on signals sent at regular times and at particular frequencies.⁶

The results of the 1991 experiment confirmed acoustic signal processing as an effective tool to monitor global warming. This experiment provided the foundation for the Acoustic Thermometry of Ocean Climate (ATOC) project, sponsored by the Office of Naval Research (ONR), the National Science Foundation, the Department of Energy, and the National Oceanographic and Atmospheric Administration (NOAA). While his name rarely appears in the constellation of physicists and acousticians whose reputations rest in part on the origins and results of the Heard Island Feasibility Test, John Steinberg's discoveries while conducting Sound Surveillance System (SOSUS)-related experiments in the Straits of Florida in the early 1960s made ATOC possible.⁷

Born in Lakota, Iowa, on 21 June 1895, John Christian Steinberg returned from aviation duty during World War I to the doctoral program in physics at the University of Iowa, completing his degree in 1922. He joined the Western Electric Company that same year, moving to a position at Bell Laboratories in 1925.⁸ Another World War and 25 years later, Steinberg became part of the Project Jezebel team at Bell Laboratories led by Carl Wiebusch. Jezebel emerged as the cover name for SOSUS-related low frequency acoustic research.

When the USN identified advanced German submarine design and technology captured and possibly exploited by the Soviets as the primary naval threat in 1950, deep ocean submarine surveillance suddenly became very desirable and assumed a very high priority. Prewar low frequency acoustic propagation research by Lehigh University's W. Maurice Ewing and his student John Lamar Worzel had already elevated this approach to ASW from desirable to theoretically possible. Ewing and Worzel discovered the deep sound channel, a layer of ocean that regularly permitted sound propagation over thousands of miles with minimal attenuation. After confirming their initial 1937 hypothesis, wartime research displayed the potential captive in this natural condition of the ocean. In 1945 a victorious USN still showed little interest, but the US Coast Guard authorised the creation of a rescue station in Hawaii based upon a system Ewing called SOFAR (Sound Fixing and Ranging). This technique employed a small explosive charge set off in the deep sound channel by ships or individuals in distress. While the

sound of the small explosion crossed entire oceans trapped in the channel, a process of triangulation enabled rapid response and rescue.⁹

Steinberg worked for seven years on Project Jezebel, the low frequency acoustic research that made the SOSUS possible. For SOSUS, Soviet submarines would provide the sound that would propagate in the sound channel as they moved into the Atlantic Ocean from the Barents and Norwegian Seas or into the Pacific from Petropavlovsk. The system would listen silently for the telltale noises of an operating submarine and report the boat's activity for ASW prosecution. As a senior Bell Laboratory physicist, Steinberg regularly attended meetings with the USN that addressed the nature of the hydrophone arrays, their position, and every fundamental acoustic problem confronted by the project as the system deployed in the 1950s.

When he left Bell Laboratory for retirement and a research post at the University of Miami's facility on Virginia Key between Miami and Key Biscayne, Steinberg's interest in SOSUS continued. He received funding from ONR to explore seasonal variations in the sounds made by the marine life resident in the Florida Straits. Nature constantly provided a challenge for the SOSUS array operators who had to identify sounds and frequencies peculiar to submarines as opposed to marine life. Familiarity with the latter would assist in personnel training and the development of filtering techniques necessary to help them determine the particular acoustic signature of a hostile submarine. Naval ASW experts needed the various sounds made by operating submarines to emerge clearly from the ocean's ambient noise on the paper trace produced by the Low Frequency Analysis and Recording (LOFAR) system used for submarine surveillance at SOSUS shore facilities.¹⁰

Steinberg created sites at Fowey Rocks Light House, marking the entrance to Biscayne Bay just off Miami, and on Bimini Island in the Bahamas about 48 miles distant for conducting active and passive acoustic measurements relative to SOSUS bioacoustics. William Cummings, a graduate student in biology at the university, assisted Steinberg as did a number of technicians who took responsibility for the equipment. By 1963 Steinberg and his team installed a continuous wave 420Hz transmitter at Fowey Rocks that put a single tone into the ocean. They also placed receivers for both active and passive detection at ranges of 8 and 47 miles from that source as well as a third actually on Bimini.¹¹

Working from the National Museum of Natural History's Lerner Marine Laboratory on Bimini, Steinberg began to listen to noises in the region generated by various fish and mammals, paying special attention to the full and new phases of the moon as well as variations across the seasons. He made scores of recordings, especially of the 'clicking chorus' that took place during particular portions of the lunar cycle, driving the SOSUS operators mad. Steinberg even experimented with using a vacuum tube driven television camera to observe marine life in the area, seeing if he could actually identify his swimming soloists by sight.

In most cases, scientists engaged in performing specific work under contract or on a grant would certainly accomplish the tasks necessary to satisfy their sponsor, but they would also use spare time and any available equipment to do some work of particular interest to themselves. Steinberg followed this model, and while working on the bioacoustics project for ONR he also studied basic sound propagation across the Florida Straits. Unfortunately, the transmission qualities of his 420Hz sound source fell far below expectation. The Fowey Rocks signals barely registered at Lerner Laboratory in Bimini due to a poor selection of fabrication materials for the transducer's parabolic mounting frame.¹²

Very interested in both Steinberg's primary line of investigation and his secondary interest, Marvin Lasky of ONR asked one of his program managers, Phillip Stockland, for assistance. A veteran of the underwater acoustics branch at the USN's David Taylor Model Basin in Carderock Maryland, Lasky arrived at ONR in 1957 to work for Aubrey Price in Code 411 supervising contracts related to ocean acoustics, both in pure research and in applied projects.¹³ Stockland brought Lasky's attention to a mathematician at the University of Michigan, supported by ONR for his work in acoustic signal processing. Theodore Birdsall, at Michigan's Cooley Electronics Laboratory, received a quick and unexpected telephone call from Marvin Lasky suggesting very strongly that he put aside his current work and fly down to Miami. As an ONR fellow working with Steinberg in the summer of 1963, Professor Harry DeFerrari, now of the University of Miami, recalled colleagues remarking that Lasky told Birdsall, 'to get down to Miami and find those guys [at Lerner] another 10 dB of gain or don't bother writing another [funding] proposal'.¹⁴ Apparently the argument proved immediately persuasive.

Choosing a technique also under study by Bell Laboratory, Birdsall found the solution in phase coherent demodulation. This technique employed a very narrow band filter that permitted the examination and manipulation of the amplitude and phase of the acoustic signal. Working together with ONR sponsorship, Birdsall and Steinberg improved the quality of the transmitted signal by 40dB at the Lerner Laboratory receiver, surpassing Lasky's demand by 30dB.

Once applied, this technique drew Steinberg's attention to the variation of the signal's amplitude and the unexpected regularity of its phase. Current wisdom resigned the phase to a random variable, not a steady, regular component of the signal's nature. In this case, Steinberg and Birdsall observed that the phase barely varied, but did so very regularly. After a few days, an astonished Steinberg concluded that the seemingly minor variation that he did observe reflected the natural action of the tides. Nearly 40 years later, Harry DeFerrari recalled Steinberg's reaction and the significance of his conclusions:

It immediately occurred to Steinberg that you could make all kinds of measurements relative to the whole ocean by just looking at acoustic signals. That was the birth of tomography and acoustical oceanography and everything

right there; it also gave the signal processing people on submarines a new way to process and to get new gain out of it, using the phase as a variable in detection. It was a major breakthrough and carried that group for another ten years.¹⁵

The potential resident in this effort immediately made partners out of the universities of Miami and Michigan and the project adopted the name 'MIMI' using the first two letters of each school's name.¹⁶

In October 1965, Steinberg and Birdsall submitted their results to the *Journal of the Acoustical Society of America* under the title 'Underwater Propagation in the Straits of Florida', with Steinberg observing that:

Investigations of the acoustic characteristics of the Straits and of the requirements for a system suitable for measurement on a continuous basis were carried out over a 3-year period. Recently, an acoustic system and a limited environmental system were realized.

While the article focused primarily on the propagation issues, the stability of the phase, the application of phase coherent demodulation, the unexpected diurnal regularity of the phase variation, and the possible opportunities for environmental research and monitoring emerged clearly. Steinberg turned 70 just four months before submitting the article.¹⁷

MIMI consumed his attention for the balance of his years at Miami. When John Steinberg retired for the second time in 1972, the 77-year-old acoustician joined Palisades Geophysical Institute's Miami Division as a senior scientist. J. Lamar Worzel and some of his colleagues at Columbia University's Lamont-Doherty Geological Observatory created Palisades Geophysical Institute as a commercial spin-off venture to absorb some of the defence contracts that many universities no longer found attractive or politically safe as the shadow of American involvement in South East Asia lengthened. The Vietnam War and the policies of the US Department of Defense did much to challenge the dialogue that emerged from WWII. Worzel's company represented a solution to that challenge that Steinberg and many other acoustics specialists used to continue their work.¹⁸

Acoustic monitoring of global warming, ATOC, and other related projects find their roots in ASW and deep ocean surveillance. The policies of the ONR and the Bureau of Ships in the two decades after WWII demonstrated that both the ocean science community and the USN had largely come to the conclusion that new insights into the environment writ large naturally addressed their individual curiosities, needs, and interests. After all, the naval battlespace defined by a particular set of coordinates had surface, air, and subsurface aspects. Research conducted by experienced and trusted investigators designed to enhance general human knowledge by objectively studying the jet stream, ocean currents, the deep sound channel or the ocean bottom

might easily produce critical defence insights and new capabilities. In the case before us, ONR recognised the expertise of an old Bell Laboratory veteran, encouraged the continued application of his talents to SOSUS and submarine detection, funded his research for many years, and certainly addressed perceived defence requirements, but in the process recognised and sponsored a diversion that has emerged as a significant way to monitor an environmental threat to the future of humankind.

Participants in the professional dialogue that emerged from the effort to subdue the Axis powers in WWII understood and accepted the notion that discoveries and insights, regardless of the motive for finding them, often have useful and necessary applications beyond the limited vision of patron or scientist. For roughly 20 years after 1945, ONR, Bureau of Ships, and many scientists who worked on naval problems realised the limits of an initial vision or the requirements of the moment and money flowed for both the tantalisingly possible as well as the immediately practical. Thus there exists a perhaps unexpected but very important link between tracking Soviet submarines during the darkest days of the Cold War and our current effort to appreciate and control the damage we have done to our environment. That link rests with John Steinberg and a different perspective on the emergence of knowledge.

Notes

- ¹ Gary E. Weir, *An Ocean in Common: American Naval Officers, Scientists, and the Ocean Environment*, A&M University Press, Texas, 2001.
- ² Gary E. Weir, Oral History with Captain First Rank Nikolai Shumkov, Moscow, 14 February 2002. The oral history is in the possession of the author.
- ³ Weir, Oral History with Captain First Rank Nikolai Shumkov.
- ⁴ Weir, *An Ocean in Common*, pp. 298-315.
- ⁵ Weir, Oral History with Captain First Rank Nikolai Shumkov.
- ⁶ Walter Munk and Arthur Baggeroer, 'The Heard Island Papers: A contribution to global acoustics', *The Journal of the Acoustical Society of America*, Vol. 96, No. 4, October 1994, pp. 2327-2329; W.H. Munk, R.C. Spindel, A. Baggeroer and T.G. Birdsall, 'The Heard Island feasibility test', *The Journal of the Acoustical Society of America*, Vol. 96, No. 4, October 1994, pp. 2330-2342.
- ⁷ Munk, et al, 'The Heard Island feasibility test', p. 2330.
- ⁸ 'John Christian Steinberg' in Jaques Cattell Press (ed), *American Men and Women of Science*, 12th Edition, Vol. 6, 'St-Z - The Physical and Biological Sciences', R.R. Bowker Company, New York, 1973, p. 6092.
- ⁹ Weir, *An Ocean in Common*, pp. 298-315.
- ¹⁰ Gary E. Weir, Oral History with Professor Harry DeFerrari, The Rosenstiel School of Marine and Atmospheric Science, Contemporary History Branch, US Naval Historical Center, 21 January 2000.
- ¹¹ Weir, Oral History with Professor Harry DeFerrari.
- ¹² The source was mounted in a parabolic frame that would help direct the sound toward the receivers at Bimini. When the frame was built the aluminium tubes used received a coat of copper-based anti-fouling paint. The frame was also expected to improve reception by 14 dB. When installed, the paint reacted chemically with the seawater and the 'boiling' action on the surface of the tubes caused many of them to flood. The entire episode resulted in a dampened signal and much diminished directivity.
- ¹³ Statement of Personal History, Marvin Lasky, Box 8, Marvin Lasky Papers, RC 21-5, Navy Laboratories Archive, David Taylor Research and Development Center. These records now reside at the US Naval Historical Center's Operational Archive, Washington, DC.
- ¹⁴ Weir, Oral History with Professor Harry DeFerrari.
- ¹⁵ Weir, Oral History with Professor Harry DeFerrari.
- ¹⁶ J.C. Steinberg and T.G. Birdsall, 'Underwater sound propagation in the Straits of Florida', *Journal of the Acoustical Society of America*, Vol. 39, No. 301, 1966, p. 301.
- ¹⁷ Steinberg and Birdsall, 'Underwater sound propagation in the Straits of Florida', pp. 301-315.
- ¹⁸ John Steinberg died in Miami in 1988 at the age of 93.

INTERNATIONAL COOPERATION IN THE WAR AGAINST TERROR IN THE ASIA-PACIFIC REGION



A sailor from HMAS Tobruk is winched down by the embarked Seahawk to the ship's flight deck, while conducting flying operations during the 2006 South East Asia and South West Pacific deployment

International Cooperation in the War Against Terror in the Asia-Pacific Region with a Special Emphasis on the Malacca Strait

The Center for International Security and Strategic Studies at Mississippi State University, the Center for US-Japan Studies and Cooperation of the Institute for Public Policy Studies at Vanderbilt University, and the Tokyo-based Asian Security Forum undertook to evaluate the level of threat from Al Qaeda and local terrorist groups in the Asia-Pacific region. These organisations analysed the current level of international cooperation to counter these threats with a special emphasis on safeguarding the Malacca Strait, and evaluated the potential threat of bio-terrorism. While these issues are well known in Asia, they have less visibility and have received less policy attention in the United States (US).

A multinational study group was formed - comprising experts from Australia, Indonesia, Japan, Malaysia, the Philippines, Singapore, Thailand and the US - representing the countries most affected by terrorism and concerned user states. These issues were considered at a workshop held over 8-9 March 2006 at Mississippi State University, which provided a neutral venue for the exchange of frank and even blunt opinions to help everyone understand each other's concerns in order to develop comprehensive solutions.

The workshop comprised three sessions. The first, 'Policy Issues and Perspectives: Setting the Stage', provided the opportunity to discuss the official government policies of external powers in the region, and to analyse those policies and the possible maritime threats in the Malacca Strait. The second session, 'ASEAN Perspectives', presented the views of and issues facing maritime South East Asia. The third session, 'Cooperative Measures', examined how cooperation against international terrorism in maritime Asia might be enhanced.

With the permission of Mississippi State University, four papers are included in this publication. These papers provide a general overview of the need for cooperation, and examine such cooperation from an Australian, Malaysian and Singaporean maritime perspective. Importantly, these views expressed are those of individual authors and not of the governments or institutes with which they may be associated.



HMS Monmouth, HMAS Perth and FNS Vendemaire alongside at Yokosuka, Japan, after the sea phase of Exercise Pacific Shield, held in Tokyo Harbor.

American, Japanese and Australian Counter-terrorism Assistance to ASEAN

Ambassador Marie T. Huhtala (Rtd)

The focus of this paper is the ongoing terrorist threat in South East Asia and the kinds of assistance the United States (US), Japan and Australia are providing to the countries of that region to address it. This is a timely and important issue, but it is far from a simple one. In this paper I will try to lay out some of the complexities that make the various offers of assistance, their acceptance and their use – a challenge for all concerned.

The terrorist threat in this region is very real indeed. Jemaah Islamiya, Laskar Jihad, and the Abu Sayyaf Group are terrorist organisations based in South East Asia. Al Qaeda has long had operatives in the region, some of whom had important roles in the planning and execution of the 11 September 2001 attacks. Recent reports that Jemaah Islamiyah fugitive Noordin Mat Top has proclaimed himself the leader of a new group called the Organisation for the Basis of Jihad are also troubling. Despite the peace, prosperity and open outlook of these societies, the presence of terrorists, either residing permanently or just passing through, haunts governments and unsettles markets.

Members of international terrorist networks are drawn to the region's booming economies, well-developed air links and excellent infrastructure for material support. At the same time, the Islamic and Islamic-friendly cultures of Indonesia, Malaysia, Thailand and the Philippines allow foreigners of all types to move about freely. Despite the conveniences offered by Bangkok, Kuala Lumpur and Singapore for meetings, financial services, and rest and recreation, the region has not been spared terrorist attacks – especially Indonesia, which has suffered repeatedly. Given the presence of these operatives on the ground, future attacks are always a possibility.

It was for these reasons and especially the revelation of Al Qaeda's activities here during the planning stages of the 11 September 2001 attacks, that the US Government termed South East Asia the 'second front' in the war against terror. Indeed, what the Bush Administration called the 'global war on terror', launched after the 2001 attacks, transformed US relationships with the countries of South East Asia, and with its principal political community, the Association of Southeast Asian Nations (ASEAN).

For most of the world, the key concern is the Malacca Strait, where a huge portion of the world's seaborne trade transits. The straits and adjacent waters already teem with pirates, a plague the local governments have proved unable to wipe out. A successful terrorist attack that closed the straits for any length of time would have a devastating effect on the global economy. The scenario that haunts most analysts is the bombing of a supertanker filled with liquefied natural gas inside Singapore harbour. Anything of

this nature would likely close the straits for an indefinite period, causing incalculable losses around the world. There is no indication that indigenous terrorist groups have the capability to carry out such a spectacular attack, but outsiders might well be able to; just knowing that it could be done sends shivers down most of our backs.

The governments of South East Asian countries recognise the challenge that confronts them, but by and large they have been unable to apply the resources needed to root out terrorist networks, protect their own countries and secure the straits. Most importantly, they have made only halting efforts so far to coordinate and cooperate among themselves, to share sensitive information in a timely manner and work jointly on the high seas. Since 2001 the US, Japan and Australia have all stepped forward to offer counter-terrorist assistance to these countries, out of concern for the wellbeing of the region, certainly, but also out of hard-headed self-interest. Paradoxically, each of them has had an uphill battle getting the countries involved to accept the assistance in the spirit in which it was offered.

The US has had the toughest time of it. In the decade before the Bush Administration came into office, US assistance levels had fallen steeply in most countries of the region, often for very good reasons. With the US Congress simultaneously squeezing aid budgets and inserting earmarks that constrained planning, successive administrations were obliged to make hard choices between the abject poverty of regions such as Africa and the growing aspirations of rapidly developing countries in Asia. Thus in Malaysia and Thailand, for example, bilateral assistance had been phased out in favour of flourishing trade and investment ties; the United States Agency for International Development mission in Thailand closed in the mid-1990s, at a time when Washington judged its friend and ally could safely 'graduate' from receiving development aid.

Almost immediately thereafter, the financial crisis of 1997-98 took place. The Clinton Administration's response to that crisis emphasised working through the International Monetary Fund (IMF) rather than making bilateral donations, and made the US look churlish in comparison to donors such as Japan and even China. The fact that the US contributes roughly a quarter of all funding for the IMF and considers it a primary instrument for meeting financial challenges of this nature, while true, was not widely known, and Washington failed to make this point effectively to anxious publics. Malaysian Prime Minister Mahathir went so far as to claim the US had engineered the financial crisis in order to keep the 'little dragons' down, and people were ready to believe it. In Thailand especially, resentment was widespread among government officials and the public, and those feelings were still around in 2001. Even in countries such as Indonesia and the Philippines, which continued to benefit from large American developmental aid programs, many people believed the US was not living up to its obligations.

The inception of the global war on terror got the US back into the assistance game in South East Asia on a broad scale, but with a shift of emphasis to counter-terrorist

programs. Fresh sources of funding were identified for a wide range of programs addressing pieces of the terrorist puzzle. Counter-terrorism assistance programs were carefully tailored for each country, but usually consisted of some combination of police training, judicial assistance and enhanced military cooperation. Bilateral information sharing was greatly stepped up, and the US actively sought greater dialogue with the various governments on law enforcement matters. We also sought diplomatic cooperation, urging all countries to sign the 13 United Nations conventions or protocols on terrorism, and freezing financial assets of terrorist organisations. Nevertheless, these worthy efforts were frequently perceived as manifestations of US self-interest alone. Public opinion in the region did not acknowledge any threat from indigenous groups - though that changed, sadly, with the discovery of the extensive multi-state organisation of Jemaah Islamiyah and the Bali bombings in 2002.

There was a further complication. While there was widespread shock and sympathy for the losses sustained in New York, Washington and Pennsylvania on 11 September 2001, Muslim publics and governments in Malaysia and Indonesia quickly turned against the US after the invasion of Afghanistan. While the US press emphasised the strategic importance of defeating the Taliban, news media throughout South East Asia focused on the plight of innocent civilians killed or maimed in the conflict. President G.W. Bush's famous warning - 'you're either with us or against us' - was often taken as a declaration of war against Islam itself. The overwhelming military might of the US caused many to fear for their own lives, as rumours of US plans to invade South East Asia circulated wildly.

All these perceptions grew exponentially worse in late 2002 as the Administration's intent to invade Iraq became evident. Anti-American sentiment soared throughout the region, making it very difficult for local governments to work openly with us. At the same time, the US visa process suddenly bogged down, as security checks in Washington created massive and lengthy delays in approvals. Our core constituency in many countries - those who wanted to visit the US or send their children to study here - became alienated. Malaysian and Indonesian Muslims, dreading the embarrassment of submitting to increased security checks at US ports of entry, deferred non-essential travel.

As time went on, governments became less willing to accept American counter-terrorism assistance; at a minimum they developed a strong desire to camouflage the aid. A perception grew that the only thing the US cared about in South East Asia was counter-terrorism, which further increased resistance. A few examples from my own time in Malaysia will illustrate this. In 2002 the US proposed the establishment of a joint United States-Malaysian counter-terrorism centre, similar to the United States-Thai Oversight Committee within the International Law Enforcement Academy - Bangkok, to train police and judicial officials from around the region in areas such as countering terrorist financial flows and enhancing counter-terrorism information

exchange. The Malaysian Government agreed to set up the centre, but declined to do so as our partner. The resulting Southeast Asia Regional Centre for Counter-Terrorism is a wholly Malaysian entity, which receives assistance from the US and others to carry out its work but does not enjoy the close bilateral cooperation of its Thai counterpart. It is fair to say the arms-length nature of our bilateral cooperation on this makes it a good deal more difficult for us to help, and our help is probably less effective than it could be.

Another example: in June 2003 the Royal Malaysian Navy took part in our annual Cooperation Afloat Readiness and Training (CARAT) exercise, as it had done for many years previously. That year, however, the authorities in Kuantan, on the east coast where the exercises took place, allowed no local or national press coverage of the events, our sailors were denied shore leave due to local sensitivities, and the US Navy's offer to engage in humanitarian assistance projects on Malaysian soil was declined.

In the past three years the US State Department and the military's Pacific Command have been very focused on the problem of maritime security in the Malacca Strait, and have proposed a regional initiative to bring together government and military leaders from Indonesia, Malaysia and Singapore to address it. While the Singapore Government has responded positively, the others have been more reluctant. A proposal last year to begin joint patrols of the strait under the auspices of the ASEAN Regional Forum was roundly defeated. More recently, the three littoral states announced plans to conduct joint air and sea patrols, and officials have said they would seek help from the US and others to contribute equipment and expertise to strengthen air patrols. But Malaysia and Indonesia have ruled out any direct foreign 'intervention', such as military exercises or training, saying that other countries must respect their territorial sovereignty. This is frustrating for US planners interested in helping build the most robust counter-terrorist cooperation possible. Admiral Fallon, commander of the United States Pacific Command, visited the region in February 2006 and promised he would do anything he could to help combat piracy and terrorism – anything the countries concerned would agree to, that is.

Australia has also encountered difficulty forging serious counter-terrorism partnerships in the region. To some degree Australia has been tarred by its close treaty alliance with the US, its strong support for the war on terror and the Howard Government's willingness to send troops to the coalition effort in Iraq. The unfortunate sobriquet of 'deputy sheriff', drawn from a 1999 comment by Prime Minister John Howard (and later retracted), gave Mahathir and others ample cause to criticise Australian efforts in the region. President Bush, responding to a reporter, made the situation worse when he jokingly called Australia, America's 'sheriff' for East Asia. It is safe to say most Asians did not get the joke! Then came the 2002 Bali bombings in which 88 Australians were killed, a disaster often called 'Australia's 9/11'. Shortly thereafter, Prime Minister Howard stated that he would not hesitate to order a pre-emptive strike

in another country against terrorists preparing an attack against Australia. This added further fuel to conspiracy theories around the region.

Australia, of course, has a rather different take on South East Asia than the US. While the US sees it as a crossroads for maritime trade and a growing if distant economic market, Australia views it as its own backyard. Geographically if not culturally, Australia is very much a part of the region, and it has been deeply engaged there for many years. Official Australian Government documents reveal that in 2005, 57 per cent of Australia's merchandise exports went to East Asia, and 49 per cent of its imports came from there; trade with the nations of ASEAN represented 36 per cent of the imports and 5 per cent of the exports. Australia also has long-standing and generous aid programs for the countries of South East Asia and the Pacific islands.

Like the US, Australia is a long-time dialogue partner of ASEAN and a founding member of the ASEAN Regional Forum. But it has gone a step further by agreeing to sign the Treaty of Amity and Cooperation with ASEAN, a move that earned it the right to attend the first meeting of the East Asia Summit (EAS) in December 2005. It is a little early to say whether the EAS will develop into an important or influential forum, but it already has regional significance as the first Asia-wide political grouping that does not include the US. It has been suggested that Australia is expected to act as a sort of proxy for the US within the EAS, but there is little evidence of this so far. Australia has its own reasons for engaging with the group, and the US, having practiced a form of studied indifference to it, has not apparently sought an 'in' of any sort.

Australian foreign policy has not always been well received in South East Asia. Its strong commitment to helping the Pacific states, particularly Papua New Guinea, may have been one of the factors motivating it to intervene in the East Timor crisis of 1999. Foreign Minister Alexander Downer has acknowledged that Australia's role in leading the INTERFET mission, which restored order after the violence resulting from the independence referendum, was 'very controversial'. This had a markedly negative impact on Australia's relations with Indonesia, in the short term at least, and undoubtedly complicated the counter-terrorism cooperation between the two countries after the Bali bombings. But Australia's persistence in helping Indonesia track down the terrorist perpetrators, its embrace of the new Yudhoyono Government, and its generous assistance to tsunami survivors have contributed to more comfortable dealings over time.

Foreign Minister Downer has described the close relations between the US and Australia as an asset Australia brings to the Asian region, as though Australia can interpret Asian reality to the hulking superpower more effectively than the Asians themselves can. It is not clear that Asian governments buy that argument, and as American popularity has sunk, its Australian allies have been dragged down as well. Despite its many interests in and contributions to the region, Australia remains a bit of an outsider in South East Asian eyes, and it will likely remain so for the foreseeable future.

The third major partner for South East Asia is, of course, Japan. No one questions that Japan is part of Asia, and it has been constructively engaged throughout the region far longer and more intensively than any other single country. Japanese assistance programs are legendary, their businessmen occupy prominent positions in every capital and they have a highly developed 'feel' for what will work well in this region. I vividly remember, for example, watching small, inexpensive Japanese tractors supplant water buffaloes in the rice paddies of northern Thailand in the 1970s. American exports – our massive John Deere tractors – could not break into this market because of their cost, but Japanese products were just right, and they were quietly transforming the landscape.

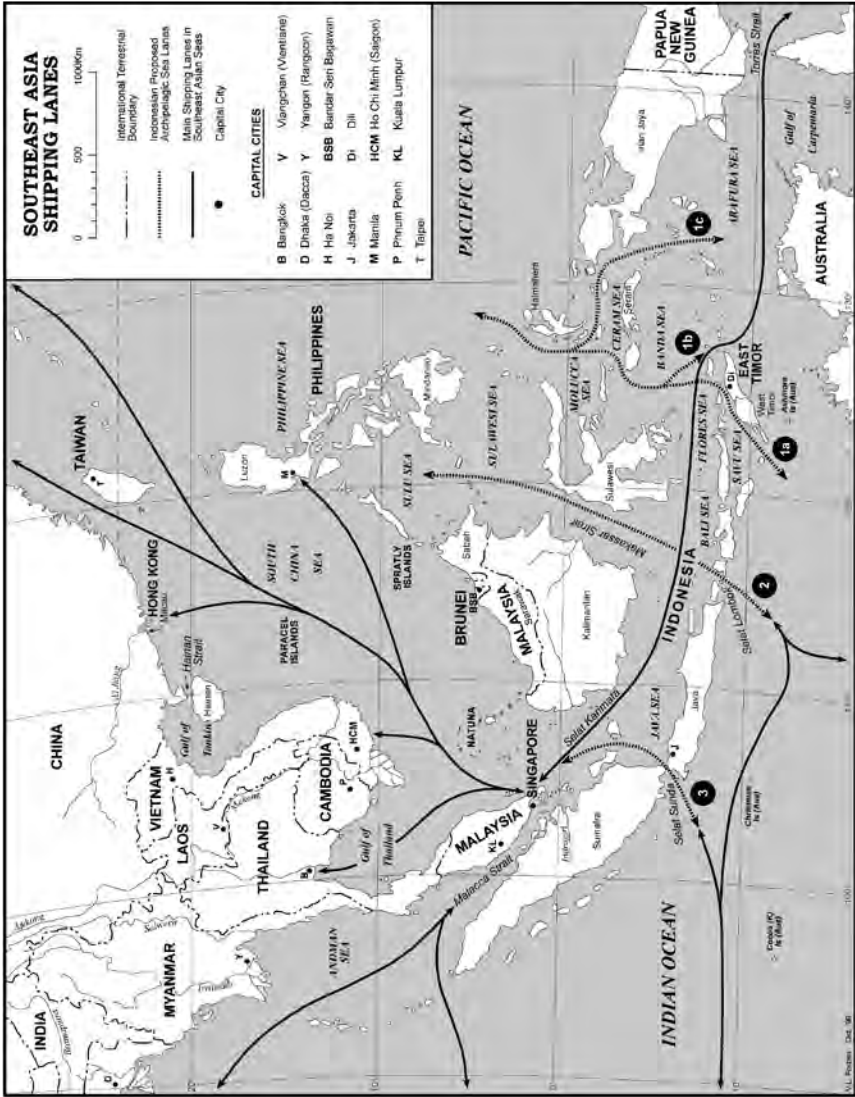
Japan has long been deeply engaged at the political level as well. It interacts intensively with ASEAN as a dialogue partner and signatory of the Treaty of Amity and Commerce. As a member of the ASEAN+3, its leaders engage at the ministerial and prime ministerial level with the leaders of ASEAN, China and Korea on a regular basis. In the wake of the 1997 financial crisis, Japan proposed the creation of an Asian Monetary Fund, an idea that was quashed by the US. Discussions continued, however, among the ASEAN+3 finance ministers, leading to the development of a regional financial cooperation network known as the Chiang Mai Initiative. It features a series of bilateral currency swap arrangements, as well as economic monitoring and training; Japan remains heavily involved in it.

Japan maintains extensive assistance programs throughout South East Asia, emphasising infrastructure building, human resources development and institutional support. It also provides important capacity building assistance to combat terrorism in areas such as immigration control, aviation security, port security, customs cooperation, export controls and law enforcement. Japan is a leader in fighting money laundering and helping countries block terrorist financing flows, and provides this assistance bilaterally as well as through the ASEAN+3, the ASEAN Regional Forum, the Asia-Pacific Economic Cooperation (APEC), the Group of Eight (G8), and the Organisation for Economic Co-operation and Development (OECD).

Of the three powers we are discussing, Japan probably has had the least difficulty in creating receptivity to its assistance. This is, *inter alia*, because of its large investment presence in the region, its willingness to assist all members of ASEAN (including Myanmar), and its ability to tailor proposals to meet the needs and sensitivities of the recipients. Nevertheless, Japan still encounters problems from time to time. Memories of the hardships and atrocities of World War II are still alive in South East Asia, and Japan's offers of friendship are occasionally viewed with a gimlet eye. As China ramps up its considerable engagement in the region, with rapidly growing trade, tourism and economic assistance, Japan will need to reaffirm its bona fides constantly. It remains to be seen how the emerging Sino-Japanese rivalry will play out in this regard, but the countries of ASEAN could benefit handsomely, in the short term at least.

The bottom line for all three donors is simple. The US, Australia and Japan have a lot to offer the nations of South East Asia in confronting a terrorist threat that is part of a global network and has the potential to do immeasurable harm in this region. In the 39 years of ASEAN's existence, its proud member states have made great strides, improving their people's standards of living, becoming hugely successful traders in the international market and gaining influence in international fora. But counter-terrorism is one area where much more could be done.

For all their history and for all their shortcomings, the US, Japan and Australia genuinely seek to enhance the security of their friends in South East Asia, and to meet our common interest of deterring terrorists. I hope that we will all be able to build on the groundwork that has already been laid and forge new partnerships in this critically important area.



Australia's Contribution to the Fight Against Terrorism in South East Asia

Mr Andrew Forbes

The Australian Government recognises that Islamic-based terrorism is a threat to the security of South East Asia and to Australia, and that an international response is required to counter the threat. Australian counter-terrorist policies are two-fold: to stop any attack in Australia and to assist regional countries defeat the terrorist threat. The threat is identified as coming from terrorist groups in Indonesia, with offshoots in Malaysia and the Philippines, where many training camps are located. The trained personnel then travel by boat from the Philippines to Indonesia or Malaysia.¹ While Westerners, including Australians, have been killed in Indonesia (as have many Indonesians), there has not yet been an attack mounted against the Australian mainland.

This paper will examine the Australian contribution to counter-terrorism in South East Asia and is divided into four sections. First the paper will briefly consider the whole-of-government approach adopted by Australia, and the contribution of various government departments and agencies to their counterparts in the region. Second, it will outline the extensive operational experience of the Australian Defence Force (ADF) in South East Asia, demonstrating the capacity available for the military contribution to counter-terrorism operations. Third, it will critically examine the methodological evidence used to demonstrate a maritime terrorist threat to shipping in the Malacca Strait. Finally, the paper will offer some initiatives to counter these 'threats'.

Australia's Offshore Counter-terrorism Activities

Australia adopted a coordinated international strategy with three main elements:

- building the will to combat terrorism through greater international and regional cooperation
- delivering practical results against terrorists through effective operational-level cooperation
- sharing Australian experience and training to strengthen regional capabilities.

Importantly, Australia adopted a formal network of bilateral counter-terrorism with a number of regional countries. What is significant is that these arrangements are concerned with cooperation between regional police, intelligence agencies, security authorities, customs, immigration and transport services, defence forces and the financial sector.² This reflects the Australian view that counter-terrorism is a law enforcement issue in the first instance, with the use of military forces a last resort.

Therefore this section will focus on non-military activities conducted by Australian Agency for International Development (AusAID), the Australian Federal Police (AFP) and the Office of Transport Security (OTS).

Role of relevant government agencies

Recognising that terrorist groups are able to use entrenched poverty as a recruiting tool, the Australian aid program managed by AusAID aims to both reduce poverty as a long-term goal, while building counter-terrorism capacity in selected countries. It achieves this across two broad objectives:

- building the capacity of partner countries to manage terrorist threats by strengthening counter-terrorist and broader law enforcement capacity
- promoting an environment conducive to economic growth and poverty reduction to minimise the potential for terrorist networks to develop.

AusAID runs extensive long-term development programs, which are not considered in this paper, to assist countries to alleviate poverty. Three areas have been selected for strengthening counter-terrorism capacity: terrorist financing and money laundering, policing and border security.³

The AFP has law enforcement responsibility for counter-terrorism – domestic and offshore – and has entered into a range of cooperative agreements under a Memorandum of Understanding with regional counterpart agencies to exchange information and to assist with tracking suspect terrorists. The AFP has 62 officers based in 31 posts in 26 countries, including counter-terrorism liaison officers in Washington and London, as well as advisers in the Philippines and Malaysia. The AFP also has teams based in Indonesia and the Philippines to support counter-terrorism operations. Their activities revolve around assisting in the development of intelligence and the coordination of operational arrangements, as the Australian counter-terrorism policy is to take the fight offshore to the source. This is achieved by co-locating and integrating AFP officers into the day-to-day operations of counterpart agencies to maximise the exchange of criminal intelligence and specialist law enforcement skills.⁴

The OTS in the Department of Transport and Regional Services is responsible for domestic transport security (land, maritime and air), but with an offshore component given the international nature of air and maritime transport. Importantly, OTS is responsible for the development of legislation concerning transport security and applying penalties for breeches of the legislation, but not for the physical enforcement of transport security measures. Under the *Maritime Transport and Offshore Facilities Security Act 2003*, the owners of 300 port facilities in 70 ports, 60 offshore oil and gas facilities, as well as 55 Australian-flagged ships were required to conduct security assessments and develop appropriate security plans to manage those risks. OTS provides training and assistance to South East Asian countries on transportation

security issues, with Transport Security Liaison Officers posted to both Jakarta and Manila, and another three officers about to be posted to Jakarta and two more to Manila. These officials share responsibility for transport security issues across all other South East Asian countries.

Assistance to Indonesia

The Australian Government has committed \$10 million over four years to building a counter-terrorism capacity in Indonesia. This includes activities such as designing projects to strengthen counter-terrorist capacity and border management, and air and seaport security to be delivered by other Australian Government agencies to their Indonesian counterparts. Concerning border management, the aim is to strengthen the capacity of Indonesian immigration officials to identify and apprehend those involved in terrorism, people smuggling/trafficking and other transnational crime.⁵ AusAID is contributing \$3.5 million to the Indonesian National Police for crisis management training and intelligence officer and analyst training, with institutional support for the establishment of a Transnational Crime Centre and development of a Criminal Information Management System. AusAID is also providing \$3.5 million to strengthen Indonesia's anti-money laundering regime, in the areas of legislative drafting and training in suspicious financial transactions investigations. A \$3 million fund has also been established to foster capacity-building links between Australian and Indonesian agencies dealing with travel security.⁶

AusAID's Indonesian Counter-Terrorist Capacity Building Initiative and the AFP's Law Enforcement Cooperation Program is providing assistance valued at \$4.8 million over four years to upgrade Indonesian police capacity to deal with all types of transnational crime, including counter-terrorism.⁷ In February 2004, Indonesia and Australia announced a joint venture to build the Jakarta Centre for Law Enforcement Cooperation (JCLEC). At a cost of \$38 million, the project funds physical infrastructure, technical equipment, training, and operational experience development. The centre is developing links to transnational crime centres throughout the region and promoting a culture of cooperation and information exchange. Major regional partners of the centre include the Philippines, Malaysia, Thailand and Singapore, where the aim of this multinational approach is to develop regionally-consistent practices and a stronger inter-country policing network. This centre is also linked to the Transnational Crime Coordination Centre in Indonesia, which assists in boosting intelligence and information sharing in the region.⁸

The AFP also has a team in Indonesia dedicated to assisting the Indonesian National Police apprehend the remaining suspects for the 2002 Bali bombing and the 2004 bombing of the Australian Embassy in Jakarta.⁹

Less visible, but critical, is the work of OTS in Indonesia, where advice is provided on maritime and aviation security issues, as well as the provision of training for undertaking

port and ship security assessments. AusAID has supported other government agencies to strengthen airport, immigration and customs control capabilities. This includes installing a border management and alert processing system in four airports, improving security policy and procedures at Jakarta and Denpasar international airports and enhancing management of high risk sea cargo and vessels.¹⁰

Assistance to the Philippines

AusAID funds a \$5 million counter-terrorism assistance package for the Philippines over three years in four related areas.¹¹ AusAID is funding the AFP to build the capacity of the Philippine police force in forensic and crime scene investigation. Two document examination laboratories will be established to build the capacity of the Bureau of Immigration to better detect fraudulent travel documents – in 2004-05 nearly 400 fraudulent travel documents were referred to these laboratories for examination.¹² The AFP has signed Memorandums of Understanding (MOU) with the Philippines National Police, the Philippines Drug Enforcement Agency and the Philippines National Bureau of Investigations.¹³ The AFP has a team in the Philippines that collects, collates, analyses and assesses information and intelligence to support AFP staff in the Philippines.¹⁴ A \$3.65 million project is underway to assist in building the counter-terrorism capacity of law enforcement agencies in the areas of intelligence sharing, bomb investigation techniques and forensic capacity.¹⁵

OTS is developing and delivering training modules to strengthen the capacity of several ports in Mindanao province to develop port security plans. AusAID is also supporting the development of links between law enforcement, border control and port security officials in the southern Philippines and the neighbouring counterparts.¹⁶

Assistance to Malaysia and Singapore

In 2002 the AFP reached in principle agreements establishing MOU to enable joint investigations and the exchange of information on transnational crime with the heads of Malaysia's and Singapore's law enforcement agencies. Since then the AFP has run several counter-terrorist courses in both countries. Moreover, both the AFP and Singaporean law enforcement agencies have run training courses for other countries.¹⁷

Assistance to Thailand

AusAID provides little aid to Thailand, as they prefer to be a regional aid donor rather than a recipient.¹⁸ In 2003 the AFP signed an MOU with the head of Thailand's law enforcement agency, and since then the AFP has conducted negotiator training with the Royal Thai Police.¹⁹ AusAID has been strengthening the capacity of institutions involved in securities regulation and anti-money laundering.²⁰

Summary

For cooperation to occur between countries, they need to agree there is a problem, agree that they might require assistance in particular areas, and be willing to accept assistance from countries with the requisite expertise. While countries in South East Asia might not agree on the necessary steps required to manage the economic and political problems that assist recruiting by terrorist groups, all would appear to agree on the appropriate response being one of law enforcement.

Importantly, the main Australian contribution to regional counter-terrorism is a land-based solution through capacity building of regional law enforcement skills and legislative frameworks. Australia also has particular expertise in port/shipping maritime security, which is being shared with the region through out-posted OTS officers.

Australian Military Operations in South East Asia

The ADF has been involved in South East Asia since the 1950s, predominantly in Malaya/Malaysia and Singapore. The ADF was committed to operations during the Malayan Emergency, Confrontation with Indonesia over the formation of the Federation of Malaysia, and during the Vietnam War.

The Royal Australian Navy (RAN) has been based in South East Asia since 1955 through deployments as part of the Far Eastern Strategic Reserve. Two frigates out of a total of seven in the RAN inventory were permanently deployed into Malayan waters, with the regular deployment of the aircraft carrier HMAS *Melbourne*, demonstrating Australia's concern with regional maritime security. Significantly, senior Australian naval officers commanded the Royal Malaysian Navy from 1960-67.²¹

The Australian Army was deployed to Malaya during the Emergency and to Malaysia as part of the 28th Commonwealth Brigade based at Terendak, fought against the Indonesians in Borneo during Confrontation, and were committed to the Vietnam War from 1962-72. The Royal Australian Air Force (RAAF) took over the Butterworth air base in Malaya in July 1958, and were committed to operations during both Confrontation and the Vietnam War.²²

In 1966, when Britain foreshadowed the withdrawal of her military forces East of Suez by 1971, Australia strengthened its defence commitment to Malaysia and Singapore. In June 1968, Malaysia and Singapore requested Australia and New Zealand (NZ) fill this defensive gap; on 25 February 1969 Australia and NZ agreed to retain their forces in the region. Australia agreed to maintain one ship, two squadrons of Mirage aircraft and 1200 troops in Singapore. As Australian forces were leaving Malaysia, Australia promised Malaysia 10 Sabre fighter bombers and the loan of 90 RAAF maintenance personnel. On 1 September 1971 the Integrated Air Defence System in Butterworth was formed to provide for the joint air defence of Malaysia and Singapore, and on 1 November 1971 the Five Power Defence Arrangements (FPDA) came into force.²³

Australia slowly began to draw down its military forces in South East Asia during the 1970s as the Vietnam War ended. In the mid-1980s, Australia withdrew its Mirage aircraft but promised to stage its new F/A-18 aircraft through Butterworth for four months a year, with occasional F-111 deployments and regular P-3C Orion deployments from Butterworth into the Indian Ocean, Malacca Strait and South China Sea to conduct joint maritime surveillance operations.²⁴

The mid-1980s saw a reorientation of Australian defence policy to the notion of self-reliance and a subsequent build up of military forces, concentrating on air and naval forces to deter or attack an adversary in the northern approaches to Australia. Part of this reorientation was acknowledgement of the importance of economic and political stability in South East Asia to Australian security. Indonesia was assessed as Australia's most important neighbour, as the Indonesian archipelago was a protective barrier to the Australian north, while Australia was a stable and non-threatening country on Indonesia's southern flank. This relationship was important, as any major threat to Australia would have to come through the Indonesian archipelago.

Defence cooperation

Notwithstanding policy developments of the mid-1980s, Australia has been involved in defence cooperation activities in South East Asia since the 1960s, starting with Malaysia and Singapore from 1963, Indonesia from 1968, and the Philippines and Thailand from 1972-73. Initially cooperative activities with Malaysia and Singapore in the 1960s were related to Australian forces basing there, but over time activities have focused more on the requirements of the countries concerned.²⁵

In order to promote a sense of shared strategic interest, Australian defence policies since the 1980s have included cooperation with South East Asian states in the development of their defence capabilities and for the ADF to exercise and train with them. This approach to the region was one of seeking a commonality of interests, to strengthen regional stability so there would be limited potential for external powers to introduce tension or conflict. Support for security in South East Asia was for practical cooperation through activities, such as consultation on security prospects and policies, reciprocal visits by defence representatives and military units, combined exercises, specialist consultancy arrangements, training and joint projects.

Exchanges and visits promoted an understanding of different cultures, traditions and organisations, while training through attendance at courses and staff colleges provided technical knowledge and skills. Importantly many senior foreign officers have been trained in Australia and the contacts thus gained assist when dealing with sensitive issues between countries. This was particularly valuable to Australia during the 1999 INTERFET operation in East Timor.

Military exercises

Australia conducts a significant military exercise program in South East Asia. These exercises might be bilateral, multilateral or held under specific arrangements.

Bilateral exercises are conducted with most South East Asian countries except Indonesia, which participates in some multilateral exercises. Given differences in skills and capabilities between navies, the aims of each exercise may vary widely.

When exercising with the Royal Malaysian Navy the aim is to improve interoperability in combined maritime procedures and tactics.²⁶ Exercises with the Royal Thai Navy aim to progressively develop its maritime air surveillance capability and basic interoperability in aspects of maritime warfare common to both navies.²⁷ Exercises with the Royal Brunei Navy aim to enhance interoperability by practising maritime patrol and surveillance procedures.²⁸ Developing interoperability in coordinated or combined maritime patrol and surveillance operations is the aim of exercises with the Phillipines Navy.²⁹ RAN exercises with the Republic of Singapore Navy aim to improve interoperability in combined maritime procedures and tactics, and are evolving to include all facets of naval warfare in order to undertake effective maritime combined and coalition operations.³⁰

Australia hosts a major multilateral exercise as part of its KAKADU series, and over July-August 2005, Exercise KAKADU VII took place with Indonesia, Malaysia, NZ, Brunei, Philippines, Thailand, Singapore and Papua New Guinea, to develop relations and interoperability with the participating nations.³¹ Importantly, where some countries might have sensitivities concerning training together in a bilateral exercise, participation in a multilateral exercise often provides a circuit breaker allowing trust between parties to develop.

The defence forces of Britain, Singapore, Malaysia, Australia and NZ regularly exercise under the auspices of the FPDA. Joint and combined exercises are based on the defence of peninsular Malaysia and Singapore, with a focus on enhancing interoperability and strengthening the professional relationship between the defence forces.³² The standard naval exercise aims to practice and develop operational procedures and tactics in a joint/combined maritime exercise.³³

Under the auspices of the Western Pacific Naval Symposium (WPNS) a number of minecountermeasures and clearance diving exercises have been conducted (2001, 2004 and 2006), including minehunting and minesweeping operations; diving; sea riding; medical exchange programs; combined maritime explosive ordnance disposal training; live mine disposal charge firings at sea; shore-based training on formation minesweeping tactics; and hunting, defusing and destroying mines in coastal waters of the South China Sea.³⁴

Various other bilateral exercises occur between the ADF and South East Asian defence forces. All are aimed at improving procedures, tactics and professional skill, through benchmarking and learning from each other. Occasional multilateral exercises test all forces involved and are the highest level of exercise training available.

Notwithstanding the reorientation of some aspects of the FPDA maritime serials, all training with South East Asian defence forces focuses on basic skills necessary to conduct operations, which also develops the skills required for maritime counter-terrorism activities.

Summary

The key to maritime cooperation between navies is trust and understanding. Collaboration through multilateral activities provides an understanding of how each navy thinks, operates and what capabilities it possesses. It also provides an opportunity for personnel to interact, exchange ideas and professional expertise and gain an understanding of each other. Competency building through specific activities allows navies to train together to further enhance their skills. Cooperation and capacity building allow more experienced navies to pass on knowledge and expertise to other members. Importantly 'experience' is not limited to larger navies; rather it is based on specific skill sets across a range of navies.

Australia has over 50 years of institutional military experience in South East Asia, particularly on maritime issues. Exercises with Malaysia, Singapore and Indonesia on a bilateral or multilateral basis provide the necessary skills and experience for maritime counter-terrorism activities.

The 'Threat' of Maritime Terrorism

What has become increasingly clear since the events of 11 September 2001 is that the entire supply chain relating to international seaborne trade is now more vulnerable. While states had long been aware of the possibilities of attacks against transportation, September 2001 saw a reorientation from attacking transport toward the use of the transportation system itself as a weapon. A trading system based on lowering economic costs to its users and shortening of delivering schedules is not necessarily conducive to stronger security measures.

To address this emerging threat, under the auspices of the International Maritime Organization (IMO), a range of measures were introduced to improve maritime safety and security. In December 2002, the international community agreed to amendments to the *International Convention for the Safety of Life at Sea 1974* (SOLAS). A new chapter was included in SOLAS - Chapter XI-2 'Special Measures to Enhance Maritime Security' - and the *International Ship and Port Facility Security* (ISPS) Code was introduced.³⁵ The

aim of this activity was to create an international legislative framework for regulating and assessing the security of international shipping and associated port facilities.

Importance of the Malacca Strait

The Asia-Pacific is the most economically dynamic region in the world and is the driver for global economic growth and development, based predominantly on seaborne trade.³⁶ South East Asia contains the major international sea lanes for this seaborne trade, while also having a complicated maritime geography, adjoining territorial seas and unresolved boundary delimitation issues. The trunk route between Europe and North Asia must pass through the Malacca Strait, where it branches out through Hong Kong northwards to East Asia or the west coast of the US, or branches out southwards from Singapore to the Australian ports.³⁷

Shipping is vulnerable to attack or disruption by a variety of groups with differing motives, including local-operating pirates, criminal gangs, state-supported pirates/criminal gangs, terrorist groups and, least likely at the moment, nation-states. The vulnerabilities facing international shipping include:

- attacks on ships
- the hijacking of cargoes, the actual ship and, increasingly, the ships' crew (for ransom)
- sinking ships, either to block narrow passages, port entrances or focal points or to create an environmental catastrophe
- turning the ship into a weapon, either to attack land infrastructure through collision or explosion, or to incapacitate the crew so that the ship continues underway along a busy strait, risking collision with other ships
- the importation of drugs, weapons and people in shipping containers.³⁸

Sea robbery in the Malacca Strait

There is public concern over piracy in the Malacca Strait and fear of a possible maritime terrorist attack. While international shipping is being attacked in the Malacca Strait, the methodology adopted by the International Maritime Bureau's (IMB) Piracy Reporting Centre causes confusion over both the scale and types of attacks being perpetrated, and does not assist with the development of appropriate policy responses to the assessed problem.

The IMB is funded by shipowners, who might have a vested interest in overstating the threat facing international shipping, in order to pass on protective security costs to the littoral states (Indonesia, Malaysia, Singapore) rather than absorb them. It has been shipping policy to shrink crew numbers to lower costs, but now the ships have no crew to protect the ship if it is boarded. It also appears the shipowners may not

wish to fund ship 'defences' – electric fences and the like – preferring the littoral states to patrol the waters to stop the pirates. There is no evidence that shipowners have begun to reroute shipping from the Malacca Strait, so it is not clear how seriously they actually regard the threat.

Notwithstanding the possibility of overstating the threat to shipping, the number of attacks recorded is probably lower than what is actually occurring, as ships often do not report an incident. Shipmasters might not report an attack to the authorities as they cannot afford the delay (which might be a couple of days) to be interviewed by law enforcement officials. There are growing concerns that ship hijackings are not being reported, with shipowners instead paying the ransom – this only encourages more attacks.

Confusingly the number of reported attacks is also overstated because attempted attacks are combined with actual attacks. The IMB does not use the internationally accepted definition of piracy – theirs is much broader, so someone getting onboard while the ship is berthed and stealing a wallet or ship's stores is classified as a pirate attack.

The use of the IMB data is misleading and has led to calls for increased naval patrols in the Malacca Strait. However, many attacks occur while the ship is berthed or at anchor, which means that it is up to port authorities or for the ship to protect itself. If the ship is steaming through the strait then responsibility is with the ship to repel boarders in the first instance and then for maritime forces (navies and coastguards) to respond.

Maritime terrorism

There is a growing concern that South East Asia is vulnerable to a maritime terrorist attack, either against shipping or directed against Singapore. The maritime transportation system is vulnerable and there have been some incidents of maritime terrorism, indicating the capacity of some groups to undertake attacks and possible attack methodologies for other groups to adopt. However, it is not yet clear if there is a direct and organised maritime terrorist threat to Western shipping and trade. The introduction of the ISPS Code is the first attempt to quantify the problem and propose possible solutions.

Currently the Proliferation Security Initiative (PSI) appears to be the only mechanism to intercept hostile cargoes at sea (or in the air), although there have been doubts expressed over the legitimacy of intercepting ships on the High Seas. However, in October 2005, amendments to the *Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation 1988* were agreed. The 2005 Protocols broaden the list of offences made unlawful under the treaties, so as to include the offence of using a ship itself in a manner that causes death, serious injury or damage, and the transportation of weapons or equipment that could be used for weapons of mass

destruction. They also introduced provisions for the boarding of ships where there are reasonable grounds to suspect that ship or person/s on board the ship is, has been, or is about to be involved in the commission of an offence under the convention.³⁹ It is reasonable to assume that once the 2005 Protocols to the SUA Convention are ratified, then PSI member states are on a more sound legal footing than previously, if required to intercept suspect cargoes. Combined with the implementation of the ISPS Code, the PSI can be seen as a means to intercept problem shipping as far from a port as possible.

Economic impact

While the cost of a ship and its cargo, as well as the lives of the ship's crew, have a nominal value, it is the economic impact of trade disruption to nations that has become increasingly critical. With globalisation increasing these trends, the industries of many countries have moved to a just-in-time production philosophy, relying on goods to be delivered when required. This means that disruptions to deliveries through ship sinkings or, more probably, re-routing can have major effects that can flow through a national economy. This is particularly the case if the energy trades are affected.

Summary

What is occurring in the Malacca Strait is in fact sea robbery, not piracy, which means that only the littoral states can respond to attacks in their waters. There is no evidence of a link between pirates and terrorists, although terrorists might commit piracy to generate funds for other activities. There is also no identifiable maritime terrorist threat to shipping in South East Asia; the shipping industry is vulnerable and might become a target in the future, but current understanding of regional terrorist groups is that they do not have a maritime capability. That said, there have been international efforts both cooperatively through the PSI and legislatively through the IMO to create the ability to intercept and board suspect shipping.

Critically, when considering any possible Australian involvement, little Australian trade transits the Malacca Strait. Australia's exports of crude petroleum and oil transit through the Lombok and Makassar straits, and then via the South China Sea if bound for Hong Kong and China, or via the Philippines Sea if bound for Korea and Japan. Exports of coke and coal transit through the Lombok and Malacca straits if bound for Burma and Europe, or transit through the Lombok and Makassar straits and then the Philippines Sea to Hong Kong, Taiwan, Korea and Japan. Exports of iron ore transit through the Lombok and Makassar straits and then the Philippines Sea to Hong Kong, Taiwan, Korea and Japan. Thus any interest Australia may have in the security of the Malacca Strait is not related to direct Australian trade, rather to the stability of South East Asia and/or the second or third order effects if the energy trades to North and East Asia are affected.⁴⁰

Australia has been involved in the PSI since its inception in 2003, having hosted two meetings and led two exercises: one in 2003 and one in 2006. These exercises are concerned with intercepting and diverting or boarding aircraft or ships thought to be carrying weapons of mass destruction and, for naval participants, are excellent training for boarding operations.

Traditionally, navies have been responsible for the protection of merchant shipping when attacks have been conducted by other navies, but changes to the international shipping industry and the growth of many stakeholders, as well as the demise of national fleets, have complicated the legal picture. The protection of seaborne trade is a complex task and will almost always involve more than one country. Consequently, some form of cooperation will be necessary, and clearly there would be benefit in having agreements made before an incident. Regional cooperative mechanisms provide a good foundation for this.

Under international law, Australia cannot conduct patrols in the Malacca Strait without Indonesian and Malaysian agreement, which would not appear to be forthcoming. Moreover, if agreement were forthcoming it is not evident what these patrols would achieve - they might act as a deterrent but would not necessarily be a ready reaction force unless an attack occurred near to their patrol area.

Navies periodically hold exercises to test and assess common procedures, and usually take the form of Naval Control of Shipping (NCS) command post exercises. There are also international naval trade protection fora known as Shipping Working Groups (SWGs). The two main ones are the North Atlantic Treaty Organization (NATO) and the Pacific and Indian Oceans (PACIO) SWG. The members of the PACIO group are the United States (US), the United Kingdom (UK), Republic of Korea, Australia and Chile. Singapore and South Africa have observer status and the US tends to look after Japanese interests. Working group efforts are designed to ensure all participants know how each views trade protection, to develop common strategic and operational level concepts, and to test communications links annually.

Initiatives

Focusing on the possibility of maritime terrorism it is clear, just as for land-based terrorism, that cooperation between countries is required to negate it. Indonesia and Malaysia reject any external involvement in the Malacca Strait as an impingement of their territorial sovereignty as coastal states. Singapore as a maritime state feels threatened and, given her total reliance on seaborne trade, seeks assistance on managing and defeating the threat. So, given maritime jurisdictions in the Malacca Strait, no external country can conduct patrols or intervene in these waters except with the agreement of the coastal states concerned, although the littoral states are willing to accept assistance. Bilateral arrangements rather than multilateral arrangements

would appear to best suit Malaysia and Indonesia (whereas multilateral arrangements best suit Singapore).

First, before cooperation can be contemplated, there needs to be agreement on what the actual common threats are facing each country in order to demonstrate a common purpose (in the case of the Malacca Strait, it is not clear that such an agreement exists amongst the littoral states). The Malacca Strait is vital to Singapore, important to Malaysia, but perhaps of little importance to Indonesia. If such agreement does not exist, then external pressure on the littoral states to act will be self-defeating. However, assuming some form of agreement can be reached, from this flows the identification of possible responses to the common threat, leading to assistance in developing relevant capabilities if required.

Second, maritime domain awareness is vital to identify if, when and where an attack might occur. This will involve the fusing of intelligence and surveillance information and its transmission to those who need access to it. This will entail interagency cooperation within each country, evolving over time to a combined activity between countries.⁴¹ The RAAF conducts Operation GATEWAY maritime surveillance flights from Butterworth, while the littoral countries are considering the development of their own 'Eyes in the Sky' – a proposal for joint maritime surveillance. After the Shangri-La Dialogue meeting in Singapore in early 2005, Australia provided the littoral states with advice on aircraft leasing options as undertaken by the Australian Coastwatch Organisation. Recently the IMO agreed to the introduction of a Long Range Identification and Tracking (LRIT) system, to enable countries to identify all vessels transiting their waters and particularly those intending to enter port. All SOLAS-compliant ships will have LRIT satellite systems that will provide the ship's identity and location. It has already been accepted that flag states will be able to access the data from their ships anywhere in the world, while port states will be able to access the data from a nominated port following a declaration from the ship of an intention to enter that port.⁴²

Third, joint and/or combined operations centres will fuse the intelligence and surveillance picture, and also plan and conduct exercises and operational activities. Importantly, the common threat assessment must be high enough to justify this level of cooperation.

Fourth, training, exercises and exchanges are important to initially improve individual skill sets, then collectively across a vessel and then between vessels. An interagency approach to training is required so that all agencies concerned with maritime security are involved in all relevant training and, importantly, gain an understanding of individual agency culture. Joint exercises and patrols enable maritime forces to work together. Basic passage exercises and more involved serials provide the skill sets for basic sea keeping tasks for surveillance, interception and eventually enforcement. At this level, both organisations should be able to communicate with each other and, more importantly, have a thorough understanding of each other's doctrine and operating

procedures. The FPDA could be used as the basis for these exercises, extended to include Indonesia as an observer. Another option is to use the WPNS as the appropriate vehicle for cooperation.⁴³ The attraction of the WPNS is that it already includes all the major parties involved in Malacca Strait security.

Fifth, the most suitable framework for the protection of shipping in the Malacca Strait might be the adoption of NATO NCS standards as the doctrine, administration and training already exist. It is not evident that the threat level warrants this approach yet. The PACIO SWG could be the administrative mechanism to bring these standards into effect, while also providing the framework for command post exercises to test administrative procedures, as well as exercises to test NCS scenarios. Australia, as a key member of the PACIO SWG, could provide guidance where necessary.

Notes

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- ⁴⁰ These countries are Australia's major trading partners, so if their economies are affected by problems in the Malacca Strait, then Australia will be similarly affected, albeit with a time lag.
- ⁴¹ Canadian, Singapore and Malaysia, to name but a few countries, have or are in the process of creating such centres.
- ⁴² 'Maritime Security Regulation', *Semaphore*, Issue 3, Sea Power Centre - Australia, Canberra, February 2006.
- ⁴³ The purpose of the WPNS is to increase naval cooperation in the Western Pacific among navies by providing a forum for discussion of maritime issues, both global and regional, and in the process generate a flow of information and opinion between naval professionals leading to common understanding and possibly agreements.

Cooperation with United States–Japan–Australia in the Fight Against Terrorism: A Singaporean Perspective

Dr Andrew Tian Huet Tan

This paper assesses Singapore's cooperation with the United States (US), Japan and Australia in the global war on terrorism. It begins with a short description of the context of South East Asia, particularly the Malay archipelago, in the global war on terrorism, the place of Singapore in this conflict, and the interests of the three extra-regional powers in its outcome. It will then explain the nature and extent of Singapore's cooperation with these three powers. The paper ends with suggested counter-terrorism strategies in the war on terrorism in the Malay archipelago.

The Threat of Terrorism to Singapore

The terrorist attacks on 11 September 2001 were a pivotal event. They appeared to validate the predictions of the 'new' terrorism analysts led by Bruce Hoffman and others, that a new, much more deadly form of global, apocalyptic religious terrorism had appeared since the 1990s, and that this form of terrorism is characterised by acts intended to cause massive casualties running into thousands or tens of thousands.¹

The 'new' terrorism has not escaped South East Asia. Within this region, the Malay archipelago has the world's largest Muslim population and Indonesia is the world's largest Muslim state. In the context of the struggle between radical Islam and the West and its allies, the region assumes long-term strategic significance. In addition, arguably the world's most strategic waterway and choke point, the narrow Malacca Strait, is located within this cauldron. More than half the world's trade and oil passes through this strategic strait. By comparison, oil shipments through the strait are three times more than through the Suez Canal, and fifteen times greater than the Panama Canal. The strait, however, has serious problems with maritime security given that Indonesian waters have for years experienced the highest incidences of piracy in the world. Coupled with the general lack of security throughout the entire maritime trading chain compared with aviation security, and the growing reliance on seaborne trade – which is one of the hallmarks of the just-in-time, interlinked, globalised trading and manufacturing economy – one can begin to understand why there are grave fears over the security of these sea lanes in particular, and more generally of the stability of the Malay archipelago. One scenario touted is a liquefied petroleum gas (LPG) tanker being hijacked by terrorists, steered into Singapore and detonated in a maritime version of 11 September 2001, which would have serious consequences as it will disrupt operations

at the world's second busiest port and a super-hub crucial to the smooth operation of today's globalised trading and manufacturing system.²

Following the 2001 attacks, South East Asia, especially the Malay archipelago, has come into focus as the so-called 'second front' in the global war against terrorism. Subsequent events, however, brought home the fact that the war against terrorism, indeed, the very events of 2001, had great resonance within the region. The existence of an Al Qaeda-affiliated network in the region was dramatically highlighted by the arrest of 39 members of the extremist Jemaah Islamiyah regional terrorist network in Singapore since January 2002. The group planned to attack US military personnel and naval vessels in Singapore, as well as a range of local targets. Twenty-one tonnes of ammonium nitrate were to be used for several massive truck bombs to carry out the attacks. Had the planned attacks succeeded, they would collectively have constituted the largest terrorist attack since 2001. They would have caused many American and local casualties, and made an immense political, psychological and economic impact on Singapore that would reverberate throughout the region and internationally.

The abortive bomb plots demonstrated that Singapore is a prime target of radical Islamists because of its close identification with the US on political, security and economic issues; the presence of a US naval logistics facility that has supported US naval and military operations in the Indian Ocean, Persian Gulf and Afghanistan; and the fact that Singapore is home to many US multinationals operating in the region.

The Jemaah Islamiyah terrorist threat is clearly a serious one. As revealed in the Singapore Government's White Paper, *The Jemaah Islamiyah Arrests and the Threat of Terrorism*, issued in January 2003, Jemaah Islamiyah is an extensive regional terrorist network with well-trained operatives in Malaysia, the Philippines, Indonesia, Singapore and Australia. Members of the group have been implicated in subsequent terrorist attacks in the region; for instance, the bomb attack at the popular Kuta Beach in Bali in October 2002 killed 202 people, including many Australians.³ This was followed by the Marriott Hotel bombing in Jakarta in August 2003 that killed 12 people, the attack on the Australian High Commission in Jakarta in October 2004 that killed 11 people and the second Bali bombing in October 2005 that killed 26 people.⁴

There is a growing consensus among terrorism experts that the threat of terrorism in South East Asia has gone beyond Jemaah Islamiyah, given the spread of radical teachings. Worldwide, the concern is that the threat from the 'new' terrorism has gone beyond Al Qaeda, with many recent terrorist attacks – such as in Madrid, Casablanca, Istanbul, Jakarta and Bali – being carried out by local affiliates of Al Qaeda acting independently. Indeed, post-Al Qaeda organisations, such as the Al Zarqawi group in Iraq, are already appearing, groups that could potentially be more effective than Al Qaeda, particularly in the use of weapons of mass destruction.⁵ In other words, there is now a general, ideological, globalised and long-term threat from the new terrorism that will outlive Al Qaeda. Thus, despite Singapore's vigorous internal security measures

to seal its borders and to prevent terrorists in its midst from launching attacks, as well as its confidence that the local Al Qaeda-Jemaah Islamiyah logistical cells have been neutralised, it continues to face a grave danger from regional networks and from global terrorist organisations, which could plan an attack on Singapore and carry it out provided they could penetrate its border controls. Singapore therefore has every incentive to take the terrorist threat very seriously, and to build cooperative links with interested parties, such as the US, Australia and Japan in the war against terrorism.

Indeed, Singapore's recognition of the threat of global terrorism predated the events of 11 September 2001. Singapore's security perceptions are clearly expressed in Singapore's Defence White Paper, *Defending Singapore in the 21st Century*, published in 2000. Significantly, while it reiterated the importance of traditional realist tools of military deterrence and diplomacy, it also acknowledged the emergence of non-traditional security threats, such as terrorism, cyber-warfare and the proliferation of weapons of mass destruction. It envisaged that the Singapore Armed Forces would have to develop a broader range of capabilities and work with others to meet some of the new security challenges that have arisen in the globalised era.⁶

More generally, Singapore's foreign policy objective has always been to win friends internationally through diplomacy. As Lee Kuan Yew once stated in 1964, 'external affairs are a matter of life and death ... half the problem of international survival is to win friends who understand and sympathize with us'. Despite its evidently close relations with the US, Singapore has also always emphasised a balance of power strategy in welcoming all great powers in the region. These great powers can collectively guarantee Singapore's sovereignty provided that Singapore is useful to all of them and that they balance one another.⁷ In addition, Singapore has also emphasised Association of Southeast Asian Nations (ASEAN) multilateralism and regionalism, and has strongly supported the United Nations (UN) and the international system. It has also worked to foster regional and international political and economic cooperation through institutions and forums such as the ASEAN Regional Forum (ARF) and Asia-Pacific Economic Cooperation (APEC).

Countering Threats to Maritime Transportation

The threat to maritime transport has been especially recognised, with the Singapore Government moving swiftly to implement various security measures. It has moved swiftly to implement the requirements of the *International Ship and Port Facility Security (ISPS) Code*, and the amendments to the *Safety of Life at Sea Convention (SOLAS)*, which came into effect on 1 July 2004. Under the code, adopted by the International Maritime Organization (IMO) in December 2002, governments, ships and ports are required to have enhanced security measures to ensure better control and monitoring of the movement of people and cargo, and to promulgate the appropriate security levels according to the prevailing threat assessments. The amendments include the

installation of automatic identification systems on ships, a ship-to-shore alert system to signal emergencies, and other security measures.⁸ Singapore went a step further with a series of measures to coincide with the implementation of the ISPS Code, such as requiring all ships of 500 tonnes and above to comply with the Pre-Arrival Notification of Security (PANS) procedures 24 hours in advance. PANS includes information on whether the vessel is in possession of a valid International Ship Security Certificate (ISSC), the current security level of the ship, the last 10 ports of call and whether any additional security measures were taken during any ship-to-port or ship-to-ship interface. Ships that arrived from non-ISPS compliant ports would be subject to an IMO checklist on additional security measures.⁹ Singapore moved quickly to implement a satellite-based ship tracking system as well as ship-to-shore alert systems.¹⁰ In August 2004, Singapore announced that it would go beyond the ISPS requirements to track even small vessels, by requiring them to eventually install a transponder to enable the authorities to track and identify the estimated 3000 small vessels that use Singapore waters.¹¹ Singapore also joined in several US-led initiatives to improve maritime security, such as the Container Security Initiative (CSI) and the International Port Security Program (IPSP). Navy patrol craft escort high-risk merchant vessels, such as oil and gas containers and cruise ships, through the Singapore Strait. Restrictions have also been placed barring all unauthorised sea traffic from waters around sensitive areas such as petrochemical installations, as well as the movement of ships and boats at night.¹²

Singapore–United States Security Cooperation

Singapore has always taken a balance of power approach, welcoming all major powers, including the US, to play a role in the region. In this context, however, Singapore has also emerged as a principal security ally of the US in South East Asia, particularly following the departure of the US from its bases at Subic Bay in the Philippines. Singapore has been particularly anxious to encourage a continued US presence in the region in view of continuing regional uncertainties. Following an agreement in 1990, the US was permitted access to naval facilities in the former British base at Sembawang in Singapore, as well as the use of Paya Lebar airbase for short-term rotations by the US Air Force. A logistics facility staffed by about 200 United States Navy (USN) personnel under Commander Logistics Group, Western Pacific was then established in Singapore in 1992 by the USN to plan the re-supply and maintenance of US naval vessels belonging to the Seventh Fleet deployed in the Indian and Pacific Oceans. Singapore became a transit point for US troops, ships and aircraft during the subsequent Gulf wars. In 2000, Singapore opened a new naval base at Changi with facilities that could accommodate US aircraft carriers.¹³ The Pentagon has valued Singapore's cooperation for years. Its East Asian Strategy Report observed that 'Singapore has been South East Asia's leading advocate of a continued US military presence. Singapore actively searches for ways to keep the US engaged in the region.'¹⁴

Following the events of 2001, the Singapore Government came out strongly to support the US in its declaration of war against terrorism. As Kishore Mahbuhani, Singapore's Ambassador to the UN stated on 1 October 2001:

Americans are not alone in this fight against terrorism. Singapore stands with the United States and the international community in this struggle. This is a fight between people who stand for civilised society, and those out to destroy it. ... the opportunity before us today is to channel the global outrage following the events of 11 September into a strong global commitment and action to eradicate the scourge of terrorism ... divisions among us will hand victory to the terrorists.¹⁵

A number of Singaporean leaders also publicly affirmed Singapore's backing for the US effort to hunt down the terrorists responsible for the 11 September 2001 atrocities in New York and Washington.¹⁶ On 23 September 2001, at a memorial at Singapore's National Stadium attended by some 15,000 people, Prime Minister Goh Chok Tong affirmed that Singapore would stand with the US in the fight against terrorism 'even though it has to manage both regional and domestic sensitivities in doing so'.¹⁷

This security cooperation has since accelerated following the discovery of the Al Qaeda-linked Jemaah Islamiyah terrorist network in Singapore and the region. Singapore has also supported all US-led counter-terrorism initiatives. Singapore joined the US-led Proliferation Security Initiative (PSI) designed to counter the proliferation of weapons of mass destruction and related materials by interdicting the illegal trafficking of such materials. This includes intercepting and searching suspect vessels on the high seas.¹⁸ Singapore also became the first Asian port to join the US Customs-led CSI; it signed an agreement in 2002 and launched a program in March 2003 to screen US-bound containers and inspect suspicious cargo.¹⁹ In 2004, Singapore joined the US Coast Guard-led IPSP, which allows the US Coast Guard to inspect Singapore's port facilities and verify their implementation of the ISPS Code.²⁰ Singapore also welcomed the US Pacific Command's Regional Maritime Security Initiative (RMSI), which was floated in March 2004 as a plan to deal with transnational maritime threats in the Asia-Pacific, although the plan was met with reservations from Malaysia and Indonesia.²¹ In 2003, both countries agreed to establish a Regional Emerging Diseases Intervention (REDI) Centre based in Singapore to counter the threat of serious diseases and bio-terrorism.²²

Singapore, Japan and the US have been drawn increasingly into multilateral security cooperation through the aegis of the COBRA GOLD series of military exercises. COBRA GOLD began as joint forces military exercises between Thailand and the US in 1981. It is the most visible demonstration of the continued US military commitment in the region, particularly after its departure from Subic Bay in 1992. Indeed, the exercises are the largest conducted by the US Pacific Command in South East Asia with any ally. In the aftermath of 11 September 2001 and evidence of radical terrorist activities in the region, COBRA GOLD has taken on a counter-terrorism and peace enforcement focus.

In 2005, 6400 personnel from Thailand, US, Singapore and Japan were involved, with observers from 16 countries, including Australia.²³ Singapore and Japan's involvement in what has been traditionally a US-Thai bilateral arrangement is significant because it signals their growing involvement in a multilateral approach to security and terrorism challenges. What is especially significant is evidence of a much more active Japanese strategic and regional role since 2001.

Singapore has also been part of the 'Coalition of the Willing' in the US intervention in Iraq, and has provided personnel and equipment for operations there, for instance, a police team to train Iraqi police, the deployment of a landing ship for coastal patrol and the provision of military transport aircraft. At one stage, up to 200 personnel were involved.²⁴

Singapore's strong support for the US global war on terrorism has been rewarded with much closer strategic, security and economic relations. Singapore is the 12th largest trading partner of the US, with two-way trade worth over US\$30 billion. In May 2003, the US and Singapore signed a bilateral free trade agreement. Under the agreement, Singapore guaranteed zero tariffs on all US goods and cannot increase its duties on any US product. Singapore was the sixth country to have a free trade agreement with the US, after Chile, Canada, Mexico, Israel and Jordan. It is also the first Asian state to enjoy this privilege. For Singapore, the agreement guaranteed privileged access to the vast US market in an era of global and regional economic uncertainty.²⁵

In October 2003, Singapore and the US agreed to begin negotiations for a comprehensive Framework Agreement for the Promotion of a Strategic Cooperation Partnership in Defence and Security that would expand the scope of current bilateral security cooperation in areas such as counter-terrorism, counter-proliferation of weapons of mass destruction, joint military exercises and training, policy dialogues and defence technology.²⁶ The scope and depth of bilateral cooperation has made Singapore a defence ally in all but name.

Regionally, Singapore has been at the forefront of many initiatives, often US-led, to improve counter-terrorism capabilities. After 2001, Singapore strongly urged the rest of the ASEAN, particularly its neighbouring countries, to take the threat of terrorism seriously and to adopt strong counter-terrorism measures. This was not initially welcomed by neighbouring states with large Muslim populations and strong anti-US sentiments. Indeed, Singapore's strong support for the US line has given rise to popular perceptions that Singapore has become an American stalking horse.

Malaysia and Indonesia have been strong supporters in the war on terrorism. In Indonesia's case, initial reservations and scepticism were overcome following the series of Jemaah Islamiyah terrorist attacks on its soil. Nevertheless, there remain deep domestic sensitivities as a result of popular anti-US sentiments. Indonesia was therefore upset with suggestions that the US might station special forces personnel

in the vicinity of the Malacca Strait to carry out counter-terrorism operations, due to sovereignty issues as well as domestic political sensitivities.²⁷ But this prospect resulted in a declaration in July 2004 that the three littoral states would cooperate more closely in carrying out coordinated year-round patrols, linked by communications hotlines, to ensure the security of the sea lanes.²⁸ Malaysia has been very much aware of the terrorist threat, and has moved proactively to work more closely with Singapore to explore other measures to improve maritime security.²⁹ Despite lingering mutual suspicions, the three littoral states have in effect been forced to cooperate closely due to the threat of US intervention and a heightened US role in the Malacca Strait should they fail to do so.

Japan's Role in Counter-terrorism

In a symposium in Japan in 2004 organised by the National Institute of Defence Studies, the think tank of the Japan Self Defence Force, I argued that Japan is not in a position to opt out of the global war on terrorism, and that it needs to play an active role regionally and globally. Japan has a huge stake in the security of the Malacca Strait, given that it is its oil and economic lifeline. Ninety-nine per cent of Japan's oil and 70 per cent of its food is imported, most of which must traverse the Malacca Strait. Any prolonged disruption or instability would imperil Japanese economic interests. Strategically and economically, instability as a result of increased radical challenges to the governments of the region would also be inimical to Japan's interests. Japan thus has a stake in ensuring the stability of the often volatile Malay archipelago. Globally, Al Qaeda has already publicly threatened Japan on account of its identification with the US on security and political issues, its hosting of US bases, and in particular its dispatch of troops to Iraq. The threat from the new transnational terrorism is also so broad and generalised today that Japan must play an active role, together with the rest of the international community, in dealing with this increasing menace to global security.

Japan itself came to these conclusions. As Mizukoshi Hideaki, Japan's Director of International Counter-Terrorism Cooperation, noted in 2003:

It is vital that Japan [also] be part of the global fight against international terrorism ... on the one hand, Japan can contribute in the effort to destroy the headquarters and training camps of Al Qaeda, as we did by providing logistical support to the American and coalition forces in Afghanistan, and we can also help build global and regional networks designed to combat terrorism by denying terrorist groups safe haven and the means to pursue their goals.³⁰

In this respect, Japan has strongly supported capacity building for counter-terrorism in South East Asia as a practical approach, given its constitutional and historical constraints on the deployment of military forces or a more overt military strategy in the region. This capacity building approach has taken the form of the provision

of training and equipment in the areas of immigration control, aviation security, customs cooperation, export control, law enforcement cooperation and measures against terrorism financing.³¹ Indeed, following the abduction of the Japanese crew of a tugboat in the Malacca Strait in March 2005, Japan offered to provide Indonesia with high-speed patrol boats for anti-piracy missions in the straits.³²

In 2005 Japan proposed multinational patrols in both territorial and international waters as a counter-piracy measure. This was met with scepticism from a number of South East Asian states; both Indonesia and Malaysia, concerned about violations of their sovereignty and any limitations on controlling their exclusive economic zones, were unwilling to allow Japanese forces to patrol their waters. However, Singapore has been receptive to this idea.

Regional anti-piracy and counter-terrorism cooperation has been effected not by the Japanese Self Defence Force but through the Japanese Coast Guard, which has provided training, equipment and funding to all the coastal states of the region. It has also conducted joint counter-terrorism training exercises with six South East Asian states, including Singapore. It has funded the installation and maintenance of navigational aides and buoy-tenders, and provided technical assistance to upgrade marine safety data management systems and hydrographic surveys. These efforts have also heightened regional awareness of the piracy and terrorism problem, provoking coastal responses that have been emerging.³³

Singapore and Japan are strong and key supporters of US-led initiatives on counter-terrorism and counter-proliferation, such as the CSI and PSI. Singapore took part in the PSI exercise in Japan in 2004; and in 2005 Japan was also among the 12 nations taking part in the PSI exercise in Singapore, sending a 430-strong contingent from its Self Defence Force as well as coastguard.³⁴

Singapore-Japan political and economic relations are close, culminating in the signing of a free trade agreement, the Japan-Singapore Economic Partnership Agreement, in November 2002. Singapore has also strongly supported the US-Japan security treaty for its positive contribution to regional security.³⁵

Japan dispatched transport planes and patrol ships to Singapore for the possible evacuation of Japanese citizens in Indonesia during the Indonesian political and economic crisis in 1998. In May 2000, Japan's Self Defence Agency Chief Tsutomu Kawara concluded a visit to Singapore with the advance approval to use Singapore's military bases for any regional emergencies. This included the evacuation of its citizens abroad and any assistance to UN peacekeeping operations in the region. In recent years, Japanese Coast Guard and Self Defence Force ships have made frequent port calls to Singapore. Both the coastguard and Singapore have conducted joint anti-piracy exercises, which included counter-terrorism commando exercises and patrols. These developments indicate not only a broader increase in bilateral security ties,

but also demonstrate Singapore's desire for a greater Japanese security role in the region. Japan's increased role would increase regional counter-terrorism capacities in Singapore. It is also in line with Singapore's broader balance of power approach in welcoming the presence and role of extra-regional powers in the region. Japan has been increasingly eager to become more active in regional security matters, especially given the evident rise of China and the dangers to Japanese interests arising from the emergence of the new global terrorism. Access to Singapore bases would give Japan a greater ability to protect its vital sea lines of communication in the environs of the Malacca Strait.³⁶

The broadening scope of Singapore-Japan relations, previously restricted to economic and political cooperation, to now include security and strategic cooperation, is best encapsulated in the following summary of bilateral relations on the Singapore Ministry of Foreign Affairs website:

In 2004, Japan was Singapore's fourth largest trade partner and third largest investor. Singapore and Japan also share many common interests in regional issues such as the security situation in the Asia-Pacific, maintaining the freedom and safety of navigation in the international sea-lanes of South East Asia, and promoting regional dialogue mechanisms for the Asia-Pacific region. Both countries are also working together under the Japan-Singapore Partnership Programme for the 21st Century (JSPP21) to provide technical assistance to developing countries. Bilateral cooperation has also been expanded to include cooperation to combat SARS and joint anti-piracy exercises between the coast guards of the two countries. The close bilateral relations are characterised by frequent contacts between the leaders of both countries and exchanges at the officials' level.³⁷

Singapore–Australia Security Cooperation

Singapore's relations with Australia can be described as exceptionally close, despite periodic hiccups in bilateral ties.³⁸ Singapore has often been described by Australia as its best friend in Asia. Singapore has always sought to help Australia play a role in the region, for instance, insisting that Australia should participate in the inaugural East Asia Summit in 2005 in Malaysia, even when it was supposedly an Asia-only gathering and excluded both Europe and the US.³⁹

Singapore is able to maintain basing and training facilities in Australia, including use of airbases for training, and land facilities for army exercises. In August 2005, both countries renewed an agreement that allowed Singapore to train at Shoalwater Bay in Queensland until 2009. Australia believed that the provision of access to Singapore to training areas in Australia benefited both countries, as it provided valuable assistance for the training and development of the Singapore Armed Forces, improved

interoperability with the Australian Defence Force, and contributed to the broader security and stability of a region of immense strategic importance to Australia.⁴⁰

The Singapore–Australia Joint Ministerial Conference is held biennially to discuss trade, defence and security. Under the Singapore–Australia Trilateral Cooperation Program set up in 1996, both countries collaborate on development assistance projects. In July 2003, Singapore and Australia signed a free trade agreement.

Australia has placed enormous strategic importance on the Malay archipelago, due not just to its geographical propinquity but also because Australia is a prime terrorist target on account of its close alliance with the US and its active participation in the global war on terrorism. The terrorist threat to Australia has emanated principally from the north, as demonstrated by Australia’s inclusion in the Jemaah Islamiyah’s sphere of operations and the Australian targets and casualties in the Bali attacks of 2002 and 2005, as well as the bombing of the Australian High Commission in Jakarta in 2004. Australia thus furnished Indonesia with forensic and other police assistance in investigating the various Jemaah Islamiyah terrorist bombings. It also helped establish the Centre for Law Enforcement Cooperation in Jakarta, which is staffed partially by Australian Federal Police (AFP) officers. In addition, Australia and ASEAN issued a Joint Declaration for Cooperation to Combat International Terrorism in 2004, in which both sides pledged to exchange intelligence, strengthen capacity building, stem document and identity fraud, and choke off terrorism financing, among other measures.⁴¹

Both Singapore and Australia have cooperated closely on transnational security issues, such as terrorism, transnational crime, avian flu, disaster relief, and preventing the proliferation of weapons of mass destruction. In particular, both have placed great importance on counter-terrorism cooperation, as both are prime Al Qaeda targets.⁴² Both have exchanged intelligence and information, cooperated on transnational crime issues, and exchanged visits and personnel. Indeed, the security cooperation between the two countries has been described by the Attorney-General’s office in Australia as ‘excellent’.⁴³ On his visit to Singapore in May 2005, the Australian Attorney-General observed that:

Singapore is one of Australia’s closest counter-terrorism partners regionally ... but scope always exists for enhanced intelligence and operational cooperation including police-to-police cooperation, contingency planning and consequence management.⁴⁴

In June 2005, both countries came to a formal agreement on matters relating to transnational crime. This was the first Memorandum of Understanding (MOU) that the Singapore Police Force has entered into with another country. The agreement formalised and expanded on the existing bilateral cooperation that was operationalised through an AFP representative stationed in Singapore since 1980. The MOU provided for the exchange of information, joint operations, and cooperative assistance on all criminal

and transnational crime issues. The agreement aims to improve cooperation in dealing with terrorism, illegal firearms trafficking, piracy, money laundering, identity fraud, cyber-crime and transnational economic crime.⁴⁵

Both countries have also improved counter-terrorism cooperation through the Five Power Defence Arrangements (FPDA), which comprises Britain, Australia, New Zealand, Singapore and Malaysia. Indeed, defence ministers of the five countries, meeting in 2004, not only reaffirmed the importance and relevance of the defence alliance, they also signalled that it would now focus on countering terrorism. This seemed appropriate, given the heightened interest in maritime security in South East Asia. In 2005, like COBRA GOLD, the FPDA military exercises focused on maritime security, particularly on countering terrorist threats.⁴⁶

An Evolving Singapore–United States–Japan–Australia Security Network in South East Asia?

Major external powers with an interest in the stability and security of the Malacca Strait – namely the US, Japan and Australia – have felt the need to coordinate their efforts, strategy and approach, given the initial reluctance of littoral states in the region in coordinating their counter-terrorism strategies. There has now emerged a Australia–Japan–US trilateral security nexus that has at its core a common interest in securing the vital Malacca Strait and containing the threat of radical terrorism in the surrounding Malay archipelago. The evolving US–Japan–Australia strategic dialogue has resulted in cooperation in the war on terrorism and on their response to the December 2004 tsunami disaster. Recent developments in the region have pushed the three countries closer together on security issues than ever.⁴⁷ In January 2006, the three countries met in Canberra, with the backdrop of continuing concerns over maritime security and the challenges posed by terrorism in the region. Another salient concern, however, is the emergence of China; an issue that concerns especially the US and Japan. China's rise is a challenge to US dominance in the region. Japan's increasingly poor relations with China as a result of strategic competition and historical animosities have been a driving force behind Japan's more proactive regional approach. Australia is keen to encourage Japan to commit more resources to fighting terrorism, believing it has at its disposal expertise and resources that could be used in the struggle against militant extremists in South East Asia.⁴⁸

This trilateral security nexus is thus set to grow. Within the region, however, Singapore has managed to deepen its ties with all three members of this emerging nexus on account of its congruence of security interests with them, particularly on terrorism and maritime security issues. Interestingly, Singapore has the closest security ties with the US, Japan and Australia, compared to its neighbours. Uniquely, it has signed free trade agreements with all three as well, indicating the depth of bilateral cooperation with all three extra-regional powers that have interests and stakes in the region. Not

surprisingly, the four work closely together on a range of regional security initiatives. Indeed, as a senior US State Department official indicated, 'we are working with Singapore, Japan and Australia to broaden PSI participation in Asia'.⁴⁹

The way that this four-nation security nexus is evolving indicates some form of division of labour. For instance, the states that are more acceptable to the region, such as Japan and Australia, have begun to take a greater role compared to the US. Japan has begun to provide the necessary training, funding and other capacity building assistance – such as funding of surveillance equipment and patrol craft – to the littoral states to improve their indigenous capability in counter-piracy and counter-terrorism. Australia's assistance to Indonesia in counter-terrorism has been substantial and invaluable. Indeed, it appears that Japan and Australia have been able to gain greater acceptance for counter-piracy and counter-terrorism roles, which would have been difficult for the US given domestic sensitivities as a result of strong anti-US sentiments among Muslims in the region.

Singapore has played an important role in facilitating the entry and roles of all three extra-regional powers. It is a critical regional ally for all three in their engagement with the region. For Singapore, this represents a striking success in foreign policy as security, political and economic allies enhances its own ability to better manage the new terrorist threats that have emerged since 11 September 2001.

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A Malaysian Perspective on International Maritime Counter-terrorist Cooperation in South East Asia

First Admiral Dr H.J. Sutarji bin Kasmin, RMN (Rtd)

The Malacca Strait, better known in Malay as *Selat Melaka*, has been the most important sea lane linking the South East Asian economies with the rest of the world for centuries. In socio-economic and geopolitical terms, it is important not only to the littoral states of Malaysia, Indonesia and Singapore but also to the international community.

In socio-economic terms a large number of Malaysians have employment in the strait: 80 per cent of Malaysian trade passes through it; and 70 per cent of Malaysian fishermen are concentrated along the strait, annually reaping more than 380,000 tonnes of fish valued at US\$320 million. Malaysia's main container ports, marine resorts and tourist spots are also located along the strait. In addition, there are independent power generating plants in the vicinity of the strait that are dependent on its water.

In the last few decades, shipping transiting the strait has faced persistent security challenges of both a traditional and non-traditional nature. These include unlawful intrusions into the territorial waters and the exclusive economic zones (EEZ) of the littoral states; illegal exploitation of both living and non-living marine resources; navigation hazards; and illegal activities such as illegal immigration, smuggling and robbery. Since the 11 September 2001 terrorist attacks in the United States (US), Malacca Strait security issues have been at the forefront of maritime issues, not only in Malaysia but throughout South East Asia.

This paper will discuss the potential threats of maritime terrorism in the strait, Malaysia's role in strait security, Malaysia's capabilities to protect the strait and the cooperative approaches Malaysia has adopted together with the US, Japan and Australia against international terrorism.

Possible Threat of Maritime Terrorism in the Malacca Strait

The Malacca Strait is a narrow, 500-mile long strip of water running between Indonesia, Malaysia and Singapore, where the southern portion of the strait is extremely narrow and dotted with shallow patches. It is a crucial transport route for more than 62,000 ships a year, carrying about one quarter of the world's overall demand for oil - about 11 million barrels daily from the Middle East to East Asian countries.¹ Any serious disruption to the flow of maritime traffic through the strait would clearly have

widespread detrimental effects, forcing ships to detour about 600 miles resulting in higher freight rates and costlier goods.

The vessels that transit the strait include crude oil tankers, liquefied natural gas (LNG) tankers, luxury cruise liners, bulk carriers and large naval vessels. The crude oil carriers are of various sizes ranging from a small tanker of a few thousand tonnes to a very large crude carrier of more than 200,000 tonnes, carrying from a thousand gallons to more than 50 million gallons of crude oil. Most of Indonesia, Malaysia and Singapore's major ports are located along the strait. Over the years, strait security has been progressively deteriorating and it has been assumed that terrorists now constitute a threat.

The strait is noted for a relatively 'high' incidence of armed sea robbery on passing ships and ships lying at anchor within port limits, or outside port limits awaiting clearance to unload their cargoes. In 2003 and 2004 there were 28 and 38 cases of sea robbery respectively. However, sea robbery incidents have reduced from 12 in 2005 to 11 cases in 2006.² The sea robbers are believed to live in the vicinity of the western side of the strait; they are very familiar with local waters, are able to operate at night in small groups using high speed boats, and are armed with automatic weapons, with the intention to steal cash and valuables or ransom the ship and/or its crew.³ As an example, on 10 August 2003, MV *Penrider*, a Malaysian palm oil tanker, was hijacked off Penang by a gang of eight Indonesian armed robbers. Having ransacked the vessel, they kidnapped the Master and Chief Engineer for ransom, who were released after it was paid. Sea robber numbers are believed to be small and they carry out attacks on an opportunity basis, disguised as fishing vessels – usually at night and within a short distance of their hideouts. Hence they do not roam the sea and risk encountering ships of the enforcement agencies.

The presence of international terrorist groups in the region – such as Kumpulan Militan Malaysia; Jemaah Islamiyah in Malaysia, Indonesia and Singapore; and the Abu Sayyaf Group in the Southern Philippines – imply the possibility of a maritime terrorist attack,⁴ even though there is no known connection between these terrorist groups and the sea robbers.⁵ However, it was reported that when the Singapore Government cracked down on the Jemaah Islamiyah network in December 2001, the group had made some preliminary plans preparing suicide attacks on US warships visiting Singapore.⁶

Tracking terrorist activity is not an easy task. Similarly, keeping port and sea lanes safe is equally difficult, despite the International Maritime Organization's (IMO) requirement that international ports must observe the *International Ship and Port Facility Security (ISPS) Code*, which came into force in 2004. By July 2004, 341 out of 400 Malaysia flagged ships met ISPS requirements, and by the end of that year all Malaysia's ports had been certified as ISPS compliant.⁷ However, this does not guarantee that the ports are safe from attack.

Modern technology and communications infrastructure, such as mobile communication systems, efficient and unlimited Internet access, and an abundance of recreational fast boats (that must be registered) are available to terrorists. Malaysia is quite advanced in communication technology, with satellite communication and cell phone technologies available to all. Terrorists could use pre-paid cell phones for communication as well as a means to detonate a bomb remotely.

There would be significant effects on major powers' economies and interests if the strait was to close, if there was damage to port facilities, or if there was an environmental catastrophe due to an oil spill from a tanker. It has been estimated that a closure of the strait would cost Japan about US\$87.9 million - equivalent to three additional days of steaming for each crude oil carrier from the Middle East to Japan - and cause the need to hire 15 additional very large crude oil carriers of 200,000 dead weight tonnage (DWT).⁸ For the coastal state, the environmental damage arising from an oil spill would be enormous. The grounding of MV *Exxon Valdez* (95,000 DWT) in Prince William Sound, Alaska, in 1989 spilt more than three million gallons of crude oil into the sea and cost more than US\$100 million and took more than 10 years to clean up the mess.

Al Qaeda has threatened to attack the interests of the US and its closest ally in this region - namely Australia. Since September 2001 there have been many attacks carried out by Jemaah Islamiyah against the interests of these two countries, particularly in Indonesia, and further attacks cannot be ruled out.

Skilled mariners would be vital to undertake any maritime terrorist activity in the region. Indonesia, Malaysia and Singapore are maritime nations and their economies depend on maritime trade and marine industries. As such, access to skilled maritime personnel is critical to these countries, and while controlled and monitored by their respective governments, there is a pool of unemployed mariners who could be recruited by terrorist groups.

What Could Terrorists Do?

There are a variety of methods terrorists could use to board a ship transiting the Malacca Strait. They could use a fast boat to approach from the stern, board the ship unseen by the crew and take control of the ship. They could infiltrate the ship's crew and take over the ship when the best opportunity arises; this has not yet occurred, given the regulation of seafarer identification. They could stow away in containers, and as long as they had adequate supplies, they could survive the duration of a long voyage; this approach relates more to the movement of terrorists than taking over the ship. In order to take over a ship, the relevant container would have to be located in such a manner that accomplices already on board could open the container to release their compatriots.

In addition to stealing from ships, sea robbers have hijacked small coastal cargo vessels carrying crude palm oil and other cargoes. On 14 June 2005, the Malaysian registered coaster, MV *Nepline Delima* carrying palm oil on passage from Port Klang, Malaysia, to Myanmar was hijacked by a group of 10 Indonesians off Langkawi Island, Malaysia.⁹

The presence of several militant organisations in this region suggests the possibility of terrorists turning to hijacking large vessels carrying dangerous cargoes as weapons or huge floating bombs against high value targets in the strait or ports in the coastal areas. The hijacked vessels could also be damaged to spill oil into the sea or grounded at a critical spot to block the channel (although this has never happened). Any such attack could severely disrupt shipments of oil from the Middle East to East Asia, and shipments of Asian manufactured goods to Europe and Africa.

Terrorists could carry out bombing attacks on ships at anchor with small boats packed with explosives, in a similar manner to the attack on the USS *Cole* in October 2000 and against the MV *Limburg* two years later while it was in port at Yemen. The impact of such attacks would be disastrous considering the 17 lives lost and 40 sailors injured onboard the *Cole*,¹⁰ and the destruction of the *Limburg*.¹¹

Terrorists could affect shipping by laying sea mines in choke points. The mine is a cheap and effective weapon, even if its use is only a bluff. The terrorists could broadcast that the strait was mined and the immediate impact could be extensively damaging, as ships would not dare to pass through the strait and it would put a lot of pressure on the navies of the littoral states to clear the suspected mines.

Despite suggestions by various commentators that there exist links between terrorists and sea robbers, Malaysia has yet to discover any credible link.¹² Importantly there has not been any terrorist attack in the strait. The declaration made by the Joint War Committee of the Lloyds Market Association of London in June 2005 that the Malacca Strait was a 'war risk zone' due to its vulnerability to terrorist attack has proven to be inaccurate, and the declaration was revoked in August 2006.

Malaysia and the Security of the Malacca Strait

The threats facing the strait drove the US to propose a Regional Maritime Security Initiative (RMSI) in 2004 intended to prevent terrorists from seizing a vessel loaded with LNG to slam into a pier, from scuttling a tanker in the strait, or from exploding containers laden with chemical fertilisers in busy ports.¹³ Singapore was quite receptive to and supported the idea,¹⁴ which, however, was opposed by Indonesia and Malaysia. Both countries felt that the littoral states bordering the strait should be responsible for its safety and security.¹⁵

Malaysia pledged to take every form of preventive measure and operational arrangement to ensure the safety and security of the strait,¹⁶ and rejected the employment of private

security companies to provide escort services to vessels on passage through its territorial waters.¹⁷

Malaysia opposes foreign power involvement in safeguarding the security of the strait as there is no legal basis for warships of foreign powers to be in Malaysia's territorial waters and EEZ, except for the purpose of innocent passage.¹⁸ Malaysia's stand can be interpreted as permissive to a benign foreign military presence in its EEZ. This can be adduced from Malaysia's declaration made on 14 October 1996 upon its ratification of the *United Nations Convention on the Law of the Sea 1982* (LOSC).

The Malaysian Government also understands that the provisions of the Convention do not authorise other states to carry out military exercises or manoeuvres, in particular those involving the use of weapons or explosives in the EEZ without the consent of the coastal state.¹⁹

Furthermore, as provided in Articles 37 to 54, user states are given the rights of transit passages; foreign ships including warships and aircraft can exercise freedom of navigation and over flight solely for the purpose of continuous and expeditious transit.²⁰ Patrolling in other countries' territorial waters and EEZ is not provided as a right of transit passage.

Malaysia has the resources to conduct joint patrolling with the navies and security agencies of other littoral states. The Royal Malaysian Navy (RMN) is operating a sufficient number of surface combatants comprising frigates and corvettes backed by a sea lift flotilla, two squadrons of naval helicopters, and one unit of fully equipped naval special forces that are sufficient to conduct continuous joint patrols in the strait.

In addition, the naval forces are supported by a squadron of maritime patrol aircraft operated by the Royal Malaysian Air Force (RMAF). The newly established Malaysian Maritime Enforcement Agency (MMEA) is receiving additional ships to enhance its patrolling capabilities, and the maritime element of the Royal Malaysian Police (RMP) is enhancing its maritime capabilities to handle security within Malaysia's territorial waters.

The strait is not the only route for transit from the Indian Ocean to the Pacific Ocean. Ship owners are able to use alternative routes such as the Sunda or Lombok straits.²¹ Presently ultra large crude oil carriers of 400,000 DWT are using these alternative straits because the Malacca Strait is too shallow to allow 3.5 metres under keel clearance. Alternatively, any vessels felt threatened may request Malaysian Government assistance for their vessels to be escorted by RMN ships.²²

Malaysia has rejected proposals for private security escorts, either for shipping transiting the strait, or for armed guards to be placed onboard these ships. Malaysia's concerns with this proposal were numerous, including:

- Malaysian law does not allow private individuals to carry arms in its territorial waters
- any preventative measures taken must not impinge on the territorial integrity and national sovereignty of Malaysia
- the International Maritime Organization is responsible for monitoring the safety of ships at sea, and their advice is that shipping companies should not keep weapons onboard as they might trigger violence
- if violence were to occur, including the loss of life or property, who would be responsible for compensation?
- the possibility that a private security company might interfere with Malaysia's maritime enforcement agencies while they are carrying out their duties.

Malaysia's Capabilities to Protect the Malacca Strait

Malaysia possesses both security and defence agencies to protect its national interests – especially its sovereignty and internal security. Malaysia's *Internal Security Act (ISA)* came into force in 1960 and allows any police officer to arrest and detain, without a warrant, anyone he has reason to believe has acted or is likely to act in a manner prejudicial to the security of Malaysia. The ISA allows for the restriction of freedom of assembly, association and expression, where a suspect may be detained for 60 days while under investigation and on approval of the Minister for Home Affairs, can be detained for up to two years without trial.

National Security Directive No. 18 directs policy coordination between relevant government agencies, where the police are tasked with responding to terrorist activity on land and in the air, and the armed forces are tasked with responding to maritime terrorist activity.

For the defence and security of its maritime areas, the RMN is the lead agency assisted by MMEA for coastguard functions and the marine element of the RMP. Each of these agencies is provided with modern equipment and sufficient personnel to perform their tasks efficiently. The RMN currently has a strength of about 16,000 officers and sailors, with a modern fleet comprising various classes of ships such as frigates, corvettes, support ships and auxiliary platforms. It also has a naval air wing operating the Agusta Westland Super Lynx and Eurocopter Fennec helicopters and two units of naval special forces. The capability of the RMN will be further enhanced through the acquisition of two Scorpene class submarines from France, which should be operational in 2008.

The fleet is organised into various flotillas and squadrons. There are five flotillas, each of which has a few ships from the respective squadrons. Two of the most important flotillas are the Strike Flotilla and the Support Flotilla. The Strike Flotilla comprises frigates, corvettes and missile craft squadrons, while the Support Flotilla

comprises multipurpose command and support ships, landing ships tank and mine countermeasure vessel squadrons. The organisation is designed to better manage the specific capabilities and roles of the platform and be flexible, dynamic, and ready to react and respond not only in terms of countering threats but also meeting stakeholders' expectations.

It had been observed that unlawful activities on the Malaysian side of the strait usually occurred in sectors where the presence of Malaysia's maritime enforcement agencies had been the thinnest. Given these constraints and the need to maintain an appropriate strategy for effective enforcement, the RMN formed a joint task force comprising ships from the Strike and Support Flotillas backed by a naval special forces unit, the navy air wing and the RMAF maritime patrol squadrons. The naval special forces unit provides response teams for special boarding, rescue operations of hijacked vessels, and interception of suspected sea robbers in the shallow water areas using high speed rigid inflatable raiding craft (RIRC). The naval air wing provides Super Lynx and Fennec helicopters to support the special forces teams for aerial boarding and as a platform for aerial sharp shooters. The RMAF provides maritime patrol aircraft for the 'Eyes in the Sky' on an opportunity basis. At any one time, a frigate with a Super Lynx helicopter onboard and a support ship with a fully-equipped unit of special forces are at sea in the strait.

Exercise NAGA EMAS is conducted three times a year to test the ability of the task force to rescue a ship hijacked by terrorists in the strait. The scenario is that terrorists have hijacked a ship carrying dangerous goods down the strait. *National Security Directive No. 18* is activated, and command and control centres at various command levels are set up to coordinate the appropriate response. Negotiations commence with the terrorists while the task force concurrently prepares to secure the ship. Negotiations then fail and the task force commences a rescue operation to retake the ship, both by sea and air.

MMEA also has six patrol boats continuously patrolling their designated maritime sectors in the strait. Within Malaysia's territorial waters, the marine police conduct regular patrols from their coastal bases while their air unit provides daily airborne patrols. For immediate responses, the police also possess several fast response teams based along the coastal areas of the strait in Langkawi, Penang, Lumut, Port Klang and Johor Bahru. These patrols are conducted and the necessary responses are coordinated by the National Maritime Enforcement and Coordination Centre (NMECC) in Lumut, as part of the bigger national security management plan coordinated by the National Security Division of the Prime Minister's Department.

In order to ensure the security of the strait, Malaysia has adopted several strategies, such as *visible deterrence*, by maintaining continuous presence; *swift response*, by placing fully capable marine assets close to the trouble spots to reduce response time; *forward reaching*, through maintenance of good surveillance and reconnaissance

capabilities; and *cooperation*, to disseminate accurate and timely information. Three notable projects as part of these strategies that are already operational are: the Sea Surveillance System, covering the Malaysian side of the Strait from Langkawi Island in the north to the eastern portion of the Singapore Strait; the Malaysian Vessel Traffic System; and the Mandatory Ship Reporting System. These systems generate a variety of information, such as radar video on vessels' identity, movements, locations, cargoes, ports of call and other data relating to traffic in the strait; distress management; piracy reporting; and pollution monitoring. Presently, the backbone to realise these strategies is the RMN, until such time as the MMEA is fully operational.



Toward Cooperative Approaches to Combat International Terrorism

The security challenges facing the strait will continue whether it is in the form of existing challenges or new challenges in the years ahead. Hence, there is a need for the littoral states and the strait's users to continue their collaboration and cooperation. It is true that the global war on terrorism has become the bedrock of cooperation to combat international terrorism including the possibility of terrorist threats in the strait. Prior to the 11 September 2001 attacks, Malaysia, Indonesia and Singapore cooperated well with other states with interest in the strait. After September 2001 and the launch of the global war on terrorism, cooperation intensified among the three littoral states and with other extra regional powers, especially the US, Japan and Australia.

However, levels of cooperation from each nation vary due to differing perceptions on the global war on terrorism, and the state of relations between the littoral states and the three extra regional powers. Malaysian perceptions on the US-led global war on terrorism and the need to protect its sovereignty have limited Malaysia's cooperation with these extra-regional powers to capacity building and intelligence exchange.

Perceptions on the Global War on Terrorism

Malaysia's previous approach to fighting terrorist threats through a combination of 'soft power' and 'hard power' has been proven to be very successful. In recent years, two known terrorist groups have emerged in Malaysia, namely the *Kumpulan Mujahidin Malaysia*, a local group fighting to replace the democratically elected government and convert Malaysia into an Islamic state, and supporters of *Jemaah Islamiyah*. Both groups were successfully eliminated by the government within a very short period. In both cases, the government did not solely resort to military force. Instead, it adopted a combination of direct action by civilian police to arrest and detain them, and a strategy of winning the support of the people to oppose terrorism.²³

Cooperation Amongst the Littoral States

The cooperation of the littoral states to enhance security in the strait began in the early 1970s when the three countries established separate bilateral border committees to manage security issues in their common land and sea border areas. They began cooperating with the IMO after the issue of sea robbery was highlighted in 1992, when a working group to the Maritime Security Committee composed of experts from 10 IMO member countries including representatives from the littoral states of the strait was formed.

Several regional and international initiatives were then implemented to boost security, including: agreements on information exchange and establishment of communication procedures; treaties of mutual assistance in criminal matters; and regional forum frameworks on measures against terrorism, counter-terrorism and transnational crimes. However, the manner and speed in which the initiatives were implemented after September 2001 underline the seriousness and commitment of Malaysia and other littoral states in forging regional maritime security cooperation and enforcement. An example of these initiative is the multilateral Counterterrorism Agreement between Malaysia, Indonesia, the Philippines, Singapore and Thailand for intelligence sharing and collaboration among law enforcement agencies.

The interest shown by foreign powers to patrol the strait and their increasing concerns about a potentially bigger threat have prompted both Malaysia and Indonesia to launch a program to improve security through coordinated maritime patrols, whereby ships from these navies are to patrol the area. Singapore later joined the initiative.²⁴ As

part of the operation, each navy is committed to providing between five and seven ships to patrol the strait. They have also established a hotline that will allow them to better coordinate an operation, particularly when a vessel from one of the countries is in pursuit of suspected sea robbers. In addition, a warship from one country will also be allowed to enter the waters of another country when chasing a suspected boat, provided that this is communicated first to the host country.

To enhance the effectiveness of the coordinated maritime patrol, Malaysia, Singapore and Indonesia declared, on 18 June 2005, the creation of a special joint task force, named MALSINDO to ensure the safety of the strait. To complement MALSINDO, the 'Eyes in the Sky' (EIS) maritime air operation and surveillance program was launched. Both MALSINDO and EIS have provided visible deterrence, thus contributing to a dramatic decline in the incidence of sea robbery in the strait. In November 2005 Indonesia reported that the three countries' cooperation had been successful in reducing the frequency of attacks.²⁵

Malaysia–United States counter-terrorism cooperation

Malaysia has a long history of cooperation in security and defence matters, which intensified after the September 2001 attacks on the US. However, Malaysia differs from the US-led global war on terrorism in approach, preferring a 'soft' approach such as intelligence sharing, setting up a new regional counter-terrorism centre and bilateral military logistical support.²⁶ The centre, known as the Southeast Asia Regional Centre for Counter-Terrorism (SEARCCT) was set up on 1 July 2003.²⁷ Its main purpose is to provide regional training for counter-terrorism, information sharing and public awareness campaigns. Besides the US, other nations – including the United Kingdom, Germany and Australia – provide trainers and training materials to the centre. Since the establishment of the centre, the US-Malaysia counter-terrorism cooperation has been further strengthened, especially in the exchange of intelligence.²⁸ The RMN and special forces train with the US as part of Exercise CARAT.

Malaysia–Japan counter-terrorism cooperation

Japan's willingness to support counter-terrorism efforts in South East Asia reflects partly its commitment to the US–Japan alliance, and partly a wider strategy of enhancing its political and security roles in the region. However, due to domestic political constraints, Japan's contribution to counter-terrorism focuses on non-military means of cooperation such as civilian law enforcement, including coastguard cooperation.²⁹

In combating terrorism, Japan views strengthening the law enforcement capabilities of South East Asian nations as critical. Hence, Japan's major contribution has been to organise law enforcement training seminars in various countries. The seminar program has been coordinated through the Japan International Cooperation Agency, which uses Official Development Assistance money allocated from the Ministry of

Foreign Affairs. To date, Japan has hosted several seminars including the ASEAN-Japan Seminar on Maritime Security and Combating Piracy in Tokyo (2003 and 2005), the Heads of Asian Coastguard Agencies Meeting in Tokyo in June 2004, and seminars on counter-terrorism held at SEARCCT, Kuala Lumpur. In April 2006, the Nippon Foundation handed over a ship to MMEA, which is based at Kuantan, Pahang, and used for training.³⁰

As for the efforts to enhance security in the strait, Japan is the only international user that has contributed to the costs of maintaining its security. In early 1969, Japan established the Malacca Strait Council (MSC) to channel its contribution to enhance navigational safety through the installation and maintenance of navigational aids and the establishment of an ASEAN-wide Oil Spill Preparedness and Response (OSPAR) plan. The MSC is supported by the Japanese Government and maritime community through organisations such as the Nippon Foundation, the Japan Maritime Foundation, the Japanese Ship Owners' Association, Petroleum Association of Japan, the General Insurance Association of Japan, and the Shipbuilders' Association of Japan. On 11 February 1981, a Memorandum of Understanding (MOU) was signed by Indonesia, Malaysia, Singapore and the Malacca Strait Council, which is supported by the Japanese shipping community, to set up a Revolving Fund to be used to safeguard the marine environment in the straits of Malacca and Singapore. Under the MOU, the MSC contributed 400 million yen as the principal sum for the Revolving Fund. The fund, which is managed by the three littoral states on a rotational basis for a period of five years each, is to enable the MSC to take immediate remedial action to combat oil pollution caused by ships in the strait. In December 2005, the littoral states and Japan joined forces to produce the electronic navigational chart (ENC) covering the straits of Malacca and Singapore. Ships using the ENC when sailing through the straits will further enhance navigational safety and help to reduce accidents and the risk of oil pollution.³¹

Malaysia–Australia counter-terrorism cooperation

Both Malaysia and Australia have very strong relations sustained by a wide range of cooperative activities under the Malaysia-Australia Joint Defence Program. In addition, cooperation between the two countries has also been enhanced through the ASEAN Regional Forum (ARF) and the Five Power Defence Arrangement (FPDA). During the Chiefs of Defence Forces Conference of FPDA member states in Kuala Lumpur in 2003, it was agreed to strengthen cooperation to combat terrorism in terms of joint cooperation and intelligence exchange.³² Under the auspices of the FPDA, Exercise STARFISH is conducted every two years with a focus on naval training, while RMAF personnel also train with Royal Australian Air Force Orion maritime patrol aircraft operating out of Butterworth. In 2006, the member countries of ASEAN and Australia signed a Joint Declaration for Cooperation to Combat International Terrorism.

Conclusion

The Malacca Strait is very important not only to the littoral states but also to other international users. Sea robbery and the possibility of terrorists turning large hijacked vessels carrying dangerous cargoes into weapons of mass destruction is a threat to shipping. Although the possibility of maritime terrorism remains a threat, an attack does not appear imminent. Malaysia and the other littoral states are working to ensure that an attack will not occur. Measures taken against sea robbers have been successful as evidenced by a drastic drop in the number of sea robbery incidents in the strait. There are also no known links between terrorists and sea robbers and, most importantly, no known terrorist activities in the strait.

Malaysia is an active participant in the global anti-terror campaign. While Malaysia does not fully subscribe to some of the approaches adopted by the major powers in addressing terrorist threats, it has cooperated fully with extra regional powers such as the US, Japan and Australia, which have benefited substantially from intelligence sharing and logistic support in their counter-terror operations in the South East Asian region. Malaysia's existing maritime capabilities are able to manage the current level of threat, and while assistance is always welcome, it is best focused on capacity building in areas such as maritime patrol aircraft, uninhabited aerial vehicles and communications systems – but an external physical presence is not required.

Notes

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- ¹⁰ Richardson, 'Marine-related terrorism', p. 17. The attack on *Cole* was carried out using a rubber dinghy packed with about 500 pounds of C4 explosive. The blast, which left a 40-foot hole in the side of the destroyer, killed 17 USN sailors and wounded 40. It took more than 14 months and cost more than US\$250 million to repair the ship.
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- ³⁰ It was reported that Japan has contributed more than US\$200 million to Malaysia since the early 1970s. The latest contribution is a training ship operated by the MMEA, named *KM Marlin*. The ship is 270 tonnes, 40 metres long, 7.2 metres wide with a top speed in excess of 17 knots, and was contributed by the Nippon Foundation in June 2006.
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SEMAPHORES





Captain Creswell observes the CNF's 1905 Easter manoeuvres from the torpedo boat HMAS Countess of Hopetoun

Australia's Navy – 106 Years Young

Dr David Stevens

How old is Australia's Navy? This might seem a simple enough question, but over the years some confusion has arisen from the varied timings of the Navy's birthday celebrations. Readers who recall the Royal Australian Navy's (RAN's) 75th anniversary festivities in 1986, for example, might wonder how it is that just 21 years later the Navy claims to be 106! Indeed, although the Navy now accepts 1 March 1901 as its official birthday there are several other dates still deserving some form of continuing recognition by both the Navy and the wider Australian nation.

The legal basis for the Navy's creation comes from Section 51 of the Australian Constitution, which gives Parliament the power to make laws with respect to the naval and military defence of the Commonwealth. At Federation on 1 January 1901 the Governor-General, the Earl of Hopetoun, became Commander in Chief of the armed forces, but not until 1 March did the six former self-governing colonies transfer their existing naval and military forces and everyone employed in their connection to the Federal Government. Although this marks the birth of the Australian Navy, much had yet to be accomplished. Initially the four states that had maintained maritime forces through to 1901 – Queensland, New South Wales, Victoria and South Australia – retained their old colonial nomenclature and each possessed a naval commandant who reported individually to the Defence Minister. Progress was tentative, but in May 1902 the Federal bureaucracy adopted the collective title Commonwealth Naval Forces (CNF) for the Navy while the Army became known as the Commonwealth Military Forces (CMF).

Australia's pre-Federation ships were intended solely for local defence and were prohibited from operating outside the three mile coastal limit. Those vessels inherited by the nascent national navy were tired, old and inadequate even for training. Moreover, with only 239 men on the CNF's books and a 1901-02 budget of just £67,000, there was little hope for early improvement. The CMF by contrast, possessed almost 17,000 men and had access to a budget of £638,000.¹ But despite the disparity, a dilapidated local navy was not a major national concern if the Royal Navy (RN) would continue to provide maritime protection by maintaining up to 24 vessels on the Australian Station. Successive British naval commanders provided this reassurance, and the Commonwealth's payment of a subsidy towards maintaining RN vessels in Australia reinforced the idea that issues of naval policy were best left with the British Admiralty.

Watching the growth of foreign naval power in the Pacific, local naval authorities were far less confident. Led by Queensland's Captain (later Vice Admiral Sir) William

Creswell, they feared the withdrawal of British forces under the exigencies of a global war. Australia, they argued, lying at the extreme end of the world's sea routes and possessing no land frontier was open to attack only by sea. If communications were cut, industrial paralysis and economic devastation would follow. As Creswell observed caustically in a 1902 parliamentary report:

The spectacle of some 5,000,000 Australians, with an Army splendidly equipped, unable to prevent the burning of a cargo of wool in sight of Sydney Heads, is only the ordinary consequence of a policy of naval impotence.²

Deep issues of maritime strategy exercised only a handful of Australian minds, but the idea of a more capable navy, locally manned, and under the Commonwealth's executive direction, gradually gathered support. Following the proclamation of the *Defence Act 1903* and the constitution of Boards of Administration for the CNF and CMF, Creswell became the first Director of Naval Forces. Notwithstanding the restricted budget, he immediately embarked on a program designed to breathe new life into the CNF's operations, bringing several of the gunboats and torpedo boats back into commission and instituting regular training exercises to improve readiness.

The greater visibility and renewed activity of the CNF confirmed the quality of Australian naval men and managed to ignite more general public interest, but the service could not long survive without the replacement of its ancient vessels. Fortunately, Creswell found an ally in the new Prime Minister, Alfred Deakin, who, like his Naval Director, preferred active cooperation to subsidies. In December 1907, Deakin announced the CNF's acquisition of a flotilla of submarines and destroyers. A year later Australia's naval representative in London requested tenders for the first three vessels, the torpedo boat destroyers *Parramatta*, *Yarra* and *Warrego*.

Assembled in Australia to kick-start a local defence industry, *Warrego* was not launched until April 1911. *Parramatta* and *Yarra*, however, were completed in the United Kingdom and by the end of 1910 were already in Australian waters. Still appreciating the value of public recognition, Creswell ordered the destroyers to begin a busy program of port visits to introduce ordinary Australians to their growing navy. Sailing from Melbourne in March 1911, *Parramatta* and *Yarra* then spent several months calling in at communities all along the east coast, reaching as far north as Cairns.

Australian authorities expected the CNF's destroyer flotilla to take full responsibility for coastal defence, but by the time of *Parramatta* and *Yarra*'s arrival Australian naval policy had made an even greater advance. Finding itself hard pressed to maintain global naval supremacy the RN decided to support a more substantial Australian contribution towards regional defence. At the 1909 Imperial Conference the Admiralty's First Sea Lord, Sir John Fisher, suggested that the CNF expand to include a 'fleet unit' based around one of his revolutionary battlecruisers and several light cruisers. The self-contained package represented an ideal force structure; small enough to be managed

by Australia in times of peace, but in war capable of effective combined action with Imperial forces. Federal Cabinet gave provisional endorsement in September 1909 and orders were soon placed in British and Australian shipyards for the additional ships. Just as important, the passing of the *Naval Defence Act 1910* provided the clear legislative authority for a navy that would in future be free to roam the world's oceans. The difference between the naval and military forces of the Commonwealth was now striking. With an Army compelled by law to serve only on local soil, Australia had to raise a separate volunteer expeditionary force to serve overseas in 1914.

Since 1904 CNF warships had been designated as His Majesty's Australian Ship (HMAS), but this title had never received the King's sanction. During their visit to London for the coronation of King George V, Australian ministers made known their desire to have the prefix 'Royal' attached to the Australian Navy's title. On 10 July 1911 King George approved the request 'with great satisfaction'. The decision was promulgated to the CNF on 5 October,³ which officially became the RAN, while the Citizen Naval Forces became the Royal Australian Naval Reserve (RANR). At the stern of Australian ships, the RN's White Ensign replaced the Commonwealth Blue Ensign and the Commonwealth flag thereafter took the place of the Union flag at the bow.

The new 'fleet unit' took time to build, but on 4 October 1913 its core strength entered Sydney Harbour for the first time. Leading the three light cruisers (*Melbourne*, *Sydney* and *Encounter*) and three destroyers, the battle cruiser HMAS *Australia* passed through the Heads to be greeted by thousands of cheering citizens lining the foreshores. Sydney was no stranger to imperial and foreign warships, but these vessels, both majestic and forbidding at the same time, were something different. They were the embodiment of the Commonwealth's own sea power and unquestionably superior to every other European fleet then in the Pacific. Comparing the significance of the fleet unit's arrival



HMA Ships Parramatta and Yarra during their May 1911 visit to Coffs Harbour. At this period the Commonwealth Blue Ensign was still flown at the stern.

to James Cook's exploration of the east coast 140 years before, the Defence Minister, Edward Millen, noted:

As the former marked the birth of Australia, so the latter announces its coming of age, its recognition of the growing responsibilities of nationhood, and its resolve to accept and discharge them ...

The fleet, Millen continued, did not merely represent force, but was an expression of 'Australia's resolve to pursue, in freedom, its national ideals' and hand down 'unimpaired and unsullied' its heritage to future generations.⁴

It should be clear from this discussion that the Australian Navy did not just suddenly appear either in October 1913 or in 1911 with the granting of the 'Royal' title. Both these events are significant milestones, but for more than a decade the country had already possessed a unified naval force. In truth, since 1901 there had been a continuing process of revitalisation and development which eventually turned Australia's Navy from a motley collection of obsolescent vessels into a professional and world-class fighting service. It had been a difficult path, but the foresight of men like Creswell and Deakin was amply rewarded in 1914 when the powerful German East Asiatic Squadron was decisively deterred from carrying out its plans for cruiser warfare in the Pacific. But for the RAN, wartime Prime Minister W.M. 'Billy' Hughes later declared, 'the great cities of Australia would have been reduced to ruins, coastwise shipping sunk, and communications with the outside world cut off'.⁵ One would be hard pressed to find more appropriate words to mark more than 106 years of service by Australian sailors.

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Notes

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Search and Rescue: A Miracle in the South

Mr Brett Mitchell

‘Safety fears for missing yachtie Bullimore’ is typical of the headlines that swept across the international news wires in mid-November 2006 when contact was lost with adventurer and yachtsman Tony Bullimore aboard his 102-foot catamaran *Doha 2006*.¹ He was en route from the Maldives to Hobart in Tasmania, from where he hoped to embark upon a solo round-the-world voyage in an attempt to break Dame Ellen Macarthur’s 71-day record set in 2005. Fortunately, this time *Doha 2006* had simply suffered a communications defect and arrived safely in Albany on 20 November before shaping course for Hobart. Turn back the clock 10 years to January 1997; however, and it was a very different story, one that nearly ended in tragedy for the intrepid Englishman.

In November 1996, 16 competitors began the third Vendée Globe Yacht Race from the French port of Les Sables d’Olonne. Only six would finish the race. Unlike the VELUX 5 Oceans Race (formerly known as the BOC Challenge and Around Alone), in which competitors sail predetermined legs between specific ports, the Vendée Globe, founded in 1989, is a single-handed round-the-world yacht race with no stops and no outside assistance allowed. The Vendée Globe route takes competitors down the Atlantic Ocean until they turn east beneath the Cape of Good Hope for the treacherous passage across the Southern Ocean as they navigate around the Antarctic south of Australia, before rounding Cape Horn for the final leg back to Les Sables d’Olonne.

As soon as the race began the competitors encountered heavy seas in the Bay of Biscay that forced two yachtsmen to retire early. The conditions compelled others to return to the starting point to effect repairs. Having overcome such obstacles, the competitors probably believed that their future journeys would be relatively smooth sailing. But they could not have foreseen the extreme weather that awaited them in the Southern Ocean. Sub-Antarctic waters are notoriously hazardous for smaller vessels, even in the summer months, as the weather is highly variable.²

The first Vendée Globe yacht to capsize in the Southern Ocean was *Algimouss*, skippered by Frenchman Raphaël Dinelli. On 26 December 1996 the Australian Maritime Rescue Coordination Centre (MRCC) requested Australian Defence Force (ADF) assistance to search for Dinelli, estimated to be in a position 1100 nautical miles south-south-west of Perth. *Algimouss* was located later that day by a Royal Australian Air Force (RAAF) P-3C Orion aircraft. The yacht was partly submerged and Dinelli was observed to be standing on the deck, which was awash with sea water. He scrambled into an air-dropped life raft moments before *Algimouss* sank. Fellow competitor Pete Goss, in *Aqua Quorum*,

diverted and guided by the crew of another Orion aircraft, successfully manoeuvred his yacht to effect a hazardous rescue of Dinelli the following day.³

In the early hours of 6 January 1997 a call came through from race officials reporting that multiple ARGUS beacons, belonging to Theierry Dubois (*Pour Amnesty International*) and Tony Bullimore (*Exide Challenger*), had been detected in the Southern Ocean some 1400 nautical miles south-south-west of Perth. The MRCC again called upon the ADF for assistance. As a signatory to the *International Convention for the Safety of Life at Sea 1974*, and the *International Convention on Maritime Search and Rescue 1979*, Australia is responsible for maritime search and rescue over a vast area of some 52.8 million square kilometres. Australia takes this obligation very seriously.

The Commanding Officer of HMAS *Adelaide*, Captain Raydon Gates, Royal Australian Navy (RAN), was awoken by a telephone call at 0100 (WST) on 6 January 1997 and ordered to prepare his ship to sail. *Adelaide* departed Fleet Base West (FBW), Fremantle, at 1600 that afternoon, after storing ship, recalling crew, and embarking specialist personnel, which included a medical officer, a media contingent, and a chaplain. The ship's S-70B Seahawk helicopter embarked en route.

Being called upon to deploy to the southern climes at short notice was nothing new for the RAN.⁴ Two years earlier, on New Year's Day 1995, HMAS *Darwin* rescued lone



The upturned hull of Exide Challenger

yachtswoman Isabelle Autissier from her yacht *Ecureuil* 900 nautical miles south of Adelaide.

A RAAF Orion located Thierry Dubois in the water the same afternoon that *Adelaide* sailed from FBW and a few hours later a second Orion sighted the upturned hull of *Exide Challenger*. These aircraft not only provided information on the location of the yachts, but were able to provide immediate assistance by dropping Air Sea Rescue Kits to the distressed Dubois. Nothing could be seen of Bullimore.

For *Adelaide* and her crew the passage south was in itself largely uneventful with opportunities taken to work-up the embarked helicopter flight. Time was the critical factor. The tanker HMAS *Westralia* sailed from FBW two days later and a Liberian registered tanker MV *Sanko Phoenix*, possessing a heavy lift capability, stood by to assist should the need arise to either salvage or hold *Exide Challenger* afloat.⁵

In the meantime, the RAAF continued to provide daylight coverage on station. Six flight crews from 10 and 11 Squadrons located at RAAF Base Edinburgh near Adelaide rotated through five Orion aircraft deployed from Perth. The aircraft flew for a total of 158 hours, providing a comforting presence for Thierry Dubois, monitoring his welfare and ensuring that he was regularly updated on the progress of the rescue operation.

Consideration was given to rescuing Dubois on the evening on 8 January; however, the plan was hindered by unsuitable weather conditions and the danger that the helicopter could be threatened by icing in low cloud. At 0433 on the morning of 9 January, *Adelaide* launched her Seahawk for what was then a 53 nautical mile flight to Thierry Dubois's life raft. He was winched to safety and the helicopter returned to *Adelaide*.



*Dubois, Gates and Bullimore meet the press alongside
HMAS Adelaide in Fremantle*

As *Adelaide* neared the stricken *Exide Challenger*, the Seahawk was again launched to conduct a photographic search of the hull, remaining in a low hover for approximately ten minutes. There was no response to the helicopter's presence. *Adelaide* then circled the *Exide Challenger*, sounding her siren – again no response.

With only one option left, Captain Gates ordered the seaboat be launched with the task of closely examining the hull of *Exide Challenger* prior to attempting to cut through the hull. To the surprise and relief of those there, Tony Bullimore responded to loud tapping on the hull, and appeared on the surface moments later. Leading Seaman Clearance Diver Alan Rub then proceeded to help Bullimore towards *Adelaide's* seaboat, where he was hauled in by Chief Petty Officer Peter Wicker. Images of Bullimore kissing the unsuspecting, bearded Wicker were later seen around the world.

With *Adelaide* having now completed her primary task and bearing a slightly larger ship's company, course was set for Fremantle. *Westralia* still had a critical role to play, replenishing *Adelaide* at sea on 11 January and thereby ensuring that the frigate could maintain full speed and return to the mainland with minimal delay.

Adelaide berthed in Fremantle on 13 January to a tumultuous welcome from the local populace and various dignitaries. Recovering both yachtsmen alive was a tribute to the concerted efforts of the RAN and RAAF, the search and rescue coordinators, the resilience of the two yachtsmen themselves and their sheer will to survive. Despite their trying ordeal they had coped with the onset of frostbite, hypothermia and in Bullimore's case, a partial amputation of one of his fingers.

In spite of the euphoria engendered from the success of what was a complex and demanding search and rescue operation, celebrations amongst the wider yachting fraternity were understandably tempered in the knowledge that race officials had lost contact with a fourth competitor. Canadian Gerry Roufs in *Groupe LG2*, was reported lost on 8 January 1997 approximately 1600 miles west of Cape Horn. He was never found. Six months later his yacht was sighted adrift 300 miles off the coast of Chile. In September 1998 wreckage was washed up in the Straits of Magellan.

One of the more important organisational changes implemented in the aftermath of the Southern Ocean rescues was the July 1997 amalgamation of Australia's search and rescue coordination centres into one centralised body called Australian Search and Rescue (AusSAR).⁶ The new organisation's baptism of fire came 18 months later during the 1998 Sydney to Hobart Yacht Race. Cyclonic weather wrought havoc amongst the fleet north-east of Bass Strait. Six sailors perished at sea and another 55 were winched to safety by rescue helicopters. The RAN regularly tasks helicopter-capable major fleet units as Operational Response Vessels, should they be called upon to discharge Australia's search and rescue responsibilities during these races.

Australia's search and rescue area is one of the largest in the world, covering Australia and vast tracts of the Indian, Pacific and Southern Oceans: about a tenth of the earth's

surface.⁷ While AusSAR uses assets from the private sector, police and volunteer rescue groups for many rescues, it is often only the ADF that is able to undertake very long-range, short notice rescues in extremely demanding conditions.⁸ The capabilities inherent in naval warships and helicopters are multi-role in nature enabling navies to undertake these tasks while configured for warfighting.

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Notes

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- ² Andrew McCrindle and Rebecca Jeffcoat, 'The Effects of Weather on RAN Operations in the Southern Ocean' in Andrew Forbes and Michelle Lovi (eds), *Australian Maritime Issues 2006: SPCA Annual*, Sea Power Centre - Australia, Canberra, 2007, pp. 177-182.
- ³ Pete Goss, *Close to the Wind*, Headline, London, 1998, pp. 221-230.
- ⁴ Andrew Forbes, 'RAN Activities in the Southern Ocean' in Forbes and Lovi (eds), *Australian Maritime Issues 2006: SPCA Annual*, pp. 207-211.
- ⁵ Mark Mills, 'Great Southern Ocean Adventure: The Rescue of Theirry Dubois and Tony Bullimore', *Australia's Navy 1997*, Canberra, 1997, pp. 6-8.
- ⁶ The Australian Maritime Safety Authority is responsible for coordinating search and rescue through AusSAR, see 'Search & Rescue' <www.amsa.gov.au/search_and_rescue> accessed 5 December 2006.
- ⁷ Australian Maritime Safety Authority, 'Australian Search and Rescue (AusSAR)', Fact Sheet, May 2005.
- ⁸ Royal Australian Navy, *Australian Maritime Doctrine*, Defence Publishing Service, Canberra, 2000, p. 70.



Sailors of Sydney (IV) pose before her impressive legacy of battle honours

Naming of RAN Ships

Mr John Perryman

His Majesty the King has been graciously pleased to approve of the Permanent Naval Forces of the Commonwealth being designated the Royal Australian Navy (RAN), and of the ships of that navy being designated His Majesty's Australian Ships.

So begins Commonwealth Forces Navy Order number 77 of 1911, dated 5 October 1911. This order granted the title 'Royal' to Australia's existing naval forces and formalised the use of the prefix 'HMAS' for all warships of the RAN. This prefix has changed only slightly from His Majesty's Australian Ship, to Her Majesty's Australian Ship when Elizabeth II became Monarch.

But what of the hundreds of ships' names that have followed this prefix and adorned the cap ribbons of our sailors and WRANS' since that time? How were these names selected? How might they be selected in the future? This *Semaphore* aims to answer these questions and provide the reader with an understanding of the evolution of the

conventions used by the RAN when naming its vessels.

The first ships constructed for the Commonwealth Naval Forces, and thus the first Commonwealth naval vessels that required naming, were the three torpedo boat destroyers (TBD) ordered by the Fisher Government in 1909.

In November 1909 the British Admiralty raised the question of naming the three destroyers and suggested that they be given names of Australian rivers. However, Senator Pearce, who was involved in the ordering of the ships, recommended naming them after eminent early Australian navigators. Prime Minister Alfred Deakin decided against this and subsequently accepted the Admiralty's suggestion, with his Minister for Defence, Joseph Cook, announcing that the three vessels would be known as *Parramatta*, *Yarra* and *Warrego* after Australian rivers bearing native



The arrival of ships named Yarra and Parramatta was a significant event

names.² Cook's announcement and preference for native river names reflected a distinct local identity and was an early acknowledgement of Australia's Aboriginal heritage.

Three more TBDs were built at Cockatoo Island to complete the RAN's destroyer flotilla; however, Cook's preference for using native river names was only partially followed, with the three additional destroyers being named *Huon*, *Torrens* and *Swan*.

The process of gaining approval for ships' names was adopted from the policy established by the Royal Navy (RN) whereby proposed names were forwarded through the Admiralty to the King for his assent. In 1926 this policy was deviated from when the Admiralty was presented with proposed names for two Australian 'O' class submarines. This was one of the first occasions that names had been submitted for submarines, which had hitherto been known by alpha numeric designations such as those given to the first Australian submarines *AE1* and *AE2*. It transpired that as submarines were not considered 'ships' it would not be necessary to gain royal assent. The 'boats' were subsequently named *Oxley* and *Otway* and on 22 June 1938 the Admiralty determined that only the names of fighting ships need be referred to His Majesty for approval.

On 7 February 1942 this policy was further revised when the Admiralty instructed that only names for ships classed as frigates or larger should receive royal assent. This policy change came at a time when hundreds of ships and small craft were being requisitioned into war service throughout the Commonwealth, with many of them retaining their original names. It was accepted that proposed names for Australian ships should continue to be referred to the Admiralty, although this was mainly to prevent duplication of names within Commonwealth navies. It was during this period that some of the RAN's more colourful names came into being, with vessels such as *Ping Wo*, *Whang Pu* and *Blowfly* often raising people's eyebrows when mentioned.³

By adopting British naming principles the RAN continued the practice of naming large ships, such as aircraft carriers and cruisers, after major cities and smaller ships, such as destroyers and frigates, after towns and rivers. The first RAN ships to bear the names of Australian capital cities were the three World War I Chatham class cruisers *Sydney*, *Melbourne* and *Brisbane*, while the name of our great continent was reserved for the Indefatigable class battle cruiser, and first flagship of the RAN, *Australia*. As warship design and capability has evolved, so have the conventions for the allocation of names, and today it is the destroyers and frigates that proudly bear the names of our capital cities.

Another important naming principle adopted from the RN was the practice of reusing names in later generations of ships in order to build tradition and foster a sense of esprit de corps among ship's companies. Today, for example, the RAN has in commission the fourth ships to bear the name *Sydney* and *Parramatta* and the third ships named *Stuart* and *Anzac*. All vessels that inherit a name previously carried by a former RAN warship carry forth the Battle Honours won by their Australian predecessors, which

are listed on an ornately carved wooden board normally displayed in the vicinity of a ship's gangway.

There have of course been exceptions to these general naming conventions. Throughout the Australian Navy's early history a number of ships were acquired from the RN that retained their original British names. Some of these names have been used in later classes of Australian warships to perpetuate the deeds performed by the officers and men who served in them. These include names such as *Vampire*, *Voyager*, *Vendetta*, *Stalwart* and *Success* to name but a few.

Guidance on current RAN naming principles can be found in Defence Instructions,⁴ which reflect a strong emphasis on promoting links between the navy and the Australian community, with a preference to maintain a uniquely Australian identity. Joseph Cook's early recognition of Australia's indigenous people has also been continued with several RAN warships bearing Aboriginal names, notably the Anzac class frigates *Arunta* (II) and *Warramunga* (II).

Many factors are taken into consideration when selecting names for a new class of ship and this begins when the Chief of Navy (CN) calls for naming recommendations from the Naval History Section (NHS), Sea Power Centre – Australia. The first consideration when compiling potential names is the type and number of vessels being introduced into service. In general terms, surface combatants and patrol boats may be named after Australian cities, towns or districts while submarines may carry names with a uniquely Australian connection. In the case of the Collins class submarines the names of famous Australian World War II naval personalities were used for the first time to acknowledge their outstanding service. Amphibious ships are usually named after Australian amphibious operations, battles or contiguous seas while mine warfare vessels may be named after rivers and bays. Smaller craft such as tugs adopt the names of Australian flora and fauna. All vessels may bear the name of a previous ship of a comparable class as is the case with *Kanimbla* (II) and *Manoora* (II).

Achieving a balanced distribution of names among Australia's states and territories and reviewing the various representations received by CN from civil communities and ex-service groups to have ships carry a particular name is an integral part of the naming process. All of these representations receive careful consideration, irrespective of whether they have a specific link with the Australian community or not, and are appraised on the actual suitability of the name proposed and the service record and history of ships that may have carried the name previously.

The NHS then prepares a comprehensive brief for CN on proposed names, their history and the level of public interest. This brief normally contains names well in excess of the number actually required in order to provide CN with a variety of naming options. CN will then exercise the privilege of his position to make a final decision or, alternately, he may call for a further submission from the NHS.

Once CN selects the names, his recommendations are forwarded through the Minister for Defence and the Prime Minister to His Excellency the Governor General for final approval.

The planned acquisition of three new air warfare destroyers (AWD) and two new amphibious ships, coupled with the acquisition of the Armidale class patrol boats has seen a variety of former names selected to return to use as well as one or two new ones. For example, the AWDs will be named *Hobart* (III), *Brisbane* (III) and *Sydney* (V) while the amphibious ships will be named *Canberra* (III) and *Adelaide* (III).

Unfortunately there will always be more names available than there are ships to carry them and the decision to select a particular name is seldom an easy one. Currently all vessels planned for the future RAN fleet have been named, but for those readers interested in the histories of some of our famous and not so famous ships please visit the RAN Ship Histories page on the Sea Power Centre - Australia website: www.navy.gov.au/spc/history/shiphistorymain.html.

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Notes

- ¹ Womens Royal Australian Naval Service. See also: Andrea Argirides, 'Women in the RAN: The road to command at sea' in Andrew Forbes and Michelle Lovi (eds), *Australian Maritime Affairs 2006: SPC-A Annual*, Sea Power Centre - Australia, Canberra, 2006.
- ² Parliament of Australia, *Hansard*, 6 December 1909.
- ³ HMAS *Ping Wo* and *Whang Pu* were both former Chinese river steamers requisitioned for wartime service. HMAS *Blowfly* was a survey launch.
- ⁴ Department of Defence, Defence Instruction (Navy) ADMIN 4-4: *Naming of Royal Australian Navy Ships, Establishments and Facilities*, Canberra, 18 February 2005.

Whales and Active Sonar – Challenges and Opportunities

Commander Steve Cole, RANR

The extent to which marine mammals are affected by human-created underwater sound, particularly active sonar, has been a topic of growing public concern in recent years. This *Semaphore* will explore the complex issues surrounding the effects of underwater sound on marine mammals and the importance the Royal Australian Navy (RAN) places on environmental management, to ensure long-term access to vital offshore training areas.

Australia is fundamentally a maritime nation, potentially vulnerable to any efforts to block key trade and supply routes from above or below the sea. Maintaining a credible RAN anti-submarine capability remains important in a region that has seen significant growth in submarine forces. In addition, the increasing focus on littoral operations, linked partly to the need for maritime amphibious capabilities, means ships will need to operate in areas where conventional sonar technology is challenged by poor seawater transmission characteristics and complex sea floor structure. Modern conventional submarines are quieter through better design, and are therefore more challenging to identify by passive means. With no viable alternative technology, the RAN will continue to rely on a combination of passive and active sonar for detection of submarines. This requires regular and realistic seagoing training of personnel and maintenance of equipment to meet this complex and multi-faceted challenge.

Australian waters are populated or visited by around 40 species of whales and dolphins, ranging in size from dolphins to the blue whale (up to 30 metres in length).¹ Unlike other parts of the world, Australian marine mammal population levels are almost uniformly stable, or recovering, and are not under threat from human activity. Depletion of some species through whaling and other human causes such as pollution and by-catch has strengthened community resolve to ensure their protection. In parallel, development of a whale watching industry with prospects for employment and wealth generation in regional areas has highlighted the economic value of marine mammal conservation.

All marine mammals have adapted to use sound as a primary tool for communication, identification and hunting prey. As a result, any human activity that produces underwater sound has the potential to impact on or disrupt these vital communication processes.² Underwater sound from RAN vessels can be emitted by explosives, ship and boat engines, underwater communication systems and active sonars.

The impact of sound disturbance on marine mammals can be manifested in a number of ways, including:

- masking of important biological sounds (sounds of prey or communication with other members of the pod)
- changing behaviour (dive patterns, movement, abandonment of activities such as hunting prey)
- stress (fright, flight)
- physical injury to hearing mechanisms
- tissue damage leading to injury or death.

The scale of impact is a function of the source sound output level (loudness), transmission reflection and absorption characteristics of the water column and sea floor, and distance from the source to the animal. Equally important is the auditory capability of the animal (can the species hear the transmission frequency?) and the animal's propensity to react to the sound (is it easily startled?). Scientists and regulators are particularly interested in managing 'biologically significant' sounds, specifically those that affect important activities such as feeding, breeding and migration.³

Recent articles have highlighted the challenges faced by navies worldwide in dealing with these issues.⁴ For the RAN, the conduct of vital training activities in realistic conditions at sea is essential to maintaining necessary operational skills. Offshore



*Humpback whale mother and calf*⁵

training areas are concentrated close to the major fleet bases on the east and west coasts, to ensure ready access and minimise transit times between harbour and sea. These areas are also frequented by increasing whale populations.

For example, the West Australian Exercise Area, west of Fremantle, is inhabited by various species, including blue whales, which feed in the Rottnest Trench in summer and autumn. Humpback whales migrate through the area twice each year between their winter breeding areas in the tropical north and summer feeding grounds in the waters of Antarctica. Beaked whales are also seen in deep offshore waters over summer. Increasing numbers of marine mammals can therefore be expected to be encountered in the area regardless of time of year, reinforcing the need for RAN exercise planners and individual ships, submarines and aircraft to remain alert to possible whale interactions.

Beaked whales are acknowledged as potentially threatened by underwater sound. A number of multiple strandings of beaked whales have occurred coincident with naval use of active sonar in the northern hemisphere, and once during a seismic survey of the Gulf of California. Of these events, strandings in the Canary Islands and a highly publicised stranding in the Bahamas have galvanised public and interest group attention to ensure that active sonar is used in a manner that avoids similar incidents in future.⁶

Beaked whales are amongst the most poorly understood of all whale species. They are relatively small, elusive, generally do not congregate in large numbers, and their principal habitats often lie well offshore. Beaked whales have been observed in most southern waters of Australia from New South Wales to south-west Western Australia. They are unique in that they hunt for squid in deep continental slope waters, and are the deepest diving of all air breathing species, recorded at depths exceeding 2000 metres, and able to breath-hold for periods in excess of a staggering 80 minutes.⁷ Scientific understanding of the physiology of beaked whales is poor, unsurprising when they are commonly exposed to pressures of over 200 atmospheres and significant oxygen deficits during a single dive.

The actual cause of these strandings remains unclear, but a number of theories have been suggested to explain a potential mechanism for injury. The most plausible of these imply a change in diving behaviour leading to symptoms of decompression sickness or induction of stress through a fright and flight response to the sound.⁸ The difficulties in understanding and managing these risks are compounded by recent evidence that beaked whales hear quite poorly at the frequencies used by naval anti-submarine sonars.⁹

A stranding of melon headed whales during the 2004 Rim of the Pacific (RIMPAC) exercise off Hawaii influenced the United States Navy (USN) to seek a permit to conduct sonar exercises during RIMPAC 06. This was granted by the United States (US)

National Marine and Fisheries Service, though a subsequent court challenge by a US interest group resulted in a restraining order against the USN, citing 'overwhelming evidence' that active sonar can injure marine mammals. Subsequent negotiation saw the exercise proceed, but with significant mitigation measures in place.

Despite lack of scientific consensus, circumstantial evidence surrounding some whale strandings is enough to suggest the need to manage the potential adverse impact of some types of active sonar. Indeed, the *Australian Environment Protection and Biodiversity Conservation Act 1999* (EPBC) prescribes such a precautionary approach in cases where complete data is not available. The EPBC Act also focuses on critical habitat for each species, most importantly feeding, breeding and resting areas. These obligations formed the basis for the RAN developing appropriate mitigation standards to avoid adverse impacts on marine mammals.

Managing the potential for impact is challenging in an environment where the animals are mostly unseen, elusive, and have poorly understood physiology and behaviour. Some of the principal mechanisms available include separation of activities from known whale congregations in space and time (a planning function), detection and avoidance methods using observers, and management of transmissions to reduce received sound intensities to accepted levels where interactions are considered likely.

In recent years the RAN has sought to develop environmental management strategies that would be recognised as amongst the best in the world, employing all of these mitigation techniques. Of particular note was the decision to adopt a consultative approach, ensuring that key government agencies, interest groups and the public had an opportunity to participate in the development of appropriate management strategies.

The Maritime Activities Environmental Management Plan (MAEMP) was progressively developed and finally implemented in 2005, to ensure that activities routinely conducted at sea are managed in a way that meets legislative obligations and community expectations, using a widely endorsed framework. The MAEMP has been designed with three levels of management:

- planning handbooks for some key training areas where a range of activities may be conducted simultaneously, to assist exercise planners in considering cumulative impacts and location specific issues
- planning guides provide guidance on specific activities during the activity planning phase. Where necessary, both the planning handbooks and guides recommend separation of an activity from a critical habitat
- procedure cards provide specific guidance on individual activities, recognising the importance of managing activities in real time.

The MAEMP is widely acknowledged as amongst the most comprehensive and effective in use today, and has enhanced the RAN's reputation for proactive and innovative management of marine environmental issues. The MAEMP has also been well accepted by RAN personnel, who are keen to ensure that their responsibilities for environmental compliance and sustainable management are met.

However, uncertainties about marine mammals remain and there is a risk that overly precautionary measures and prescriptive management could impact unnecessarily on the RAN's training role at sea. In an effort to better understand the more vulnerable species, further scientific research into behaviour, population distribution and abundance is fundamental to ensuring effective mitigation measures and management practices are in place in key exercise areas. Information on individual species including feeding, breeding and resting areas, dive profiles, as well as auditory responses and behavioural reactions to noise, and the longer term biological consequences of noise impact, are all crucial to understanding the potential impact of human activities on marine mammals. Some valuable research continues on a number of whale species, including blue whales off the west coast, but beaked whale research in Australia is minimal.

The key point is that the RAN would be a direct beneficiary of such research. This justifies allocation of dedicated research funding targeted at key species that are considered most at risk from the effects of underwater noise. Better knowledge would provide greater confidence that appropriate management strategies and mitigation measures are devised to avoid causing unnecessary harm. There is also need for continued education within the RAN about managing potential whale interactions during training activities at sea.

The consultative and innovative approach used by the RAN in managing potential marine mammal interactions puts the navy in a leading position, by demonstrating that meeting necessary environmental compliance standards is possible without undue impact on training. Further research will help to minimise any regulatory constraints placed on activities at sea, and ensure that maximum value is obtained by conducting necessary training under realistic conditions. By maintaining its edge as leader in this field, the RAN can continue to demonstrate that both the environment and the Service can be winners.

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Australian Sailors at Zeebrugge, 1918

Commander Greg Swinden, RAN
and Mr John Perryman

On the night of 22-23 April 1918, the Royal Navy (RN) carried out an audacious raid on the German held ports of Zeebrugge and Ostend in occupied Belgium. The purpose of the raids was to render the ports unusable as U-boat and destroyer bases. The plan was to steam three obsolete cruisers through the harbour and sink them as block ships in the Zeebrugge Canal. To do this, however, also required a landing force to take over the breakwater, known as the mole, that protected the harbour and on which the Germans had mounted numerous artillery pieces and machine guns. Among the hundreds of RN and Royal Marine personnel involved in this action were a small group of Royal Australian Navy (RAN) volunteers.

In February 1918 a call went out throughout the RN for volunteers to perform a hazardous service. At this time the battle cruiser HMAS *Australia* was serving with the RN in the North Sea and 11 men from her ship's company were selected from the dozens that volunteered. These men were: Artificer Engineer (Warrant Officer) W.H.V. Edgar, RAN; Leading Stoker W.J. Bourke; Leading Stoker R. Hopkins; Leading Stoker G.J. Lockard; Leading Stoker J. Strong; Stoker N.J. McCrory; Leading Seaman G.J. Bush; Leading Seaman D.J.O. Rudd; Able Seaman G.E. Staples; Able Seaman H.J. Gillard; and Able Seaman L.T. Newland.

Throughout February and March, a force of 82 officers and 1698 men was raised and given specialist training at either Chatham or the Royal Marine Barracks at Deal. Many of the sailors were formed into 200 man 'storming parties' and given instruction in trench warfare, assault tactics, bomb throwing, bayonet drill, and the use of mortars and Lewis machine guns. Others were given training in demolition work.

One hundred and sixty-five vessels including cruisers, destroyers, monitors, submarines and motor launches were involved in the raid and many of the attacking ships were specially modified in the preceding weeks.

Artificer Edgar was allocated to the ferry boat HMS *Iris II*, the five seamen to the cruiser HMS *Vindictive* and the five stokers to one of the three block-ships, HMS *Thetis*.

The Germans had heavily reinforced the Belgian coast with artillery, while in Zeebrugge, artillery emplacements ranging in size from 3.5-inch guns to 6-inch guns had been positioned within the port area. These were supported by 11-inch guns mounted further inland. All of these batteries were connected by an elaborate complex of watching, command and signalling stations.

The Zeebrugge mole was a seaward outpost of the German coastal defence system and consisted of three parts: a railway viaduct connecting the mole to the shore; the mole itself, constructed from a mass of masonry that curved to the north-east; and, a narrow extension projecting from the end of the mole with a lighthouse on its extremity. All of this had been converted by the Germans into a minor fortress supporting gun emplacements and housing garrison troops. At the south-western end of the mole was a seaplane base with another garrison and concrete sheds.



Map of Zeebrugge

Unsuitable weather conditions forced two attempts to launch the raid to be aborted but by 22 April conditions had improved. That afternoon the raiding force weighed anchor and began to assemble under thickening cloud cover. As they made their way to their target, drizzling rain began to fall but wind conditions remained favourable.

By 10.00 pm the force rendezvoused with patrolling destroyers and the superfluous men in the block-ships had been taken off by motor boats. The leading ships were now only 15 miles from the mole. At 11.10 pm the British monitors began bombarding the German coastal defences with fire being directed at Zeebrugge some 20 minutes later. At the same time coastal motor boats moved off at high speed and laid a preliminary smoke screen across the entire line of advance. Other smoke-laying craft followed and soon a murky line of smoke stretched for almost eight miles running parallel to the coast.

Two groups of coastal motor boats then attacked the western end of the mole to distract the enemy's attention while *Vindictive* approached. Miraculously the entire expedition had reached its destination unreported and unobserved. Just before midnight the *Vindictive* came through the last smoke screen, moving across the narrow strip of water that separated her from the mole. She continued her approach under a hail of fire which inflicted heavy casualties on her crew and killed most of the officers in charge of her landing parties. The tidal stream was also causing problems for *Vindictive* as she struggled to lay alongside the mole. Fortunately the ferry *Daffodil* saw her predicament and in what has been described as an extraordinary piece of seamanship was able to push, and hold, *Vindictive* alongside. The first of the storming parties, which included five of the Australian sailors, then made their way along the narrow swaying gangways to begin their assault. A few minutes later the *Iris II* was brought alongside the mole ahead of *Vindictive*.

It was soon realised that there could be no thought of rushing the mole head battery as had originally been intended. The *Vindictive* had gone past her assigned position leaving German machine-guns and barbed wire between the storming parties and the gun emplacements. Consequently the mission changed to one of holding ground as a diversionary measure, despite being the focus of nearly every German gun.

By now *Vindictive's* upper-works were being pounded by the battery on the mole and were soon reduced to a mass of twisted steel. Many of her guns had been knocked out and casualties were mounting as two German destroyers alongside the mole added their fire to the fight. Twenty minutes after the *Vindictive* had been put alongside, the situation ashore was precarious. The Royal Marines had formed a bridgehead opposite the ship's brows while the seamen had only partially secured *Vindictive* to the mole.

Meanwhile the British submarine *C3*, packed with several tonnes of high explosives, had penetrated the harbour. Her mission was to lay alongside the railway viaduct connecting the mole to the shore and set timed scuttling charges before abandoning the vessel. Her captain, Lieutenant R.D. Sandford, RN, left nothing to chance. He rammed the viaduct wedging his submarine tightly between its steel girders before he and his crew made good their escape in a small skiff under a hail of fire. The resultant explosion blew away 100 feet of the viaduct and cut communications to the mole as the three block-ships *Thetis*, *Intrepid* and *Iphigenia* were steaming into the harbour.

The block-ships passed through the battery fire and steamed on towards the channel and canal beyond it. *Thetis* had by this time sustained heavy damage and was taking on tonnes of water causing her to list heavily. She was brought to a halt 500 metres from her objective but had cleared the way through the nets and obstructions, allowing *Intrepid* and *Iphigenia* to pass through unimpeded as they made their way up the canal.

Intrepid entered the channel and once inside, her wheel was put hard over and the ship scuttled. Most of her crew got away in two cutters and a skiff. *Iphigenia* was not far

behind and she made for a gap on the eastern side of the channel where she too was successfully scuttled. Her crew escaped in boats which they rowed out of the harbour before being picked up by fast motor launches.

Back at the mole the *Vindictive* continued to draw fire. The recall was sounded and the shore parties withdrew to their battered ships, carrying their wounded with them. Twenty five minutes later *Vindictive* and *Iris* withdrew and made for open water. As they left the scene *Iris* came under direct fire from the German batteries and was riddled with shells, mortally wounding her commanding officer. On fire and with half of her bridge blown away she eventually steamed out of range.

The attack on Zeebrugge proved only a partial success. Although the harbour and canal were blocked for several weeks the Germans soon dredged a channel around the sunken blockships allowing the destroyers and submarines to pass by; albeit with extreme difficulty. During the attack 214 British personnel were killed and 383 wounded. The Australians were extremely lucky, with all emerging unscathed despite being in the thick of the action.

The exceptional bravery shown by those who took part in the raid was recognised through the award of 11 Victoria Crosses (VC), 31 Distinguished Service Orders (DSO), 40 Distinguished Service Crosses (DSC), 16 Conspicuous Gallantry Medals (CGM), 143 Distinguished Service Medals (DSM) and 283 Mentions in Despatches (MID). The Belgian Government also later made a number of awards for bravery.

Of the eleven Australians who took part in the raid on Zeebrugge seven were decorated for bravery. Artificer Engineer William Edgar was awarded the DSC, his citation reading:

In recognition of distinguished services during the operations against Zeebrugge and Ostend on the night of 22-23 April 1918. It was due to this officer that HMS *Iris* kept going during the action under very heavy fire and, though holed several times, succeeded in returning to base under her own steam. He did valuable work in the engine room and boiler room throughout the operation for a period of 17 hours without rest. He showed great bravery when the ship was under very heavy fire, by coming onto the upper deck and with the help of an engine room artificer, turned on the smoke apparatus.¹

Four of the VCs won at Zeebrugge were decided by ballot which allowed for a recipient to be elected by those present at the action when it was considered that the corporate bravery of a unit warranted the award. One of the Australian sailors, Leading Seaman Rudd, was nominated for the award of the VC in this manner. Although he did not ultimately receive the award he was decorated with a DSM along with his ship mates Leading Seaman Bush and Able Seaman Staples.

Others who distinguished themselves during the assault on the mole were mentioned in Despatches, including Able Seamen Newland, Gillard and Stoker McCrory. McCrory had previously served in the RAN Bridging Train at Gallipoli and with the Australian Imperial Force in France. He was also later awarded the Belgian Croix de Guerre for his service in *Thetis*.

While tales of naval operations and battles invariably feature warships, technology and equipment, the key factor of naval capability remains the sailor. The bravery displayed by the 11 Australians who participated in the raid on Zeebrugge is a remarkable demonstration of courage which has become a hallmark of the Australian sailor.

Further Reading: H. Newbolt, Naval Operations, Vol. V, History of the Great War, Longmans, London, 1931.

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Notes

¹ James J. Atkinson, *By Skill & Valour: Honours and Awards to the Royal Australian Navy for the First and Second World Wars*, Spink & Son, Sydney, 1986, p. 13.



Torres Strait shipping routes and particularly sensitive sea area

Compulsory Pilotage in the Torres Strait

Dr Sam Bateman

On 6 October 2006, Australia introduced compulsory pilotage for the Torres Strait and Great North East Channel.¹ This initiative was hotly debated by the International Maritime Organization (IMO) and has been formally protested by the United States (US) and Singapore. However, Australia adopts the position that compulsory pilotage was necessary to protect sensitive marine habitats in the Torres Strait, and is in accordance with international law.

Transit Passage

The principles governing transit passage through straits used for international navigation are set out in Section 2 of Part III of the *United Nations Convention on the Law of the Sea 1982* (LOSC). Introduction of this regime overcame the difficulty that many straits, which had previously been high seas, experienced when they became territorial seas when the maximum width of the territorial sea was extended to 12 nautical miles. Without this regime, only innocent passage would have been available through these straits and this is a more restrictive regime not available to aircraft or submerged submarines, and able to be suspended in certain circumstances by a coastal state.

Transit passage is defined in Article 38(2) as the exercise of the freedom of navigation and overflight by ships and aircraft through a strait used for international navigation 'between one part of the high seas or an exclusive economic zone and another part of the high seas or exclusive economic zone'. Passage must be 'continuous and expeditious', and Article 42(2) states that the laws and regulations of states bordering straits shall not 'in their application have the practical effect of denying, hampering or impairing the right of transit passage'.

Coastal states adjoining a strait used for international navigation have considerable service responsibilities towards vessels using the strait, such as the provision of navigational aids, hydrographic charts, search and rescue services, and marine pollution contingency arrangements, but LOSC makes no provision regarding cost-recovery. Compulsory pilotage schemes have been considered from time to time as a means of enhancing navigational safety, and by some, for recovering costs. However, the contrary argument is that refusal of access to a strait to a vessel because it would not accept a pilot would amount to hampering or impairing the right of transit passage.

Torres Strait

The waters of the Torres Strait are shallow and strewn with numerous islands, small islets, reefs and shoals. The northern half of the strait is only navigable by vessels with a very shallow draft, and deep draft vessels are restricted to using narrow channels between the various islands off Cape York, principally the Prince of Wales Channel immediately North of Hammond Island. Navigation in the strait is extremely hazardous. Apart from the complex topography of the area, tidal streams and currents are very strong, and visibility is frequently impaired by flash squalls and storms.

International shipping passing through the Torres Strait uses the Prince of Wales Channel. Most ships are bound for Australian ports and then use the Inner Route of the Great Barrier Reef. However, ships bound to and from South Pacific ports use the Great North-East Channel into the Coral Sea. It is these latter vessels to which the LOSC straits' transit passage regime principally applies. Ships using the Inner Route pass through Australia's internal waters and territorial sea, and their passage does not constitute transit passage within the meaning of Article 38(2).

The Torres Strait Treaty between Australia and Papua New Guinea (PNG) establishes sovereignty over islands in the strait and a system of agreed maritime boundaries. It is a complicated treaty creating territorial sea enclaves, non-coincident seabed and water column boundaries, and a large protected zone with extensive management arrangements. The principal purpose of the protected zone is to acknowledge and protect the way of life and livelihood of the traditional inhabitants, including fishing and free movement. Generally the strait is an area of high marine biodiversity with sensitive marine habitats and extensive fishing activity, both commercial and subsistence.

Particularly Sensitive Sea Areas

As a result of concerns over the risks of pollution damage to the environmentally sensitive Great Barrier Reef, Australia, applied to the IMO to have it identified as a particularly sensitive sea area (PSSA). This was approved in 1990 along with a recommendation that IMO member states should inform ships flying their flags to comply with the system of pilotage introduced by Australia.² That system became a compulsory one and this has been accepted without challenge from other countries.

The IMO had earlier adopted a resolution promoting voluntary pilotage in the Torres Strait.³ This was extended further with a 1991 resolution, superseding the earlier one, recommending that certain classes of vessel use a pilot when passing through the Torres Strait and Great North East Channel.⁴ While these recommended regimes were initially reasonably successful, non-compliance has increased significantly. Data from 1995 and 2001 shows that while 70 per cent of vessels on eastbound voyages were taking a pilot in 1995, this figure had fallen to 32 per cent by 2001.⁵ Similar figures for westbound voyages were 55 per cent and

38.5 per cent. As a consequence, Australia and PNG agreed that the risks of a major shipping incident in the strait were unacceptably high. Analysis by Det Norske Veritas in 2001 indicated that compulsory pilotage would reduce these risks by 35 per cent.⁶

As a result of these concerns, Australia and PNG jointly proposed an extension to the existing Great Barrier Reef PSSA to include the waters of the Torres Strait. This was approved in July 2005 through a resolution in which governments inform ships flying their flags to comply with the system of pilotage introduced by Australia.⁷ Australia subsequently issued the regulations establishing a compulsory pilotage regime for the Torres Strait and Great North East Channel. These regulations recognise the principle of sovereign immunity for warships and government vessels not employed on commercial service. They also include a system of pilotage exemption for masters of ships that use the Torres Strait on a regular basis. Other countries and international shipping organisations, including INTERTANKO and the International Chamber of Shipping, protested these regulations at the 55th Session of IMO's Marine Environment Protection Committee held in August 2006.⁸

Arguments For and Against

The main arguments used against compulsory pilotage in the Torres Strait are that the IMO did not specifically approve it; it has the practical effect of 'denying, hampering or impairing the right of transit passage' and is thus contrary to LOSC; and it establishes a precedent that if adopted by other countries adjacent to a strait used for international navigation, it would constitute a very significant impairment of the freedom of navigation. The issue of whether or not the Torres Strait is a strait used for international navigation is not in dispute. Australia agrees that it is such a strait.

Australia strongly refutes the arguments against compulsory pilotage. Firstly, it notes that the IMO endorsed the regime when it recommended that governments should 'inform ships flying their flag that they should act in accordance with Australia's system of pilotage for merchant ships 70 metres in length and over or oil tankers, chemical tankers, and gas carriers, irrespective of size'.⁹ This language is identical to that used by the IMO when it recommended that ships act in accordance with Australia's system of pilotage for the Inner Route of the Great Barrier Reef. Australia also notes that it is not in the nature of the IMO to formally approve traffic management schemes but rather to recommend their acceptance.

Secondly, Australia does not accept that compulsory pilotage amounts to 'denying, hampering or impairing' passage through the Torres Strait. The regime is aimed solely at enhancing safe navigation and protection of the marine environment. It is a commercial system with pilotage revenues going to a private company rather than a government agency. It is a commercial cost and not a fee for transit. While Australia

has made certain guarantees relating to the availability of a pilot, in the event that one was not available and the transiting vessel had taken all the appropriate actions to request a pilot and report its transit, this would be accepted as a defence to any subsequent charge.

Lastly, Australia does not accept that its arrangements in the Torres Strait are a precedent for other straits used for international navigation. The Torres Strait is arguably one of the most hazardous and navigationally difficult stretches of water in the world routinely used by international shipping. The level of shipping traffic through the North East Channel is not high (about two ships per day), and it is administratively and operationally feasible to provide a pilot without delaying passage. Most importantly, the Torres Strait has been approved by the IMO as a PSSA for which special mandatory measures to preserve and protect the marine environment are required.¹⁰ Australia's scheme is not a direct application of compulsory pilotage to a strait. It is a necessary and proportionate measure to protect an approved PSSA. Any other country or countries seeking to use the Torres Strait precedent would first have to go through the step of having the strait approved as a PSSA by the IMO.

Australia has put in place measures to ensure that ships approaching the Torres Strait are notified well in advance of their approach of the need to take on a pilot when transiting the Torres Strait. Ships planning to enter Australia's exclusive economic zone are required to report their intentions and are tracked using the Australian Maritime Information System (AMIS) managed by the Border Protection Command. Their movements are then monitored within the Torres Strait and Great Barrier Reef by REEFCENTRE, which operates the vessel traffic and information system for these shipping routes.

As a vessel approaches the Torres Strait, it is interrogated by Automatic Identification System (AIS) shore stations and tracked by shore-based radar. Within the vicinity of the Prince of Wales Channel, it will also be identified by remotely operated video cameras. Should a vessel not take a pilot and fail to identify itself, it will be positively identified by surveillance aircraft and subject to legal proceedings when it next enters an Australian port. No attempt will be made to physically enforce the compulsory pilotage regime by denying passage.

Conclusion

Advice from the Australian Maritime Safety Authority (AMSA) is that since the introduction of compulsory pilotage, there has been 100 per cent compliance with the regime. One ship transited the North-East Channel without a pilot in the very first days of the new requirement for compulsory pilotage. As that vessel followed all the appropriate procedures for requesting a pilot but one was not available, and the vessel continued on passage without a pilot, AMSA does not regard this incident as a breach

of the regulations and will not take action against the ship if she were to enter any Australian port in the future. Despite the international protests, compulsory pilotage is achieving its objective of improved protection for the sensitive and pristine marine habitats of the Torres Strait and adjacent areas.

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Notes

- ¹ Australian Marine Notice 8/2006 & associated Marine Orders Part 54.
- ² International Maritime Organization, Resolution MEPC.45(30) adopted on 16 November 1990.
- ³ International Maritime Organization, Resolution A.619(15) adopted on 16 November 1987.
- ⁴ International Maritime Organization, Resolution A.710(17) adopted November 1991.
- ⁵ International Maritime Organization, Document LEG 89/15 dated 24 August 2004; Torres Strait PSSA Associated Protective Measures – Compulsory Pilotage submitted by Australia and Papua New Guinea, paragraph 6.
- ⁶ International Maritime Organization, Document NAV 50/3 dated 22 March 2004; Torres Strait PSSA Associated Protective Measures – Compulsory Pilotage submitted by Australia and Papua New Guinea, paragraph 5.8.
- ⁷ International Maritime Organization, Resolution MEPC.133(53) adopted on 22 July 2005. International Maritime Organization, Document MEPC 53/24/Add.2
- ⁸ International Maritime Organization, Document 55/23; Report of the Marine Environment Protection Committee on its Fifty-fifth Session, dated 16 October 2006, especially pp. 52-54.
- ⁹ International Maritime Organization, Resolution MEPC.133(53) adopted on 22 July 2005. International Maritime Organization, Document MEPC 53/24/Add.2
- ¹⁰ *United Nations Convention on the Law of the Sea*, New York, Article 211 (6)(a).



Axis convoy routes from Italy to Tunisia

HMAS *Quiberon*, 1942 – Sea Control and Logistics

Dr David Stevens

Communications dominate war; broadly considered, they are the most important single element in strategy, political or military.¹

Captain A.T. Mahan, USN, 1900

At its heart the naval war in the Mediterranean (1940-43) was a struggle for communications. To paraphrase Winston Churchill, transport is the stem from which victory blooms, since without supplies no army is good for anything.² Commanders engaged on both sides of the North African campaign were ultimately dependent upon sea transport for the troops, airmen, equipment, food, ammunition and fuel they needed to fight. As such, the battle for sea control, and in its wake the destruction or safe arrival of men and stores, correlated closely with the operational outcomes ashore. The results remain instructive if not readily predictable, for the Axis leadership never placed sufficient emphasis upon sea power.

The Royal Australian Navy (RAN) had been active in the Mediterranean since the war's beginning and its individual and combined actions against the ill-prepared Italian Navy did much to ensure the enemy never achieved either moral or materiel ascendancy. Even after the opening of the Pacific War in December 1941, the strategic importance of the Mediterranean meant that Australian ships regularly operated there until after the Italian armistice. In late 1942 the flag was borne by the destroyer HMAS *Quiberon*, under Commander H.W.S. Browning, RN. Only commissioned in July, she was about to undertake the most intensive and diverse operations of her life.

Joining the Royal Navy's formidable Force 'H' in October 1942, *Quiberon* became part of the main covering force for Operation TORCH, the Allied landings in French North Africa. Aimed at securing the western and central Mediterranean and opening up Italy for subsequent invasion, the TORCH landings were the first large-scale amphibious assaults since Gallipoli, and significant both for their success and for the great distances involved. *Quiberon* sailed with Force 'H' from Scapa Flow in the Orkneys, while for those forces coming direct from the United States (US) it was the farthest an American expeditionary force had yet been projected. Hence, integral to the assault plans were overwhelming escort and covering forces. Almost 50 Axis submarines operated in the Mediterranean or eastern Atlantic approaches, but their attacks caused minimal damage to the 1000 vessels in transit and did nothing to hamper the Anglo-American invasion. The initial landings at Oran and Algiers on 8 November 1942 were followed by smaller landings at Bougie, Djidjelli and Bone. Once Vichy resistance had crumbled, Allied mobile forces stood poised, waiting to cross the border into Tunisia.



HMAS Quiberon in July 1942

Despite advanced warnings, the enemy's response to TORCH was lethargic and often half-hearted. Caught off-guard, the Axis supreme command elected to establish a 400-mile defensive line and to prevent Allied troops from pushing farther eastward rather than attempt to push them back. Supplies and reinforcements were rushed to Tunisia by sea, but were too little, too late. Lack of balance in the Axis force structure further hampered reaction. Starved of fuel and air support the heavy units of the Italian Fleet could do little against Allied air and naval superiority. This not only placed responsibility for convoy protection solely on minor units, but also meant an unwarranted reliance on German and Italian aircraft and submarines to reduce Allied opposition to an acceptable level.

The first Italian convoy to Bizerte arrived on 12 November 1942 and with Allied forces still consolidating, convoys faced little interference until the end of the month. By then 13,300 military personnel and 30,309 tonnes of supplies had been safely delivered, yet this remained far short of the actual monthly requirement for 150,000 tonnes and 60,000 men.³ Moreover, Allied convoys also continued to run. Most notably the 'Stoneage' convoy, which reached Malta safely on 20 November, having endured continuous air attacks and heavy weather. Its arrival marked the final and effective relief of that besieged outpost. Adequately supplied with aviation fuel and submarine torpedoes, Malta again became an effective raiding base. Together, the possession of Malta and Bone would enable the Allies to dominate the Sicilian Channel and effectively seal off the ground war in North Africa.

On 25 November, *Quiberon* transferred to Force 'Q', a new striking force of three cruisers and three destroyers operating out of Bone and tasked with preying on Axis sea communications. Close to enemy airfields in Tunisia Bone was frequently bombed, but the heavy barrage put up by Force 'Q' prevented much damage. Nevertheless, a near miss on the night of 27 November put one destroyer temporarily out of action. Air attacks continued into the next day, but the two remaining destroyers, *Quiberon* and HMS *Quentin*, hit back when they sank the Italian submarine *Dessie*, which had been detected patrolling outside the anchorage. In all, Italian submarines sank only a dozen or so Allied ships off the Algerian coast, at the cost of eight of their own boats.

At 1730 on 1 December, Force 'Q' sailed from Bone on its first sortie against the Tunisian convoys. Allied intelligence and air reconnaissance was excellent, allowing the force to steam at 27 knots through a supposed enemy minefield to make the intercept. But Axis intelligence was also good, and on hearing that Force 'Q' was in the area Italian authorities recalled two of the four convoys then at sea and redirected another. Only Convoy 'H' continued on towards Tunis. Escorted by three Italian destroyers and two torpedo boats, it consisted of two cargo and two troopships totalling approximately 15,000 tonnes. Force 'Q' made radar contact with Convoy 'H' just before 0100 on 2 December and went straight into action.

At a range of just 1500 yards the German military transport *K1* became the first target for the three British cruisers. The remaining merchant ships immediately began to scatter, while the Italian escorts put up a dense smoke screen. Following in the cruisers' wake, *Quiberon* sighted an Italian destroyer to port, breaking through the smoke and turning to fire her torpedoes. Increasing speed, Commander Browning hauled *Quiberon* out of line and likewise turned to engage, opening fire at 5000 yards. The Australian's 4.7-inch gunfire was accurately directed, and her second salvo hit forward of the enemy's after superstructure. Badly damaged, the Italian ship turned back into the smoke. Moments later the two enemy torpedo-boats appeared out of the smoke screen to make their own attack. *Quiberon* avoided the torpedoes by going hard over, but they passed uncomfortably close. Rejoining the cruisers to avoid fouling their range, *Quiberon* added her fire to that directed at the blazing *K1*. Still steaming at 25 knots Browning observed that he was passing through some 1500 enemy troops already struggling in the water.

Over the next 30 minutes *Quiberon* found and sank another burning troopship in conjunction with *Quentin* and scored hits on a second destroyer already dead in the water. Browning watched as yet another destroyer was set afire from end to end after a single salvo from the cruiser HMS *Sirius*. Heavier firepower and radar direction proved a decisive advantage. Despite the spirited Italian defence and the short engagement ranges, Force 'Q' suffered no damage during the 50 minute action.

Accounts vary on the total 'bag' for the night, but the Italians admit to the destruction of the entire convoy, together with the destroyer *Folgore*. Another destroyer, *De Recco*, was so badly damaged that it had to be towed back to Sicily. The next day a second Italian convoy was decimated by a combination of torpedo aircraft and destroyers operating out of Malta. These initial encounters were a serious blow, and unwilling to risk further troopships, practically all Axis troops were thereafter ferried to Tunisia either by air or in destroyers. Yet even the latter could only carry some 300 passengers at a time, and with 11,400 men lost on passage the Italians rapidly christened the Sicilian Channel the 'Route of Death'.

Even more debilitating to Axis plans was the ongoing destruction of stores and equipment. Between November 1942 and the end of the campaign in May 1943, a third of all enemy supplies crossing the short passage to Tunisia succumbed to Allied action,

nearly 65 per cent achieved by the ships, submarines and aircraft of the Royal Navy. Notwithstanding their paper numerical superiority (14 vs. 9 divisions), large numbers of Axis troops were immobilised due to a lack of vehicles and fuel, while those transported by air often reached Tunisia only to find that their heavy equipment had been sunk below them. The direct effects of the Allied interdiction campaign were compounded by the indirect or 'soft' effects. Thus, uncertainties created by shortages and delays in the logistics system led to inefficient loading in attempts to prevent complete losses in essentials.⁴

The contrast with the Allied logistics system could hardly have been starker. More heavily escorted than the trans-Atlantic trade convoys, those destined for North Africa and the Mediterranean consistently delivered men and materiel with minimal losses. From the US, only one ship belonging to the fast 14.5 knot convoys was ever damaged, while from the slow 9.5 knot convoys just fourteen ships were sunk and two damaged out of 11,119 convoyed.⁵ In all more than 225,000 troops were delivered to the Mediterranean virtually without loss; just a small proportion of the war's more than 10 million administrative movements of Allied personnel by sea. In effect, sea power allowed the Allies to bring to bear the full potential of their war resources, when and where required, in a way the Axis could not. While Allied ground forces still had to endure stubborn and bloody fighting to achieve victory in North Africa, they did so in the context of a campaign that had already been shaped to their advantage. At the final surrender, more Axis prisoners were taken than at Stalingrad.

Too late, the North African campaign taught the Axis leadership the value of sea power, but there remain enduring lessons for future military planners. It is never enough to simply possess the sea and air lift capacity to project troops and equipment at a distance. To survive and remain effective any expeditionary force needs to seize and retain control of the multidimensional battlespace through which it must transit and through which its logistic sustainment must follow. The battle for sea control may be complex, difficult and costly, but far more dangerous is to ignore the need to achieve it.

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Notes

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Australia's Need for Sea Control

Captain Richard Menhinick, CSC, RAN
and Captain Peter Leavy, RAN

Australia is a maritime nation in the most maritime part of the world; our ability to use the sea is critical to the protection of Australia's national interests. Australia was founded not just as a penal colony but as a British naval base in the Pacific Ocean. Our dependence on the oceans, from both an economic and security perspective, has continued ever since. In economic terms, 99 per cent of Australia's international trade by volume and 75.4 per cent by value (at \$215.3 billion) was transported by sea in 2004-05.¹ These figures have increased by 5 per cent (by volume) and 8 per cent (by value) annually since 1983, with projections that the volume of Australia's seaborne trade could reach one billion tonnes by 2013.² Australia is the fifth largest user of shipping in the world.

As an island nation, any physical threat to Australia must come on, over or under the ocean and we must use the sea to deploy and support our armed forces, even for many deployments on our own soil - geography makes this so. Australia's neighbours are all maritime nations, many of them archipelagos. The Asia-Pacific region is one of the most dynamic areas on the globe, host to many of the world's most strategically important shipping routes and choke points, such as Malacca, Singapore, Lombok, and Sunda straits. For example over 60,000 ships transit the Malacca Strait each year, carrying one quarter to one third of world trade, and half of the world's oil (11 million barrels daily).³ The maritime domain is critical not just for Australia's economic wellbeing and security, but also for our neighbours. In short, the continuing ability to use the sea is critical for Australia and our region.

It is widely acknowledged that 'navies fight at sea only for the strategic effect they can secure ashore, where people live'.⁴ Concepts which have evolved from the maritime strategic school of thought include 'command of the sea', 'sea control' and 'sea denial'. Command of the sea is an absolute concept, which espouses free and unchallenged maritime operations by a nation, while at the same time ensuring that an adversary is incapable of using the sea to any degree. However, although the concept might be valid in a theoretical sense, practical experience demonstrates that achieving (absolute) command of the sea has become increasingly difficult, if not unattainable. The development of the submarine and aircraft, for example, made it clear that the value of maritime operations is in relation to the use of the sea and not for the possession of the sea itself. One does not 'own' the sea as territory in the same way that land is owned in the continental context.

Sea Control

Acknowledging the vital lessons of history and the overarching importance of strategy, the contemporary term 'sea control' was coined to encompass the modern realities of operations at sea, and can be defined as 'that condition which exists when one has freedom of action to use an area of sea for one's own purposes and, if required, deny its use to an adversary'.⁵ It is a relative, rather than absolute, concept and one that may be supported by key battles, such as Matapan (1941) and Coral Sea (1942), or through prolonged campaigns, such as the convoy battles in the Atlantic (1939-45) and off the east coast of Australia (1942-43). The Japanese successfully gained sea control in the opening phase of their involvement in World War II (WWII) with the surprise attack on the US fleet at their base in Pearl Harbor and the sinking of HM Ships *Repulse* and *Prince of Wales* in South East Asian waters. This control enabled the Japanese to maintain the initiative and facilitated their rapid expansion through Asia, culminating in the fall of Singapore in February 1942. The enduring feature in all these operations, however, was that sea control was transient, aiming to establish sufficient control, in a particular area, for a period of time, to enable the use the sea for each side's purpose. This use of the sea reflects the fact that the ability to facilitate maritime power projection is, in many ways, the most fundamental thing that sea control enables.

Sea control is multidimensional in nature, as it encompasses control of the air; control of the surface of the sea, control of the undersea water column, control of the littoral (if operating in that environment), and control of the electromagnetic spectrum. Each of these multidimensional aspects is important in each warfare discipline. For example, in maritime air warfare involving a credible air threat during operations in close proximity to an adversary with a viable strike capability, the absence of air power and air warfare will inevitably prevent a force achieving sea control. Sea control is an essential precursor for the projection of maritime power, especially for the conduct of amphibious and sea transport operations and for the support of forces operating ashore. However, in the face of opposition it may well be necessary to continue fighting to keep sea control while simultaneously projecting maritime power in support of other operations.

Related to sea control is the concept of sea denial. Sea denial may be used either independently or as a subset of sea control. When used on its own it can be defined as 'the capacity to deny an adversary the ability to use the sea for their own purposes for a period of time without necessarily being able to exploit the sea for one's own use'.⁶ The U-boat campaigns of both World Wars are examples of a sea denial strategy, as were the minefields laid by Iraq off the Kuwaiti coast during the 1990-91 Gulf War. Despite some initial success, most denial strategies ultimately fail, largely due to the one-dimensional nature of the strategy.

Once effective countermeasures to the U-boat had been introduced, for example, the Germans had no other effective method with which to continue their sea denial strategy. By contrast, the successful campaign waged by the USN against Japanese shipping

during WWII was multi-dimensional, involving both submarine and air assets, acting as subsets of their overarching strategy of sea control.

The Attributes of Maritime Forces

The Royal Australian Navy's (RAN) maritime doctrine lists the key attributes of maritime forces: mobility in mass, readiness, access, flexibility, adaptability, poise and persistence, reach and resilience. While obviously slower than aircraft, ships can carry hundreds or even thousands of times the payload and are uniquely mobile 'in mass'. People move by air, but equipment and goods still move by sea (in both the commercial and military sense). This fundamental truism is why it is critical to be able to gain and maintain sea control and to keep sea lines of communication open, in both peace and conflict.

Warships are self contained units and able to sail at very short notice. They carry their logistics with them and have the reach to be able to conduct sustained operations well away from shore support. Operating in task groups with dedicated supply ships, naval forces can operate almost indefinitely. Warships do not need any other nation's approval to deploy and can transit through, and access, almost all the world's ocean areas without any external approval or notification. They do not require a 'footprint' on other nations' territories or their airspace and hence do not challenge sovereignty.

Being self contained, they can poise in an area and posture to support diplomatic or other initiatives, ready to react if combat force is required. They can send a powerful message by their presence and posture or withdraw at government direction without loss of face. Without the need for forward bases, they can often be operational in theatre before any other forces, despite their apparent longer transit times. Geographical constraints, coupled with restrictions on airspace and land bases, may mean warships are the only option available to the government to achieve their objectives in many circumstances.

The Role of the Surface Combatant

Sea power is rightly recognised for its flexibility, in particular the ability of surface combatants to swiftly change their readiness between different levels of operations and apply graduated force commensurate with the situation and across the spectrum of conflict. In a diplomatic role, surface combatants make a psychological impression through their perceptible presence and powerful appearance. They have similar visibility in a policing role and possess inherent capabilities for interdiction and boarding. In higher intensity operations surface combatants combine readiness and global reach with sustainability and controllability, which can be non-invasive and easily withdrawn if required. Deployed in the protection of sea lines of communication they have multidimensional capabilities and are essentially tools of sea control rather than sea denial. In support of land operations, surface combatants are likewise capable in a wide range of tasks including escort, bombardment, supply and, on occasion, lift - including, where necessary, evacuation. In amphibious operations, especially in conjunction with maritime air power, surface

combatants can facilitate approach with manoeuvre and surprise. All these functions relate directly to Australia's national and regional circumstances and make surface combatants essential to the central concept of sea control.

The modern surface combatant, therefore, retains a vital, indeed fundamental, role to play in a balanced maritime force structure. Their mobility and endurance allows the flexibility to maintain a continuous presence in moving scenes of action. Their sensors and weapons work throughout the maritime battlespace and span operations against aircraft, ships and submarines, and against forces and assets ashore. Moreover, mobile naval platforms have the ability to poise and persist in theatre, often for months at a time. The surface combatant thus remains a potent and flexible capability to execute sea control, particularly when they lever off other assets and advanced intelligence, surveillance fusion and dissemination systems. Indeed, the flexible response options and sustained presence of surface combatants in periods short of open hostilities may help to control or prevent escalation, particularly in complex or ambiguous circumstances where submarines and aircraft are not free to make full use of their primarily offensive potential.

Australian surface combatants must be capable of operating throughout the maritime approaches and beyond. Project Sea 4000, the air warfare destroyer (AWD), will ensure that Australia will acquire and maintain a sea control capability into the future. Able to act across all environments simultaneously, the ships will provide a variety of capabilities appropriate to securing sea lines of communication, the projection of power ashore, the provision of fire support, and the protection of friendly sea, land and air forces in the open ocean and the littoral. The mission requirement is to provide a sea control capability for the Australian Defence Force (ADF) and as such the AWD will form the backbone of ADF maritime operations for decades to come.

*This is an updated version of Semaphore Issue 1, 2003
and was published as Semaphore Issue 9, 2007*

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- ⁵ Royal Australian Navy, *Australian Maritime Doctrine*, Defence Publishing Service, Canberra, 2000, p. 39.
- ⁶ Royal Australian Navy, *Australian Maritime Doctrine*, p. 39.

HMAS *Quiberon*, 1942 – Teamwork in Action

Dr David Stevens

The focus at sea is on the effort of the entire crew to place the combat instrument which is the ship into the control of the directing mind which is the commander.¹

Semaphore Issue 8 of May 2007 (see pages 189-193) described HMAS *Quiberon*'s night action against an escorted Italian military convoy on 1-2 December 1942. Acting in concert with the remainder of Force 'Q', the Australian destroyer had initiated the Allied interdiction campaign, which would eventually paralyse Axis shipping in the Sicilian Channel and isolate the enemy's ground forces in Tunisia. Force 'Q' was commanded by Rear Admiral C.H.J. Harcourt, RN, and at the end of the highly successful engagement he ordered his three cruisers and two destroyers back to their base at Bone in Algeria.

Quiberon's captain, Commander Hugh Browning, RN, had ample cause to be pleased with the latest efforts of his ship's company. Following her commissioning on 6 July 1942, *Quiberon* had steamed more than 17,000 miles and spent many long weeks on convoy escort duty. But until her attachment to Force 'Q' on 25 November, *Quiberon* had seen little actual action. Thereafter, however, the intensity of activity increased rapidly and the exceptional quality of the ship's individual and collective training became manifest. Since arriving at Bone on 27 November, *Quiberon* had destroyed an enemy submarine, fought a victorious night surface action, and been subject to heavy bombing raids on four out of five days. With recent combat experience enhancing confidence in their own fighting abilities and those of their consorts, there can be no doubt that *Quiberon*'s ship's company had attained the highest degree of battle readiness.

Such expertise was essential, for the enemy was certainly not cowed. In late 1942 the Italians and Germans still retained powerful air forces in the Mediterranean theatre and Allied merchantmen and warships at sea faced the constant threat of sudden air attack. Such attacks usually came in waves, and for those on the receiving end were likened to the attentions of '... fiends from hell let loose'.² Force 'Q's successful sortie had not gone unnoticed and the enemy's air response began before dawn on 2 December. At 0636 one of twelve German He 111 twin-engined bombers despatched from Sardinia attacked from the port side of the line of fast-steaming ships and torpedoed the destroyer HMS *Quentin*.

Quentin was left dead in the water but remained afloat, and *Quiberon* circled her once to ascertain her status. More enemy aircraft were approaching and, informed that *Quentin* could not steam, Browning endeavoured to carry out Admiral Harcourt's

verbal instructions to 'cut our losses'.³ He therefore proceeded alongside and ordered her to abandon ship. *Quiberon* remained stopped for 8-10 minutes as 182 of *Quentin's* officers and ratings scrambled between the two decks. The approaching aircraft were Sardinian-based Ju 88 dive-bombers and their cannon and bomb attacks continued during this remarkable feat of seamanship. No serious damage was done, but realising that he could risk no further delay Browning ordered full astern just as another pair of Ju 88s began their attacks. The bombs fell where *Quiberon's* forecastle had been and exploded harmlessly under her bow. Although only 12 of *Quentin's* ship's company were lost, Browning's great regret was that he did not have time to bring off the few men who had foolishly attempted to retrieve their belongings. Once clear of *Quentin*, Browning rang down for full ahead and *Quiberon* worked swiftly up to 33 knots.



HMAS Quiberon at speed. She had a wartime complement of 220 officers and ratings.

Browning had hoped to remain to make sure of sinking *Quentin*, but by this time the enemy pilots had realised that his main 4.7-inch guns were incapable of high-angle fire. Having only to face *Quiberon's* four-barrelled 2-pounder pom-pom and six single 20-mm Oerlikons, the airmen became progressively bolder. Moreover, with more than 400 men now onboard, Browning appreciated that he had little choice but to return immediately to Bone. In any case, it seemed likely that the enemy would seek to finish off the helpless *Quentin*. This they proceeded to do, effectively halving the attention devoted to *Quiberon*.

The Australian destroyer nevertheless faced another seven determined air assaults as she steamed south-west at maximum speed. The hostile aircraft continued to approach in twos or threes with Ju 88s from Luftwaffe squadrons based in Sicily carrying out the later attacks. Normally one aircraft would endeavour to draw *Quiberon's* fire when on the limit of the destroyer's effective range and then another would dive down hoping

to catch the guns with empty ammunition pans. Familiar with these tactics, the gun's crews were not caught out. Time and again their accurate fire convinced the attackers to turn away at the last minute and either jettison their weapons or go around again for another attempt. At least two aircraft were hit, but none observed to crash. Browning was a man of steady nerves and managed to evade those bombs that were aimed at *Quiberon* by waiting until the moment of release and then executing a quick turn. Only a few sticks fell close and none caused damage.

Quiberon's high speed dash ended at 0915 when she arrived at Bone, weary but virtually unscathed. Securing alongside the cruiser HMS *Sirius*, she transferred the *Quentin* survivors. Later that day Force 'Q' sailed for Algiers, where they arrived on 3 December. While his ship replenished and those men who could be spared rested, Browning began drafting his post-action narrative. He was acutely aware that his ship had survived only because his entire ship's company had worked together as a team. So impressed was he at their cool performance in the heat of action that he recommended 14 men for decorations. This was a relatively high proportion of his complement, but as Vice Admiral Creswell had once remarked: 'the greatest lack in any "head" is failure to obtain just recognition of the services of those under him'.⁴



A 2-pdr Mk VIII pom-pom in action. These weapons were hand elevated and trained, and the controlled rate of fire was 96-98 rounds per minute.

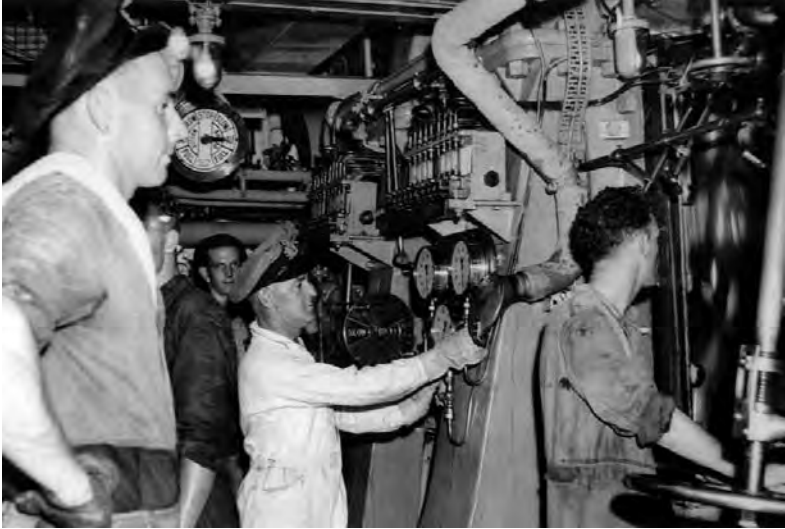
In submitting his recommendations for awards, Browning remarked that they were not in order of merit. The list began by naming three key officers.⁵ First was the Gunnery Officer, Lieutenant Lindsay MacLiver, RAN, whose 'zeal and enthusiasm', Browning wrote, was entirely responsible for *Quiberon's* ability to give such a good account of herself during the night and day actions. Next was the Gunnery Control

Officer, Lieutenant Anthony Synnot, RAN,⁶ responsible for the accurate and rapid fire that had severely damaged a destroyer, sunk a merchant ship and kept enemy aircraft at a reasonable distance. Last mentioned was Lieutenant Commander (E) Frederick Hodgson, RAN, whose 'magnificent work' included providing 33 knots at three minutes notice in a ship overdue for boiler cleaning and docking.

Browning then moved on to *Quiberon's* seamen. The Gunner's Mate, Petty Officer Noel Porter, who was responsible for the training and efficiency of the gun's crews, received high praise for his own 'efficiency and zeal', with the proof of this evident during the actions. The captains of 'Y' and 'B' guns, Petty Officers Leonard Ryder and Douglas Thorpe, were both commended for never missing a salvo either in the day or night actions. Likewise the captain of the pom-pom, and the gunners of the three starboard Oerlikons all received special mention. They were each credited with beating off the attacks of waves of aircraft and therefore being in some measure responsible for *Quiberon's* safe arrival. Recalling the extensive use of his Type 285 radar set during the night action, Browning also added to his list the Radio Direction Finding (RDF) operator, Able Seaman Neville Overson, whose continuous and accurate ranges meant that he was largely responsible for the quick hitting of the destroyer engaged by *Quiberon*.

Finally, Browning singled-out three members of *Quiberon's* engineering branch. Chief Engine Room Artificer William Johnson was the senior engine room rating, and it was due to his 'energy and example' that the speeds called for had been achieved under trying conditions during the bombing attacks. Then came Stoker Petty Officer Charles Erickson, in charge of steaming No. 1 Boiler Room, who had kept the boiler steaming steadily, despite the rapid movements from 'full ahead' to 'full astern'. These orders had caused severe fluctuations in water level, and had Erickson not appreciated the danger to both boiler and ship, and acted promptly on his own initiative, it is likely that *Quiberon* would have been hit while steaming at slow speed. Also praised in this context was 23-year-old Stoker Cecil Dumbrell who was firing No. 1 Boiler. *Quiberon* was his first ship, but it was largely due to the speed and coolness with which he manipulated sprayers that the boiler was steamed so smoothly.

Browning's attribution of responsibility for his ship's success across all ranks and branches remains instructive. People generate the navy's capabilities, and it is only through crew cohesion, mutual trust and support that a fighting ship can sustain battle readiness. *Quiberon's* ship's company epitomised all the qualities needed to create a team spirit which, sustained by professional mastery and leadership, will never accept defeat. In the final account Force 'Q' received 68 awards for the combined action, of which nine went to the men of *Quiberon*.⁷ Historically the best trained and led sailors have invariably won the war at sea. The maritime war of the future is unlikely to be significantly different.



RAN engineers on watch. Temperatures in the engine spaces of a steam-driven warship could typically reach more than 50°C.

Notes

- ¹ Royal Australian Navy, *Australian Maritime Doctrine*, Defence Publishing Service, Canberra, 2000, p. 77.
- ² B. Whiting, *Ship of Courage: The Epic Story of HMAS Perth and Her Crew*, Allen & Unwin, St Leonards, 1994, p. 16.
- ³ 'Narrative of attack on convoy on the night of Tuesday-Wednesday 1st & 2nd Dec.', 3 December 1942, HMAS *Quiberon* file, Sea Power Centre - Australia, Canberra.
- ⁴ Letter from Creswell to Thring, Thring Papers, Sea Power Centre - Australian, Canberra, 22 February 1920.
- ⁵ All details from 'Narrative of attack on convoy on night of Tuesday-Wednesday 1st & 2nd Dec.'.
- ⁶ Later Admiral Sir Anthony Synnot, Chief of Defence Force Staff.
- ⁷ Distinguished Service Cross (DSC) - MacLiver; Distinguished Service Medal (DSM) - Porter, Erickson; Mention in Despatches (MiD) - Browning, Hodgson, Johnson, Ryder, Thorpe, Dumbrell. Supplement to *London Gazette*, 6 April 1943.



Spanish F100 Class Air Warfare Destroyer Alvaro De Bazan visits Sydney

Air Warfare Destroyers

Captain Peter Leavy, RAN

Australia's security is defined by the sea. All of our borders are maritime borders, and the protection of those borders and the marine resources within them is a significant task for the Australian Defence Force (ADF) and especially the Royal Australian Navy (RAN). Furthermore, any external threat to Australia's security will emerge under, on, or over the sea. Similarly, any significant Australian military operation beyond our shores will be predominantly sea-based. The Australian economy is also substantially defined by the sea, with the vast majority of both exports and imports (by value and volume) moving by ship, and the marine industry is a significant contributor in its own right.

Consequently, the ADF must have a strong maritime component to reflect our geographic realities. These naval and maritime air forces must be able to detect and if necessary, deal with any potentially hostile air, surface or submarine operations in our extended maritime approaches. They must also be able to support Australian forces deployed offshore, contribute to maritime security in our region, protect Australian ports, and support civil law enforcement and coastal surveillance operations.

Our maritime air forces include the P-3C Orion maritime patrol aircraft, the not yet operational Boeing 737 Wedgetail airborne early warning and control aircraft, the soon to be decommissioned F-111 strike reconnaissance aircraft and the F/A-18 Hornet fighter and attack aircraft. In conflict, few maritime operations can be contemplated without control of the air in the vicinity of surface forces. Depending on the circumstances, these aircraft complement naval forces – surface or sub-surface. Each element brings unique attributes to the full range of operations.

Australia's naval forces include surface combatants (destroyers, frigates and patrol boats), submarines, amphibious forces, mine-warfare and clearance diving forces, afloat support vessels and hydrographic ships. The most capable of our surface combatants will be the three air warfare destroyers (AWD), which will be able to operate for extended periods against high-level air, surface and sub-surface threats. They will be supported by the less capable frigates and in some cases patrol boats. The destroyers' combination of great endurance, offensive and defensive weapons, flexibility and versatility will see them become the warships of first resort in the full spectrum of conflict and in support of the ADF's diplomatic and constabulary roles.

For example, the destroyers will be able to operate for long periods at considerable distances from home. In the absence of the necessary land bases to support fighter aircraft, the destroyers will be able to provide autonomous air defence for protracted periods against high-level threats, through their own long-range air surveillance radars, multi-channel fire control radars, surface-to-air missiles and closer range self-defence

weapons and countermeasures systems. Even where bases are available, land-based air defence aircraft will rarely be able to respond quickly enough to threats developing at sea. In these cases, the ever-present destroyers will be the main providers of air defence.

Operations against high-level threats must remain the basic rationale for the destroyers, because the frigates lack the ability to provide protection to other units against such threats. When conducting operations against high-level threats, the destroyers can be rapidly deployed and sustained for joint or combined operations with allies or coalition partners, wherever Australia's interests demand. The destroyers will contribute significantly to littoral manoeuvre and land operations with their air defence and fire support capabilities. They will also be critical for the joint projection of power in other than benign circumstances. They will be able to provide open ocean and littoral escort for ground forces, force protection, including area air defence, in support of littoral operations, command and control, fire support for forces ashore, special forces insertion, limited sea lift and support, and evacuation. The destroyers will also be particularly useful in establishing maritime presence and will be versatile building blocks for larger national and coalition formations, essential defensive elements of task groups, and contributors of organic helicopters to a task force.

Because warships operating outside the territorial seas of other countries do not challenge national sovereignty in the way that land forces or over-flying air forces do, in some instances warships may be the preferred or only military diplomatic option available to the Australian Government. The air warfare destroyers will possess substantial combat power, enabling them to exercise a range of influences, from the benign to the coercive, without violating national sovereignty. This range of possible responses makes them particularly useful tools in periods of uncertainty or crisis, providing the Australian Government with the maximum freedom of decision. Their utility in peacetime for policing, interdiction and boarding is considerable and government has often called upon these inherent capabilities in the past.

The heart of the air warfare destroyers will be the AEGIS combat system; the most sophisticated and capable naval command and weapons control system in the world and already in service with the navies of the United States (US), Japan, Norway, Spain and the Republic of Korea. AEGIS is designed to integrate overall management of a task group's combat assets for air, surface and underwater operations, although the emphasis is on air operations.

AEGIS can react quickly and with enough firepower to destroy fast, intelligent targets in the most difficult electronic warfare and physical environments. It comprises four main components: the phased array multi-function radar (SPY-1D[V]), the command and decision system, the display system and the weapon control system. The SPY-1 radar comprises four 3.6 by 3.6 metre fixed antennae situated relatively high on the forward superstructure of the ship, and the version for the AWD (SPY-1D[V]) features enhanced ability to detect targets in high clutter environments – such as inshore

operations. The radar can track over 100 contacts simultaneously and has a detection range in excess of 200 nautical miles. The command decision system accepts data from its own ship and other sensors and assesses threats automatically or with operator assistance, while the display system comprises several large screen multifunction displays and consoles located in the ship's operations room. Finally, the weapon control system accepts weapon assignment commands and threat criteria from the command system as well as tracking data from the radar. Processed data is shown on displays and engagement parameters are transmitted to the missiles or gun system. The AEGIS combat system will also be capable of accepting the United States Navy Cooperative Engagement Capability, which generates a common and very high quality 'air picture' by fusing the track data of all participating units and allowing any of those units (even one that has not actually detected the target itself) to engage targets.

On 20 June 2007, the government announced that the Spanish Navantia F100 design had been selected to be the RAN's AWD. With four of the class already commissioned in the Spanish Navy, and fifth under contract, the F100 was selected ahead of the US Gibbs and Cox Evolved Design. The ships, to be named *Hobart*, *Brisbane* and *Sydney*, are expected to enter service in 2014, 2016 and 2017 respectively and will be known as the Hobart class.

The Hobart class destroyers will displace around 6250 tonnes full load, be 147 metres in length, have a maximum speed of over 28 knots, a range in excess of 5000 nautical miles at a cruising speed of 18 knots, with a ship's company of about 180 personnel. They will be fitted with a 48 cell vertical launch system (VLS) that can carry the SM-2 surface-to-air missile (SAM), which has a speed of Mach 3.5 and a range of over 70 nautical miles, and Evolved Sea Sparrow Missile (ESSM) surface-to-air missiles, which have a range of over 8 nautical miles. The ESSM are carried in 'quad-packs' where four ESSM can be carried in one SM-2 cell. The Hobart class will also be armed with a 5-inch gun, Harpoon surface-to-surface missiles, anti-submarine torpedoes, as well as smaller calibre weapons for close-in defence. The Hobart class will also be capable of carrying one medium weight helicopter (such as the Seahawk) for anti-submarine warfare (ASW) and surface operations. Additional capabilities, such as the inclusion of SM-3 for ballistic missile defence and Tomahawk cruise missile for strategic strike, could also potentially be incorporated into the ships.

The decision to acquire the air warfare destroyers will provide the RAN and deployed ADF units with a genuine area air defence capability, whether operating independently or as part of a joint force. These ships represent a level of combat capability not previously seen in the RAN and will form a vital element of any expeditionary operation mounted by the ADF and represent a quantum improvement in maritime warfare capability for the RAN and the ADF.

Specifications for the future Hobart class air warfare destroyer

Complement	180
Accommodation	234
Length overall	147 metres
Maximum beam	18.6 metres
Full load displacement	6250 tonnes
Full load navigational draught	7.2 metres
Maximum speed	28+ knots
Cruising speed	18 knots
Range at cruising speed	5000+ miles
Propulsion Type	Combined diesel and gas turbine (CODAG)
Gas turbines	2 x GE LM 2500 (34.8 MW)
Diesel engines	2 x 6 MW diesels
Combat System	Aegis
Sensors	Hull Mounted Sonar Towed Array Sonar Phased Array Radar SPY-1D[V] Horizon Search Radar
Armament	Standard SM-2 SAM Evolved Sea Sparrow SAM Harpoon SSM ASW Torpedoes 5-inch Automatic Gun Close-In Weapon System Nulka Missile Decoy

Australians at Guadalcanal, August 1942

Dr Gregory P. Gilbert

Whereas most Australians are familiar with the determined resistance and subsequent counter-offensive by Australian soldiers along the Kokoda Track, the concurrent actions of Australian sailors at Guadalcanal are often forgotten, but are perhaps equally as important to those who wish to better understand the fundamentals of Australian defence. After all, as an island nation, defence of our sea communications has always been vital. During late 1942, Guadalcanal in the Solomon Islands, which was situated alongside Australian sea communications with America, became the centre for the fight for sea control in the South and South West Pacific areas.

On 2 July 1942, the United States (US) Joint Chiefs of Staff ordered Allied forces in the Pacific to mount an offensive to halt the Japanese advance towards the sea lines of communication from the US to Australia and New Zealand. This led to the long struggle for control of Guadalcanal and neighbouring islands. Operation WATCHTOWER, the occupation of Guadalcanal and Tulagi, was the first offensive by the Allied Forces in the Pacific Theatre, and the first US combined amphibious operation since 1898. The Royal Australian Navy (RAN) contributed significantly during the early stages of the Guadalcanal campaign.¹



The Landings

Rear Admiral Victor Crutchley, Rear Admiral Commanding the Australian Squadron and Commander Task Force 44, was in command of the screening force at Guadalcanal, which included HMA Ships *Australia*, *Canberra* and *Hobart*. His task was to protect the amphibious transports and the troops ashore from Japanese attacks from above, on, or beneath the sea. In addition, his ships were to bombard Japanese positions

and provide fire support to the US Marines once ashore. A number of RAN Reserve officers, who were familiar with the waters of the Solomon Islands due to their civilian employment as merchant service masters, were able to help pilot the Australian and US ships through the poorly charted waters.

On 7 August 1942, the heavy cruiser *Australia* commenced a pre-landing bombardment of Guadalcanal with her 8-inch guns. At 0800 elements of the 1st US Marine Division, under Major General Vandergrift landed against strong Japanese opposition at Tulagi, while at 0910 the main strength of the Marines landed unopposed at 'Beach Red' on Guadalcanal. The Marines of the first wave at Tulagi were accompanied by two RAN Volunteer Reserve (RANVR) officers who acted as guides.

Throughout the landing operations, combat air patrols and ground support aircraft were provided by three US aircraft carriers located to the south of Guadalcanal and controlled using a fighter-director team stationed onboard the cruiser USS *Chicago*. Crutchley also had eight cruiser-borne aircraft engaged in a continuous anti-submarine patrol as well as liaison work.

The Japanese were taken completely by surprise. The Headquarters of the Imperial Japanese Navy's (IJN) Eighth Fleet in Rabaul had detected increased radio transmissions in the area since the beginning of August, so knew that the Allies were planning an operation in the area, but their interpretation was that there would be another US carrier raid in Papua. After receiving a signal from Tulagi at 0630 on 7 August, the Japanese sent a force of medium bombers and fighters from Rabaul to attack the Allied Amphibious Force. A preliminary warning was sent by Petty Officer Paul Mason, a coastwatcher on Bougainville, at 1137: 'Twenty-four bombers headed yours'. Consequently the Japanese aircraft had to contend with both carrier-borne fighters vectored to intercept them and the anti-aircraft fire from Crutchley's ship. At around 1320, the high-level bombers managed to drop their bombs but did no damage. A second attack by Japanese dive bombers scored a hit on one of the destroyers, USS *Mugford*; however, five out of the nine aircraft were destroyed by the carrier-borne fighters and ship's anti-aircraft fire.



USS President Jackson and HMAS Australia during Japanese air attack, 8 August 1942 (80-G-K-385)

The Japanese raids continued the following day. Despite the Bougainville coastwatchers' preliminary warning, a large force of twin engine 'Betty' torpedo-bombers surprised the Allied fleet around noon, when they made their approach from the north-east behind

Florida Island. Four Japanese planes were destroyed by fighters from the aircraft carrier USS *Enterprise* on patrol in the eastern Nggela Channel, while the screen's anti-aircraft fire brought down another thirteen. The destroyer USS *Jervis* was hit badly and had to leave the area, and nearby a burning Japanese plane crashed purposely into the transport *George F. Elliot* with deadly results.

The US aircraft carriers had helped to save the transports, but they lost 21 planes in just two days. Their commander, Vice Admiral Fletcher, knew that he was commanding three out of only four US aircraft carriers in the Pacific. Fletcher signalled at 1807 on 8 August: 'Total fighter strength reduced from 99 to 78. In view of large number of enemy torpedo and bomber planes in area, recommend immediate withdrawal of carriers.' Fletcher's recommendation to withdraw one day early (they had planned for three days with carrier air support) was a major concern for the Amphibious Force under Rear Admiral Turner, USN, for how could his transports and Crutchley's screening force remain at Guadalcanal without air cover? The captured runway at Guadalcanal would not be fully operational until 17 August.

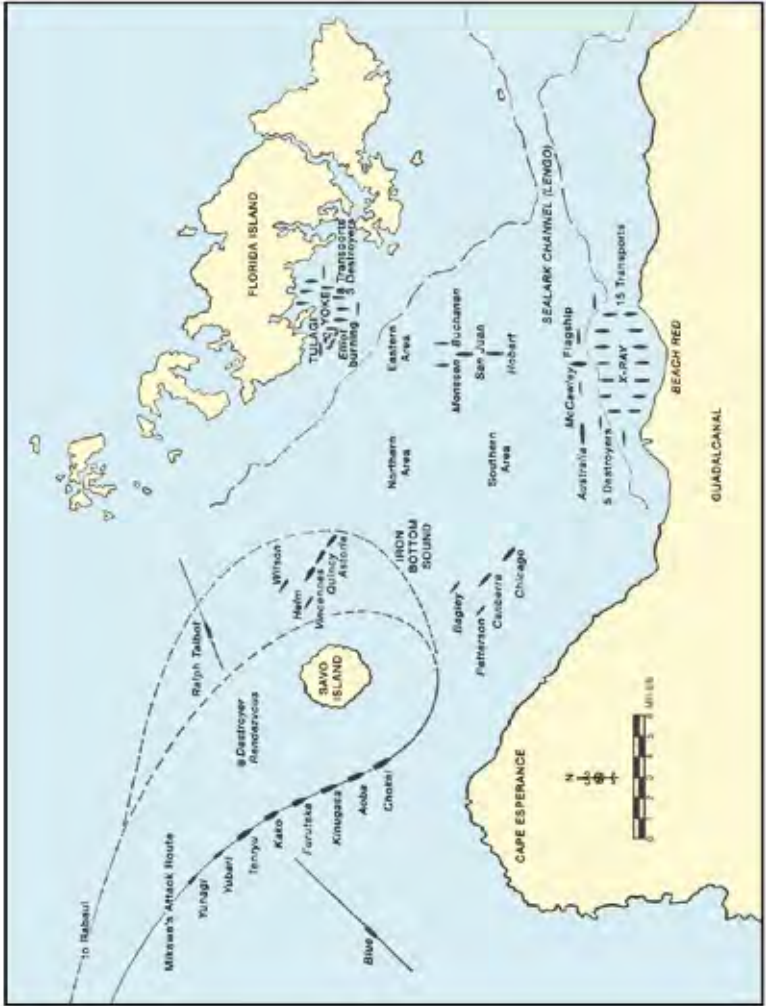


Crashed Japanese bomber floating off Tulagi, 8 August 1942 (80-G-K-383)

The Battle of Savo Island

The Guadalcanal invasion forces had weathered the Japanese air attacks of 7 and 8 August, but the IJN response, although taking longer to eventuate, was much more devastating. Vice Admiral Gunichi Mikawa commanding the Eighth Fleet was at Rabaul on the morning of 7 August when the signal describing the Tulagi attack arrived. Mikawa reacted smartly, ordering all available warships in the vicinity to assemble. By 1930 Mikawa had available a squadron of seven cruisers and one destroyer: *Chokai*, *Aoba*, *Kako*, *Kinugasa*, *Furutaka*, *Tenryu*, *Yubari* and *Yunagi*.

Mikawa decided that his best chance of success against the Allied forces was to initiate a night surface attack. His cruisers had trained extensively in night gunfire and torpedo action, and he also knew that very few US aviators were proficient in night flying. Mikawa's squadron steamed in line-ahead at 24 knots through 'The Slot' in daylight on 8 August. They prepared for action and increased speed to 30 knots prior to making contact with the Allied forces guarding the approaches to Guadalcanal to the south of Savo Island.



Battle of Savo Island, 9 August 1942

The Allied Screening Force was positioned in night dispositions around the amphibious transport groups off Guadalcanal and Tulagi. Two destroyers acted as radar picket ships to the west of Savo Island. The Sound off Guadalcanal was divided into three sectors. The Southern Force (south of Savo) consisted of the cruisers *Australia*, *Canberra* and *Chicago*, and two destroyers. The Northern Force (north of Savo) consisted of the US cruisers

Vincennes, *Astoria* and *Quincy*, and two destroyers. The eastern sector was covered by cruisers USS *San Juan* and *Hobart*, and two destroyers.

Unaware of the approaching Japanese, Turner convened a staff meeting onboard the attack transport USS *McCawley*. Crutchley departed the patrol area in *Australia* to attend the meeting and did not return to the Southern Force.

At 0130 on 9 August, the Japanese force sighted one of the destroyer pickets, but the US destroyer's crew did not detect the enemy ships. Japanese aircraft, launched from Mikawa's cruisers some two hours earlier, dropped flares over the transport area, and these flares silhouetted the Allied ships on patrol south of Savo Island. At 0137 on 9 August 1942, the Japanese squadron commenced firing on the cruisers *Canberra* and *Chicago*. *Canberra*, the lead ship of the Southern Force, was hit by two torpedoes and the first of 24 Japanese 8-inch and 4.7-inch shells. She was immediately put out of action. *Chicago* was also badly damaged but still operational.

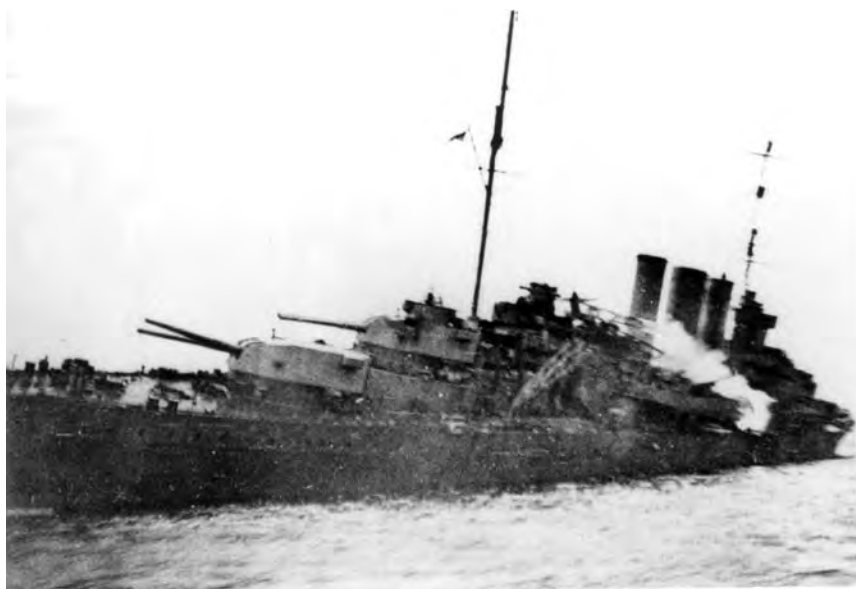
After disabling the Southern Screening Force the Japanese continued their sweep around Savo Island, split into two columns and approached the Northern Force. Again, complete surprise was achieved. They opened fire on the Americans at very close range and in only a few minutes the cruisers *Quincy* and *Vincennes* were sunk, and *Astoria* was severely damaged. The Japanese did not press home their advantage and began to withdraw. Mikawa's decision not to engage the almost defenseless transports was a strategic error. Arguably he could have done so and thereby severely hindered the Allies' strategic plan. However, in the 'fog of war', he preferred to retire, after gaining a major tactical victory, to avoid the threat of daylight counter-attacks by naval air and surface forces the following morning.

At dawn on 9 August 1942, the Allies could see the full extent of their losses. The Japanese had sunk the cruisers *Quincy* and *Vincennes*, while the cruisers *Canberra* and *Astoria* were badly damaged and dead in the water. As the Australian cruiser could not raise steam, Admiral Turner ordered that she be abandoned and sunk. Once all survivors had been evacuated, USS *Selfridge* fired 263 5-inch shells and four torpedoes into *Canberra* in an attempt to sink her. Eventually a torpedo fired by the destroyer USS *Ellet* administered the final blow. Despite extensive damage control efforts, *Astoria* also sank just after midday. Of the 819 men in *Canberra* there were 193 casualties (84 killed, including Captain F.E. Getting). In the Allied Fleet there were approximately 2000 casualties overall (at least 1270 killed).

The Battle of Savo Island was one of the worst defeats ever inflicted on the US and Australian navies. *Canberra* remains the largest Australian warship ever lost in battle. The battle placed the occupation of Guadalcanal in jeopardy and delayed the completion of Operation WATCHTOWER for several months; however, it was not a strategic victory for the Japanese. The Allied forces did achieve their objective, which was to prevent the enemy reaching the transports.

The battles around Guadalcanal in late 1942 should be remembered. Not just because they were some of the most decisive actions of the Pacific Theatre, or because Australian naval forces fought alongside our American allies. They should be remembered because the Guadalcanal operations were instrumental in securing Australia's sea lines of communication. The Kokoda Track was important to Australia's defence, but had the Japanese taken Port Moresby their achievement would have had little strategic effect without also gaining sea control. On the other hand, Japanese attacks on our sea communications had the ability to stop our access to international trade and would have led to a rapid decline of Australia's economy, political stability and military strength.

Published as Semaphore Issue 12, 2007



HMAS Canberra, 1942

Notes

- ¹ G. Hermon Gill, *Australia in the War of 1939-1945, Vol.2: Royal Australian Navy 1942-1945*, Australian War Memorial, Canberra, 1968, pp. 112-157, provides a summary of the RAN's involvement. Over 2300 Australians served in the Guadalcanal operations.

Civilian Accreditation of RAN Sea Training

Ms Jane Landon

The decline in Australian flagged shipping over recent decades has seen the Royal Australian Navy (RAN) become the most significant trainer of maritime professionals in Australia. As an island nation, Australia is highly dependent upon the sea for security and economic prosperity. A strong and vibrant maritime sector, both naval and civil, is critical to our nation. The RAN is committed to having the professional skills of our personnel recognised by the civilian maritime industry, allowing those who do decide to leave naval service to pursue careers in the marine sector. In recent years, the Australian Maritime Safety Authority (AMSA) has worked closely with the RAN to develop a system for recognising naval training and sea time for the award of civilian deck and engineering qualifications.

Many former and serving RAN personnel have sought recognition for their naval service, but in the past, limited acceptance of their service as qualifying for civilian qualifications made the process difficult. This has posed problems for both ex-RAN personnel seeking employment in the civil maritime industry and for the industry itself, which suffers from a shortage of qualified and experienced mariners. The maritime industry recognises that the RAN represents a source of competent mariners with a great deal of local and regional knowledge and experience; mariners that may consider further employment in the maritime sector once they decide to leave the navy. However, the absence of a clearly defined means for gaining a civilian Certificate of Competency has seen many former RAN personnel move into non-maritime related fields upon discharge.



The Bridge Training Facility at HMAS Watson

Aligning State Standards

The recognition of RAN qualifications by state marine authorities came under review with the advent of the National Marine Safety Strategy in 1998.¹ This strategy, produced by the National Maritime Safety Committee, sought to improve marine safety through development of a national regulatory system to align each of the state marine authorities on key issues.

In terms of qualification standards, the strategy outlined a uniform national approach to recognising crew levels and qualifications among marine jurisdictions. This approach identified components of Australian Defence Force (ADF) maritime training and sea service that could be recognised by state and territory marine authorities. The strategy also supported greater recognition for sea time accumulated on military vessels in the award of civilian Certificates of Competency. In late 2000 the AMSA Advisory Committee directed that a 'gap analysis' be undertaken to identify further similarities between RAN training and AMSA's qualifications issued under the Standards of Training, Certification & Watchkeeping (STCW) Convention for both deck and engineering competencies.

Royal Australian Navy Seaman Officer Competencies

On the deck side, AMSA's Marine Standards and Ship Qualifications team reviewed RAN competency standards for Officers of the Watch, Navigators and Commanding Officers. This review was completed in 2002, with preliminary results showing significant parallels between naval and civil qualifications. Cargo work, engineering knowledge, ship structure, stresses and stability were the only notable shortfalls in the existing Seaman Officer Application Course (SEAAC) - now known as Junior Warfare Officers Application Course (JWAC) training syllabus. RAN Ships Safety and Survivability training does cover such shortfalls in part, but some of this training is not directly convertible to the civil environment.

In 2003 the RAN contracted Australian Maritime College (AMC) Search Limited to complete a further gap analysis of the RAN JWAC and the AMSA approved AMC Diploma of Applied Science - Watchkeeper (Deck) program. A second, more comprehensive study by the Canberra Institute of Technology is currently underway. Once agreed by AMSA, this will form the basis of an RAN-delivered bridging course to align qualifications.

Royal Australian Navy Seaman Officer Training Practices

In September 2005, the Officer-In-Charge of the Bridge Training Facility at HMAS *Watson* invited senior AMSA representatives to inspect RAN ships and training facilities.

They toured a range of RAN ships, where they inspected bridge layouts and equipment, and spoke to several seaman officers onboard. Later, at *Watson*, the group observed a 'fleet board' oral examination, bridge simulator training and a navigation theory class. As a result of these interactions, AMSA staff concluded that the RAN's seaman officer training program was rigorous, and that its internal auditing system was robust. This ensured a high standard in the competencies required by STCW for the award of deck officer qualifications. AMSA staff also concluded that, contrary to existing policy, sea service on RAN warships as well as RAN supply ships was equivalent to creditable sea time for the award of civil deck qualifications.

As part of the continuing review process two AMSA representatives were given the opportunity to sea ride in HMAS *Arunta* in February 2006. They joined *Arunta* in Cairns and observed pilotage and general navigation, watchkeeping, seamanship evolutions, training and general administration throughout the ship's five-day transit to Darwin.

Recognition of Royal Australian Navy Sea Service

In July 2006, AMSA issued a document detailing a new system of recognition of sea service for seaman officers to gain a STCW Certificate of Competency (Deck) while serving in the RAN. The document enables AMSA to recognise RAN sea service as 'equivalent qualifying sea service' in the award of a STCW Certificate of Competency.²

In essence, this means any qualified seaman officer (with the minimum period of qualifying sea service) can qualify for a STCW deck officer Certificate of Competency after completing an AMSA approved course of study (for the particular Certificate of Competency) and an oral examination.³

Bridging Course

The RAN is developing a bridging course for Seaman Officers to address the syllabus gaps identified by AMSA. Once approved, the course will meet requirements set out in Marine Order Part 3 for a STCW Watchkeeper (Deck) Certificate of Competency. The bridging course will be delivered to all RAN seaman officers as part of their JWAC training and will also be available to all currently serving seaman officers who wish to be awarded a deck watchkeeping qualification.

Any RAN seaman officer who wishes to complete an AMSA approved course prior to completion of the AMSA/RAN approval process should approach an AMSA approved training provider to gain more information on available course options and the possibility of recognition of prior learning.⁴

A similar process will be initiated for identifying and bridging gaps between high-level RAN Seaman Officer training and the AMSA Approved Advanced Diploma course.

Royal Australian Navy Engineering Officer Competencies

AMSA has assessed a range of RAN engineering practices and qualifications and defined a process to allow RAN personnel to have their qualifications recognised. AMSA may recognise RAN engineering sea service, provided:

- it meets the requirements of Marine Orders Part 3 - Seagoing Qualifications
- the applicant supplies a letter from the RAN explaining their employment detail in terms of watchkeeping on main propulsion or auxiliary machinery, day-work maintenance, etc.

Sea service must have been accrued on ships using propulsion of the kind to which the certificate of competency relates. However, AMSA will recognise sea service on gas turbine ships, at half rate, up to the following amounts:

- Engineer Watchkeeper certificate - 20 weeks
- Engineer Class 2 certificate - 6 months
- Engineer Class 1 certificate - 6 months.⁵

Once the applicant has gained a STCW Certificate of Competency from AMSA, all sea service for future certificates commences from the issue of that certificate. Sea service accrued before the issue of the STCW certificate will not count towards future certificates.

Royal Australian Navy Sailor Competencies

Fully documented seagoing service as a rating in the specialist seaman department of the RAN, or on deck duties on equivalent Australian Government ships, will be accepted as qualifying sea service on trading ships. Such service is applicable when qualifying for a certificate as Watchkeeper (Deck) or Mate (<500 GT) with capacity limitation as Watchkeeper only.

Since 2005, mechanical technical sailors with appropriate training and experience have been eligible for Maritime Certificate of Competency as Marine Engine Drivers Grades 1 to 3. Many other technical sailors' qualifications are now also recognised within their particular civil field, including electrical, cabling, refrigeration or aircraft mechanics.⁶

The Long-term Goals of Civil-Royal Australian Navy Accreditation

The joint AMSA/RAN project to assess RAN qualifications, training and seagoing duties aims to develop a smooth and practical transition for RAN personnel wishing to obtain STCW deck and engineering qualifications. This will allow them to pursue a seagoing career in the commercial sector should they decide to discharge from the navy.

Maritime power is not just about people in grey ships fighting wars – it is the totality of the nation’s interests in the maritime environment. It includes sea communications and trade, marine services, conservation of the marine environment and the managed exploitation of marine resources. Personnel who decide to leave the RAN and gain employment elsewhere in our maritime industries are not lost; rather they continue to contribute to Australia’s maritime power. The processes being put in place by the RAN and AMSA should assist those who move from the navy to elsewhere in the maritime sector.

Published as Semaphore Issue 13, 2007

Notes

- ¹ *The National Marine Safety Strategy: A Strategy for Small Commercial and Recreational Vessels in Australia*, National Maritime Safety Committee, August 1998, <www.nmsc.gov.au/documents/strategy.pdf> accessed 28 May 2007.
- ² Accessible at <www.amsa.gov.au/Marine_Qualifications/RAN> accessed 28 May 2007.
- ³ Approved training providers are listed on the AMSA website <www.amsa.gov.au> accessed 28 May 2007.
- ⁴ A list of AMSA approved training providers is available at <www.amsa.gov.au/Marine_Qualifications/AMSA_Approved_Courses> accessed 28 May 2007.
- ⁵ Full details regarding AMSA’s requirements are available on the AMSA web site <www.amsa.gov.au/Marine%5FQualifications> accessed 28 May 2007.
- ⁶ Ned Whiteley, ‘Back to the future’, *Navy Engineering Bulletin*, March 2006, <www.navy.gov.au/publications/engineering/march2006/backtothefuture.html> accessed 28 May 2007.



HMAS Kanimbla arrives home to Sydney from the Persian Gulf

Amphibious Ships

Captain Peter Leavy, RAN

On 20 June 2007, the Australian Government announced plans for the Royal Australian Navy (RAN) to acquire two amphibious assault ships based on the Spanish Navantia ‘Strategic Projection Ship’.¹ Designated as Landing Helicopter Dock (LHD) ships, they will be named *Canberra* and *Adelaide* and are expected to enter service in 2012 and 2014 respectively. They form part of Joint Project 2048 (Amphibious Deployment and Sustainment – ADAS), with a further ‘sealift’ capability – which is yet to be defined – to be acquired in a later phase of the project. The Tenix Corporation was selected as the preferred tenderer to build the LHDs and, subject to successful contract negotiations, it is expected that the hulls will be constructed in Spain, the equipment fit-out will be completed in Melbourne, and the combat system integration will occur in Adelaide.

The LHDs will be amongst the largest ships to serve in the RAN and will be the biggest warships ever built by Australian industry. While some media commentators have focused on their size,² the reality is that size brings *flexibility* – and flexibility is the key benefit that the ships will provide to an Australian Government. In times of increased strategic uncertainty, the LHDs will be able to respond to a wide variety of situations across the span of maritime operations. They will form the core of Australia’s response to natural disasters, humanitarian aid, evacuation operations, peacekeeping tasks and, where necessary, the projection of combat force ashore.

The Canberra class will be a major advance on the capabilities provided by the current amphibious transports (LPA), HMA Ships *Kanimbla* and *Manoora*, ships that have proven versatility across a wide range of situations. These vessels have deployed to Iraq, acting as a sealift ship; command and control platform; a forward base for boarding operations (including embarking foreign navy boarding teams and boats); and provider of logistic support to smaller vessels – many of these roles simultaneously. The LPAs have also been deployed to the Solomon Islands, East Timor and Fiji to lead the Australian Defence Force (ADF) response in potential periods of instability as well as participating in humanitarian operations, including after the 2004 Boxing Day tsunami in South East Asia. *Kanimbla* hosted the Sea Combat Commander and his staff during RIMPAC 2006, proving the ship’s ability to support a coalition command staff during warfighting exercises and operations. The inherent flexibility in ships of this type means that they are extremely adaptable, and despite not being built for the RAN (they were purchased second-hand from the United States Navy and were modified by Forgas in Newcastle), *Kanimbla* and *Manoora* have become key components of the RAN’s broad capability. The Canberra class will build significantly on this already flexible and adaptable capability.

As the 2007 Update to the Defence White Paper states, we must recognise that our interests must often be secured in places distant from Australia.³ Additionally, as an island nation, any Australian major military activity will need to be deployed across, and supported from, the sea. This reality has driven the need for ADAS and the ability to project land forces in support of Australia's national interests, wherever they may be.⁴

Amphibious ships capitalise on all of the attributes of maritime forces, as articulated in *Australian Maritime Doctrine*.⁵ Without the need to negotiate basing and/or overflight rights with other countries, warships are often the only choice available to government to respond to a developing situation and the LHDs will provide unique response options. They will carry a substantial quantity of equipment, stores and personnel and will be fully operational as they enter an area of operations. They do not need any external support or approval to deploy and can physically operate wherever there is enough water to float. The LHDs will be flexible and able to undertake a large range of tasks while exploiting the attributes of reach, access, flexibility, poise and persistence.⁶

One of the key roles of maritime forces is power projection. In high-end combat operations, power projection is usually visualised as ordnance fired against land targets – naval gunfire support, land attack missiles and the like. Land forces projected from ships have the advantage of being able to deploy, operate, and be extracted and re-deployed once their job is done. The ability to base and deploy land forces from the sea brings considerable advantages to operations. For example, sea basing reduces the logistics, command and administrative footprint ashore, and consequently the risk of attack against personnel and their equipment and the need for additional force protection personnel and equipment. At the other end of the operational spectrum – such as when providing disaster relief – sea basing means those deployed do not become a burden on an already damaged and fragile infrastructure. A good example of this was the deployment of a naval task group, led by the aircraft carrier HMAS *Melbourne*, to Darwin after Cyclone Tracy in 1974.⁷ The sailors deployed ashore provided critical assistance to the city, without drawing on Darwin's very limited relief supplies. The sailors' own needs, such as food and accommodation, were provided by their ships. For similar reasons, many nations sent predominantly maritime forces to assist countries in South East Asia after the Boxing Day 2004 tsunami. Maritime forces are often the only option to reach affected areas when land based infrastructure is destroyed.

While the LHDs will be useful across the full spectrum of operations, their utility derives from the capabilities necessary to conduct combat related amphibious operations. The ability to move forces by sea means that any adversary defending against a possible amphibious operation must spread their resources across their entire coast or concentrate on certain areas, leaving others undefended. The initiative is thus with the maritime-based force that can easily manoeuvre to where the opposition is least.



*Cutaway design
(Tenix)*

Specifications for the Canberra class LHD

Complement	243 (36 additional)
Embarked Forces	978 (146 additional)
Accommodation	1403
Length overall	230.8 metres
Maximum beam	32 metres
Full load displacement	27851 tonnes
Full load	7.18 metres
Maximum speed	20.5 knots
Range	8000 nm at 15 kt 9250 nm at 12 kt
Propulsion type	Electric drive
Pods	2 x 11 MW
Power source	Combined diesel and gas turbine (CODAG)
Gas turbines	1 x GE LM 2500 (17.4 MW)
Diesel engines	2 x 7.2 MW diesels
Vehicle capacity	830 lane metres (3290 m2) Heavy vehicle deck: 1410 m2 Light vehicle deck: 1889 m2 Helo hanger capacity: 990 m2 Can conduct landing craft operations in Sea State 4
Aviation	8 x MRH90/Tiger ARH Can operate Chinook Helicopters
Medical Capacity	2 operating theatres high/medium/low dependency

Each of the Canberra class will be able to transport and support up to 1000 embarked forces, some of which can be landed ashore via a mix of embarked watercraft and aircraft, to conduct operations. Others will remain onboard the LHD providing command, aviation, medical and logistic support. The mix of those deployed ashore and remaining onboard will vary, depending on the circumstances.

Each ship will carry landing craft that are transported in a well-dock, which can be flooded when they are required. The ship ballasts down to flood the well-dock, allowing the watercraft to float and extract from the dock. This can be done while underway and in conditions up to Sea State 4 – a significant increase on the RAN’s current capability. The LHDs will also have six helicopter spots on a large flight deck that can support a range of helicopters. The ability to base aviation facilities afloat is a particular benefit, as it removes the need for maintenance, support facilities and personnel ashore, and allows the airbase to move to wherever it is required.

Of course, the introduction of the LHDs will bring significant challenges to the ADF. Without a dedicated marine force, such as the United Kingdom (UK) Royal Marines or United States (US) Marine Corps, the Australian Army will provide the landing force transported by the LHDs. The Army has a core of amphibious experience; however,

the LHDs represent a quantum leap in capability, and one that the ADF must understand fully to maximise their potential. To that end, an RAN-Army 'Joint Amphibious Capability Implementation Team' (JACIT) was established in September 2006 to identify and resolve issues associated with introducing this capability into the ADF. The Chief of Navy is the capability manager for the LHD, but the JACIT is responsive to a wide range of stakeholders involved in delivering ADF amphibious capability.

Work is also underway to identify the necessary port infrastructure required to support LHD operations, in their home port (Sydney), primary ports of Darwin and Townsville, and secondary ports of Brisbane, Gladstone and Adelaide, where they might be expected to operate in support of Army.

The LHDs will be significant national assets. While they will be capable of operating at the high-end of the conflict spectrum, their capabilities and inherent flexibility mean the ships can be used in a wide range of tasks in support of Australia's national interests. They will prove to be incredibly useful in a wide range of military, diplomatic and constabulary operations, and will form the backbone of the ADF's ability to deploy to meet the requirements of the Australian Government.

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Notes

- ¹ The 'Strategic Projection Ship' is the term used by the Spanish and highlights the flexibility inherent in the design.
- ² See Hugh White, 'Big ships: too costly, too cumbersome', *The Sydney Morning Herald*, 12 July 2004. For the contra argument, see B. McLennan and G.P. Gilbert, 'Amphibious ships - Bigger is better', *Quadrant*, September 2006, pp. 52-59.
- ³ Department of Defence, *Australia's National Security: A Defence Update 2007*, Defence Publishing Service, Canberra, 2007, p. 29.
- ⁴ Importantly, even most ADF operations on the Australian mainland will require forces to be deployed by sea.
- ⁵ Royal Australian Navy, *Australian Maritime Doctrine*, Defence Publishing Service, Canberra, 2005, pp. 49-51. These attributes are mobility in mass, readiness, access, flexibility, adaptability, reach, poise and persistence, and resilience.
- ⁶ Royal Australian Navy, *Australian Maritime Doctrine*, pp. 49-51.
- ⁷ See Brett Mitchell, 'Disaster relief - Cyclone Tracy and Tasman Bridge' in G.P. Gilbert and R. Davitt, *Australian Maritime Issues 2005: SPC-A Annual*, Sea Power Centre - Australia, Canberra, 2005, pp. 89-94.

The History of the Radford-Collins Agreement

Commander Andrew Brown, RANR

Many students of world history would be aware of the security treaty between Australia, New Zealand and the United States of America dated 1 September 1951, commonly referred to as the ANZUS Treaty. The ANZUS Treaty was an Australian initiative and, although it has undergone some changes in the way it operates at a practical level,¹ successive Australian governments have accepted that the ANZUS treaty underpins Australia's national security. Of course, it does not only benefit Australia; the United States (US) clearly sees value in the treaty.² Although many articles and papers have appeared about the circumstances that gave rise to the creation of ANZUS and of its potential effect in range of scenarios, few commentators appear to have acknowledged that the ANZUS Treaty was not the first Cold War agreement for mutual defence and support between the US and Australia.

In 1950 Australia appreciated that the United States Navy (USN) was the dominant naval power in both the Pacific and Indian Oceans. However, experience from World War II had shown that, from an operational perspective, Australia was a long way from the US headquarters (either on American soil or in Japan), and even farther away in terms of US strategic thinking. Furthermore, the Korean War was underway and there was a general intensification of the Cold War, especially in Asia with the recent creation of the Peoples Republic of China in 1949. The possibility of another World War was very real, and Australia faced threats to its security, including to its maritime trade. As is the case today, maritime trade was fundamental to Australia's security and prosperity, yet there was no certainty that the US either would or could assist if our maritime trade was threatened.

At the time, any analyses of potential threats to Australia's strategic interests effectively equated to threats to British interests, and were soon concentrated on the Malay Peninsula. Consequently the threat to sea lines of communication in British South East Asia resulted in the creation of the Australia, New Zealand and Malaya (ANZAM) Region in 1950.³ This region largely overlapped with the Royal Navy's Far East Station and the Australia Station, and was centred on Singapore. With the declaration of ANZAM came the establishment of a higher command structure that would operate from Australia (and be largely Australian-staffed) in the event of war. ANZAM itself was not a treaty but rather an agreement between participating naval forces on certain higher command functions necessary for the protection of maritime trade. Its overall intent was to establish a coordinated Allied response to any attacks on merchant shipping within the ANZAM Region. Understandably, its creation was viewed by the US with some concern.

The US has never entered in treaties of mutual defence and support lightly. In 1950 it did not view Australia as within its area of responsibility, nor did it believe it should in any way automatically safeguard Australia's sovereignty or its interests. The declaration of the ANZAM Region, however, affected that position at a practical level. Within the US Government, neither the State Department nor the Joint Chiefs of Staff formally altered their view of the relationship between Australia and the US, but at the Headquarters of the US Pacific Fleet in Hawaii the declaration of the ANZAM Region could not be ignored.

Australia's then Chief of Naval Staff, Rear Admiral John Collins, had been seeking agreement with the US Pacific Fleet since 1948 on a raft of matters, all of which were linked, one way or another, to agreed procedures for trade protection, reconnaissance and anti-submarine warfare operations in the Pacific area. The US Pacific Fleet staff had politely informed him that it was not interested in discussing such matters. The declaration of the ANZAM Region forced a change in that view as the region overlapped with the US Pacific Theatre, and the very real possibility of confusion and administrative conflict between allied navies in the event of war was obvious. Further, ANZAM locked the United Kingdom (UK) into the Pacific area as a strategic power, whereas the US had a very firm view as to which nation was to be the strategic power in the Pacific (it should be remembered that the UK would not become a nuclear power until late 1952). As the ANZAM staff was to be supported by and based in Australia, the Commander in Chief US Pacific Fleet (CINPACFLT), Admiral Arthur Radford, was obliged to deal with Australia and specifically Rear Admiral Collins in order to resolve these issues.

Fortunately, from Australia's point of view, the US Government held no strong views on Australia, and CINPACFLT was granted a free hand to resolve such matters. As a result of discussions between Admiral Radford and Vice Admiral Collins (promoted May 1950), an agreement was reached in March 1951 between Radford on behalf of the US Pacific Fleet and Collins on behalf of what was termed 'the ANZAM countries' on command and control issues in the Pacific and Indian Oceans areas. Thus the Radford-Collins Agreement was born.



Vice Admiral John Collins with Admiral Arthur Radford at CINPACFLT Headquarters, Pearl Harbor, 1951

Early versions of this agreement have now been declassified (and published by the Sea Power Centre - Australia)⁴ but care must be taken when reading them, not only to establish what they are but more importantly what they are not. The first point to notice is that the agreement is not a treaty; it has never been executed on behalf of any nation nor has it ever been ratified by any parliament. It is a working level agreement between allied senior naval officers and it was designed to be a practical arrangement between the USN and ANZAM (not with Australia alone) when all parties were fighting a common enemy. Consequently, Vice Admiral Collins signed on behalf of the Royal Australian Navy, the Royal New Zealand Navy and the Royal Navy. Second, the agreement predated the signing of the ANZUS Treaty by about six months. In due course it would become the best known 'ancillary arrangement' between the US and Australia under the ANZUS Treaty, but it was never designed as such.

Third, the agreement covers most of the Indian Ocean and all of the Pacific Ocean, which reflected the reality of naval power at the time. Most of what are now sovereign nations in this area were then colonies of European powers or heavily under their control. Most others were under the control or influence of the US. Australia and New Zealand themselves had barely achieved sovereignty (in some measure) from the UK; while South East Asia and the Pacific contained few sovereign nations. The area of responsibility assigned by the agreement reflected the (then) capabilities of the navies concerned and, in the case of the US Pacific Fleet, the disposition of its task forces. Lines were drawn on maps, through islands and across large areas of ocean, not because there were any territorial claims but because this was a naval - as opposed to a military - agreement, which divided up responsibility rather than purporting to grant some form of control. The agreement made each navy responsible for ensuring the free flow of maritime trade in its area and in conjunction there was a requirement to maintain maritime reconnaissance, prosecute enemy submarines and employ local defensive measures; in essence, to take whatever actions were required to protect maritime trade. Finally, the agreement was designed as a combined forces working document from which all exercise and operational planning could commence; it did not constrain any of the navies involved from undertaking independent operations as required by their governments (certainly the USN has never felt itself so constrained).

One of the most surprising aspects of the agreement is its brevity: although a large number of topics are covered (from the establishment of Major Area Commands to common publications for operational and tactical use) most are dealt with in one short paragraph and the entire agreement (less its maps) is less than seven pages. Yet it was the acceptance of what appears to be mundane administrative procedures and common publications that is the Radford-Collins Agreement's strength. It requires a common form of command structure with common procedures and a clear understanding of what information was to be passed between each navy. In other words, from a headquarters point of view, what staff would be required and what responsibilities they held. Based on the agreement, personnel training could be organised and regular international

exercises conducted. While this may sound somewhat boring and mundane, it is precisely the standardisation of such 'back office' functions that made the agreement so valuable and enduring. If Australia and the US faced a common maritime enemy there would be no need for discussion on how each navy was to interact with the other at the strategic and operational levels; the agreement resolved those questions.

The procedures and communications links established by the Radford-Collins Agreement were regularly exercised either in the context of larger multinational exercise or with specific command post exercises such as the appropriately named RIPCORD, ROLLER COASTER and ROLL CALL series. More recently exercises have been conducted as part of the EXPANDED SEA and (the current) BELL BUOY series. The agreement itself has shown the utility of generally establishing inter-navy agreements on topics such as trade protection procedures; such experience resulting in the formation of what is now known as the Pacific and Indian Ocean Shipping Working Group (PACIO SWG) encompassing not only Australia (which also guards for New Zealand) and the US (which also guards for Japan) but also Chile, Republic of Korea, UK, Canada, and more recently South Africa and Singapore.

The world has changed a great deal since 1951, perhaps more, from a geopolitical perspective, in the Pacific and Indian Oceans than anywhere else on the globe. The UK is no longer a major naval power in the region (although does retain a strategic interest in the area), sovereign nations have replaced former colonies, and both China and India are emerging as major economic powers. The Radford-Collins Agreement, however, has evolved over time and still exists – coordinating areas of responsibility and administrative functions for the protection of maritime trade. The concept of Naval Control of Shipping (NCS), which relied on positive naval control of merchant ships, has now given way to Naval Cooperation and Guidance for Shipping (NCAGS), which relies more on cooperation with the merchant marine and is based on advice rather than control. (Importantly, NCAGS is not limited to the Radford-Collins Agreement, and is conducted by navies in the region and around the world.) The underlying essence of the current agreement, however, has not changed. It still speaks of responsibility, common procedures, cooperation and communication built on the foundation of the parties to the agreement facing a common threat.

It is interesting to explore how an inter-navy agreement, born of the Cold War but also in response to another similar agreement (ANZAM), could have both survived and remain relevant. It says much of both the quality of the original agreement and the need for it – a need that remains as relevant today as it was 50 years ago.

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Notes

- ¹ There was a major shift in dynamic in the 1980s when the New Zealand Government legislated against nuclear powered or armed warships visiting New Zealand ports, effectively preventing USN ship visits.
- ² The ANZUS Treaty has only been invoked on one occasion, when on 14 September 2001 Australia declared that as a consequence of the attacks on the World Trade Towers in New York three days earlier, it had formed the view that the US was under attack and, consequently, Australia was obliged to come to its aid.
- ³ See David Stevens, *A Critical Vulnerability: The Impact of the Submarine Threat on Australia's Maritime Defence 1915-1954*, Papers in Australian Maritime Affairs, No. 15, Sea Power Centre - Australia, Canberra, 2005, pp. 287-325.
- ⁴ The two declassified versions (1959 and 1967) are reprinted 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. 47-67.



Task Force 58, the coalition's naval force conducting maritime security operations across the northern Persian Gulf, comprises ships from the Royal Navy, US Navy, US Coast Guard and Iraqi Navy, with HMAS Newcastle representing the RAN

PETER MITCHELL
ESSAY
COMPETITION





LCDR Chris Watson was awarded his certificate on 13 February 2008 by General Hurley, Chief of Joint Operations

About the Competition

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.



USS Paul Hamilton and HMAS Stuart conduct Officer of the Watch manoeuvres

How Might the World's Navies Contribute to and Benefit from the '1000-Ship Navy' Proposal?

Lieutenant Commander Chris Watson
Royal Australian Navy
2007 Winner Open Section

A simple list, navy by navy, with actual and perceived contributions and benefits, would answer the question posed. Of more use would be to understand the strategic factors driving the concept's development and to consider whether it will be pursued if it does not bring measurable benefits to the United States (US). It is conceivable that current legislation, international bodies, smaller multilateral groups, other national agencies and commercial bodies are already fulfilling the function of a '1000-Ship Navy'.

National Interest

The greatest threat to peace is the spread of nuclear, chemical and biological weapons and we must work together to stop proliferation.

With those words to the Polish people on 31 May 2003 at Wawel Royal Castle in Krakow, President Bush introduced his Proliferation Security Initiative (PSI). By the time he returned to Poland in June 2006, the related White House Press Release trumpeted that 'since the initiative was launched, the PSI has grown from a handful of nations to a global partnership of more than 70 countries from all around the world'.¹

In March 2004, as part of his annual testimony to the US Congress, Admiral Tom Fargo, USN, the Combatant Commander for all the US Joint Forces in the Pacific Command, raised the issue of a Regional Maritime Security Initiative (RMSI). The RMSI was intended to develop a partnership of willing regional nations with varying capabilities and capacities to identify, monitor, and intercept transnational maritime threats under existing international and domestic laws.

In September 2005, at the 17th International Seapower Symposium at the United States Naval War College in Newport, Rhode Island, the US Chief of Naval Operations (CNO), Admiral Mike Mullen, USN, posited his vision of a '1000-Ship Navy'. In October 2006, he described this to the *Honolulu Advertiser* as a 'global maritime partnership'.²

Helen of Troy, wife of Menelaus, King of Sparta, is known as the face that launched a thousand ships - the number of warships the Greeks were said to have taken to Troy to retrieve her. It is unlikely that, some 3000 plus years after Helen eloped to Troy with Paris, it will prove as easy for Admiral Mullen to achieve the feat of maritime unity he envisages. That is to say: 'a fleet-in-being, if you will, made up of the best

capabilities of all freedom-loving navies of the world ... a fully interoperable force – an international city at sea'.³

In answering the question posed above it is essential to understand that it is US foreign policy imperatives that drive the concept. This is not a criticism of the US. Despite Admiral Mullen's words, navies are not designed to be 'freedom-loving' but tools of their political masters. No other navy will contribute or benefit except as a direct result of its own government's policy decisions to support, acquiesce, or obstruct the progress of a '1000-Ship Navy'.

The KISS Principle

That the foreign policy of the US desires to exploit the security potential of the global maritime community in its fight against the spectre of evil is completely understandable. It is certainly laudable from the American taxpayers' perspective. Americans by nurture now think 'big'. Thus there was no early hesitation to use the word 'global' in the phrase 'global war on terror'. Regrettably, too often they also think 'simple'. It is a nation with so many sophisticates and intellectuals, yet among 300 million Americans they are very thinly spread. A foreigner listening to the President's first State of the Union address following 11 September 2001 could not help but be struck by the audacious over-simplification in his tendentious statement that 'States like these, and their terrorist allies, constitute an axis of evil, arming [sic] to threaten the peace of the world'.⁴

When considering how the world's navies might contribute to and benefit from the CNO's '1000-Ship Navy', we might wish to bear in mind that it is a concept that perfectly fits the 'big' and 'simple' approach favoured by the world's only remaining superpower. The US was the target of the 2001 attacks. That other countries in the international community suffered losses and that one of the three intended targets was the World Trade Center should not distract from the principal target, which, viewed through a set of Al Qaeda 'effects-based' spectacles, was entirely focused on changing US foreign policy. However, would even the most strategically-minded terrorist have foreseen that among the secondary and tertiary effects of September 2001 would be the alienation, to one degree or another, of many important players in the international community from US foreign policy and the US itself?

Policy by-products of US hegemony have seen the world protesting in the past, most notably during the Vietnam War. The dilemma the US faced after 2001 was either to rely on international bodies for appropriate and timely action that would effectively support US policy, or to go it alone while manipulating their scores of bilateral relationships to achieve policy goals. The former would have maintained the sympathy vote, and possibly in the longer-term achieved internationally binding success. The latter seems more attractive to the independent, frontier spirit and gratifies a concomitant supposition that immediate and positive results will follow. Either option would have followed the 'Keep It Simple Stupid' principle. Unfortunately the Bush administration

chose to merge the two and so a dependence on ever shifting coalitions and partnerships has developed as a result.

Walking the Talk

However, that PSI has had such a degree of success that the US President can claim a global partnership of more than 70 countries is highly questionable. If repeated often enough people will start to believe it, but China and India remain notably absent and, as the Congressional Research Service has consistently noted, it is unclear what 'support' means. According to information released by the State Department, requirements for support appear to be fairly weak.⁵ Nevertheless, it can be argued that the PSI's initial vim from its 11 original members provided much of the impetus to support the United Nations Security Council Resolution 1540. This was the first ever Security Council resolution on non-proliferation issues, adopted in April 2004. The resolution:

calls upon all States, in accordance with their national legal authorities and legislation and consistent with international law, to take cooperative action to prevent illicit trafficking in nuclear, chemical or biological weapons, their means of delivery, and related materials.⁶

However, two years later a further resolution was necessary to encourage the international community to meet the requirements of the first.

Much less successful, although less global in its approach than the PSI, was the Commander in Chief, United States PACOM's (Pacific Command) RMSI.⁷ Just three months after Admiral Fargo's suggestion that the PACOM-led initiative could include the US Navy conducting deterrent patrols in the Malacca Strait, the US Secretary of Defense Donald Rumsfeld himself had become 'very cautious in suggesting the involvement of US troops in securing the straits, while nevertheless making it very clear that the country has strategic interest in the channel'.⁸ There is no doubt that the RMSI initiative, particularly with regard to what the world is encouraged to see as a pirate-infested channel, set off alarm bells in the littoral states of Malaysia and Indonesia. With both nations alert to the threat to their sovereignty and well versed in international maritime law, the RMSI became effectively and embarrassingly dead in the water. However, US military relations with both countries continue to improve, and Malaysia recently extended its bilateral military agreement with the US for a further 10 years.

The CNO's '1000-Ship Navy' concept is a natural progression from the geographically and politically hamstrung RMSI and the limited, in terms of proliferation, PSI. Each of the five US Combatant Commanders, whose areas of interest cover the globe, supports his government's foreign policy through a separate Theatre Engagement Plan, now known as a Theatre Security Cooperation Plan (TSCP). The TSCPs are fully coordinated with the military staffs in US embassies. They aim to integrate available resources - for example, security assistance, military-to-military exchanges, exercises, cooperative

technology development, and outreach programs – and form them into a coherent, mutually supportive set of activities for each country. Each TSCP is broadly similar in concept to a smaller nation engaging in defence diplomacy in its region through an international engagement plan. The CNO's global vision of a '1000-Ship Navy' logically could be expected to integrate the appropriate maritime air, surface and sub-surface capabilities into each Combatant Commander's TSCP. There is no indication this occurs, although inevitably there will be coincidental synergies between concept and TSCPs. In terms of command and control it would have been preferable for the Chairman of the Joint Chiefs of Staff to propose and champion the '1000-Ship Navy', encouraging closely coordinated joint force integration in its support.

It would be naive of any nation to trust that TSCPs exist for the mutual benefit of the US and themselves. The Quadrennial Defense Review and National Security Strategy of the United States exist to protect current national security arrangements, dissuade military competition, deter threats to vital interests, and defeat enemies that cannot be deterred. In 2002 Admiral Fargo expressed it thus: 'Pacific Command operationalizes national security strategy and national military strategy with a regional emphasis'.⁹ By 2006 the focus for PACOM was divided into five areas:

- prosecuting and winning the 'war on terror'
- maturing joint and combined warfighting capabilities and readiness
- ensuring the credibility of operational plans
- advancing regional security cooperation'
- posturing forces for agile and responsive employment.¹⁰

Equally, the CNO's enthusiasm for his '1000-Ship Navy' is driven not by philanthropy but national interest. A year after introducing the '1000-Ship Navy', Admiral Mullen was urging positive steps to act quickly to develop global maritime partnerships. He describes three 'compelling' reasons to do so: the rapid pace of globalisation, that the threats faced are real and pervasive, and the 'carrot' of significant technical progress. It is not at all surprising that the CNO of the world's greatest economy would state:

We are all now connected. We all face the same dangers. We all share the same opportunities. And since most of the world's commerce still travels by sea – some 90 percent – the opportunities before us in maritime security have become more critical and more promising. In this global era, the economic tide of all nations rises – not when the seas are controlled by one – but rather when they are made safe and free for all.¹¹

The US economy is potentially the biggest loser if Admiral Mullen's 'ideologues, pirates, proliferators, criminals, and terrorists' succeed.¹² But succeed in what, and to what degree, and how to define their success? The CNO's target set appears now to have grown radically beyond terrorism. A cynic might claim that without September 2001 and terrorism as its catalyst, PSI, RMSI and the '1000-Ship Navy' concept would not have seen the light of day. The broad expansion of the latter to include 'pirates,

proliferators and criminals' appears to be a matter for police and coastguard forces, not the world's navies – not to mention the safeguards comprised within existing international law. Malaysia's new Maritime Enforcement Agency is perhaps one example of a more appropriate response to the threat Admiral Mullen describes.

Contributions

Navies around the globe possess assets that, combined with sufficient political will and direction, could contribute to the '1000-Ship Navy'. For example, they may employ direct force, interdiction and boarding, establish a presence by patrolling, or conduct intelligence gathering. To undertake any role or a specific mission in support of this global partnership would require information. At the September 2003 PSI meeting, a number of guidelines were agreed for information exchanges that are equally relevant for the development of the '1000-Ship Navy'. The thorniest issue is to what extent participants are expected to contribute to the timely sharing of information to be used for the identification, monitoring, disruption or interdiction of illegal activities? Each nation, whether acting independently or in an alliance, will have defined national release criteria for naval intelligence. Each nation can be expected, for example, to have clearly defined rules for releasing information about intelligence platform capabilities. In the short term it would be naive to expect national release policies to change. It has taken the impetus of two Gulf wars for the US to reconsider its release of military information to its two closest military allies.

Benefits

Where nations can reach agreement on information sharing, the benefits of the '1000-Ship Navy' could include developing best practices and interoperability where units operate together or boundaries of operations coincide. Information sharing may help improve communications and strengthen trust or at least further develop mutual understanding. With the help of more sophisticated neighbours or input from the US it may lead to the introduction of new technologies. Doctrine and tactics will also benefit from a different focus while combined training and exercises offer other opportunities to improve.

When decisions are made for navies to operate together to support the concept there may be substantial operational benefits that follow increased cooperation. In September 2005 following a Malaysian proposal, four nations began joint aerial 'Eyes in the Sky' maritime patrols over the Malacca Strait in order to counter perceived threats of piracy and terrorism in this vital waterway.¹³ The three littoral states of Malaysia, Indonesia and Singapore had already begun coordinated sea patrols of the waterway. Such initiatives may or may not have come about through international pressure, but the resulting dialogue, exchange of personnel, increasing trust in each other's capabilities and knowledge of operations are the positive benefits envisaged by Admiral Mullen's '1000-Ship Navy' concept.

Those willing to get on board with similar initiatives can expect support from US Combatant Commanders in the form of targeted capacity building, military financing, the infusion of security assistance funding, and other types of security cooperation activities seen as essential to the execution of US strategy in combating terrorism. Combined with diplomatic support and initiatives, these measures, at a relatively low cost to the US, can provide a heady and worthwhile mixture for smaller states. Singapore and the US signed a Strategic Framework Agreement in July 2005 recognising Singapore as a major security cooperation partner. This agreement, and the supporting Defense Cooperation Agreement, solidifies strategic access to Singapore for visiting US forces. The Republic of Singapore Navy is unlikely to regret allowing the US Navy onto its dance card, yet such initiatives emphasise the delicate balancing act the US is required to conduct in its strategic relationships as to whether eyes are cast from Malaysia and Indonesia.

The Big Picture

The involvement of the world's navies is only a small part of the solution for the '1000-Ship Navy' concept. Christopher Cavas has described the difficulties of intercepting an imaginary shipping container containing biological hazards destined for the hands of terrorists, and concludes: 'Stopping this threat and other forms of weapons of mass destruction from making their way across the world's oceans is a challenge for the US Navy.'¹⁴ In fact it is not a challenge for the navy but for national and international law enforcement agencies and for the US Government. The State Department sees controlling and managing such a threat as a part of 'transformational diplomacy'. If someone is to fulfill a 'globo-cop' role to secure the maritime domain before ships enter the Department of Homeland Security's area of interest, pragmatically it will be the State Department, not the US Navy. Transformational diplomacy sees *partnerships*, both established and yet to be realised, as the key to protecting the global maritime supply chain against terrorism and weapons of mass destruction. The State Department is right to see cooperation between the public and private sectors as critical.

The Secure Freight Initiative is a demonstration of a multi-lateral partnership in that both foreign governments and privately-owned maritime terminal operators have teamed together with us to improve our ability to scan US bound cargo with radiation detection equipment and non-intrusive imaging equipment for nuclear and other radiological materials.¹⁵

The US has created a global initiative with partners as diverse as Kazakhstan and Morocco to work with the private sector to enhance the implementation of the Global Initiative Principles espoused by Secretary of State Condoleezza Rice. These principles include best security practices for private firms; developing new technology; such as in enterprise risk management and biometric identity verification tools; and inevitably, strengthening information sharing.

There are, of course, not only national but bilateral and multilateral partnerships to be more fully exploited in developing maritime domain awareness essential to the

'1000-Ship Navy', for example, the Non-Aligned Movement and the Organization of the Islamic Conference. International maritime organisations already play a crucial role: they provide a large number of legal acts without which oceanic anarchy would result. The International Maritime Organization (IMO) has specific powers under the *United Nations Convention on the Law of the Sea 1982*, which puts it in a position to actively develop new standards that require adherence by the international community. After 2001, the IMO brought out new regulations to deal with security on certain categories of vessels and the port facilities with which they interface, affecting established regulations like the *International Ship and Port Facility Security (ISPS) Code*.

The Future

Since 11 September 2001, great strides have been made to increase US security. Given the global economy and the US reliance on trade, the Bush Administration quickly came to terms with the notion that it could not take those steps in isolation. The various partnerships previously described together with many other initiatives, including regime change in Afghanistan and Iraq, have been the individual notes of an orchestra's many musicians contributing to the opus of the global war on terror.

The difficulties encountered in the intervening five or so years have owed more to the lack of an original harmonic score than of talent from the individual musicians or sections within the orchestra. Time should have been set aside to develop an original score; that is, a comprehensive inter- and intra-agency Shaping and Influencing Plan (in US parlance 'strategic communications'). Had such a score been composed with international venues and an international audience in mind, it is possible there would by now be applause and requests for an encore, rather than requests for refunds. As recently as February 2007, the Australian Foreign Minister Alexander Downer stated:

anti-American feeling in Europe is playing into the hands of al-Qa'eda ... obviously America's enemies take comfort from continual attacks on America by America's friends.¹⁶

It is within the global context of US international relations and international commerce that the concept of a '1000-Ship Navy' will see victory or defeat. The dependence of almost all governments on trade may well influence its victory, but it unlikely to be recognised as such, nor is Admiral Mullen likely to be given the credit as has been described above. Many of the 'ships' are already positioned and are, quite rightly, not controlled by admirals.

Today the US is still coming to terms with how its government will seamlessly integrate its individual agencies in the 'war on terror'. Initially, it may have overlooked some of the international maritime organisations and legislation that are already in place. This does not appear to be the case today, and in principle US policy supports Admiral Mullen's vision of a global maritime partnership that unites maritime forces, port operators, commercial shippers, and international, governmental and non-governmental agencies.

However, the present administration has yet to comprehend fully how to carry the international community with it in order to avoid Lenin's 'one step forward two steps back'. It is not entirely clear that another new 'partnership', one of a '1000-Ship Navy' is actually required nor, if it does emerge, how equal the individual national partners may be in relation to one another. Regrettably, the ultimate success of the CNO's vision will depend entirely on political pragmatism and commercial forces rather than the goodwill of the international naval community.

Notes

- ¹ White House Press Release, 23 June 2006, <www.whitehouse.gov/news/releases/2006/06/>.
- ² 'We can't do it alone', Commentary, *Honolulu Advertiser*, 29 October 2006, <www.navy.mil/navydata/cno/mullen/Honolulu_Advertiser_October_29_2006.pdf>.
- ³ Admiral Mike Mullen, Remarks as delivered for the 17th International Seapower Symposium Naval War College, Newport, RI, 21 September 2005. The symposium's theme was 'A global network of maritime nations for a free and secure maritime domain', <www.navy.mil/navydata/cno/mullen/speeches/mullen050921.txt>.
- ⁴ The President was referring to North Korea, Iran and Iraq. Sharon Squassoni, *Proliferation Security Initiative (PSI)*, Congressional Research Service Report for Congress Order Code RS21881, updated 14 September 2006, <www.fas.org/sgp/crs/nuke/RS21881.pdf>.
- ⁵ Squassoni, *Proliferation Security Initiative (PSI)*.
- ⁶ United Nations Security Council Resolution 1540, Adopted by the Security Council at its 4956th meeting on 28 April 2004.
- ⁷ The PACOM area of interest extends to only 47 countries.
- ⁸ *The Jakarta Post*, 9 June 2004.
- ⁹ T.B. Fargo, 'Operationalizing the Asia Pacific Defence Strategy', *Joint Force Quarterly*, Autumn 2002, <www.dtic.mil/doctrine/jel/jfq_pubs/0532.pdf>.
- ¹⁰ Statement by Admiral William J. Fallon, US Navy Commander USPACOM, before the Senate Armed Services Committee, 7 March 2006, <www.pacom.mil/speeches/sst2006/DAR-FY07-Fallon%2003-07-06.pdf>.
- ¹¹ Admiral Mike Mullen, Remarks as delivered to the Western Pacific Naval Symposium, 31 October 2006, <[www.navy.mil/navydata/cno/mullen/speeches/WPNS%20CNO%20remarks%20as%20delivered\(2\).pdf](http://www.navy.mil/navydata/cno/mullen/speeches/WPNS%20CNO%20remarks%20as%20delivered(2).pdf)>.
- ¹² *Webster's Revised Unabridged Dictionary*, 1998, describes an 'ideologue' as one given to fanciful ideas or theories; a theorist, a spectator. It is questionable whether the CNO meant to include ideologues in his list.
- ¹³ Malaysia, Indonesia, Thailand and Singapore.
- ¹⁴ C.P. Cavas, 'The Thousand-Ship Navy', *Armed Forces Journal*, December 2006, <www.armedforcesjournal.com/2006/12/2336959>.
- ¹⁵ A. Grant, Deputy Director State Department 'Transformational Diplomacy to Protect the Maritime Supply Chain', Remarks to the Marine Log-sponsored Maritime and Port Security Conference and Expo, Crystal City, VA, 23 January 2007, <www.state.gov/t/isn/rls/rm/79524.htm>.
- ¹⁶ D. Blair, 'Australia: Anti-Americanism helps fuel terror', *UK Telegraph*, 10 February 2007, <www.telegraph.co.uk/news/main.jhtml?xml=/news/2007/02/09/woz09.xml>.

How Should Navies Adapt to the Changing Expectations of Generations X and Y?

Lieutenant Commander Sue Harling
Royal Australian Navy
2007 Winner Officers' Section

Generational differences pose a greater management challenge than the obvious differences of race and sex.¹

As the first decade of the new millennium nears its end, two new generations of workers, with their own set of attitudes and values, are making their mark in the workplace: Generations X and Y. These two generations are now working side by side with the preceding generation, the Baby Boomers, adding to the diversity of personnel who serve in today's navies. Naval life is demanding, not only physically and mentally, but also in terms of the organisations' expectations that members will adhere to the unique set of acts, policies, values, beliefs and traditions that govern navies. How then should navies adapt to the expectations of the new generations; indeed, should they adapt at all? These are questions that need to be answered if only because Generations X and Y are the future workforce of navies.

The literature on generational differences in the last decade indicates that the differences between the generations should be accounted for; that failure to do so could result in a loss of productivity, corporate citizenship, and innovation, as well as the inevitable breakdown in communication between the generations at work.² Quite apart from these challenges that might be common to many workplaces, navies have their own: those of attraction, recruitment and retention – the challenge of positioning a naval career as a career of choice.³ If the age-diversity of the navy workforce is indeed such an important issue, a suitable framework with which to examine the subject, and find answers to it, should be found.

The purpose of this paper is to offer an approach that navies could use to adapt to the changing expectations of Generations X and Y. The first section will examine the nature of naval service and the expectations of the organisation. The examination will be limited to service within the Royal Navy, Royal Australian Navy, Canadian Navy and the Royal New Zealand Navy, because these navies are volunteer forces that, arguably, share a similar cultural heritage. As such, for the purpose of this paper, the term 'the navy' will be used as a collective term that refers to all four navies. The second section will examine the generational literature to gain necessary insight into the nature of Generations X and Y, including their relative values regarding life and work. The third section will draw together the findings from the first two sections and will provide an

answer to the question of 'why should' navies adapt to their expectations. The 'why should' question is considered to be one that needs to be answered before the question of 'how should'. Without being satisfied that adapting to the changing expectations of Generations X and Y is necessary, the question of how navies should adapt becomes, perhaps, irrelevant. The final section offers a framework that navies could use as a strategy to adapt to the changing expectations of the generations in question.

The Nature of Naval Service

People who serve in the Navy, Army and Air Force are not civilians in uniform ... members of the Profession of Arms are different; they are required for example to place themselves at risk ...⁴

The inherent requirements of naval service, as with the other arms of a nation's defence force – the army and air force – are very distinct from those expected of employees in the civilian work force.⁵ At a fundamental level, members of the navy are not considered 'employees' but are instead 'members' of the organisation who 'serve' their country.⁶ As such, naval personnel do not have full rights to the provisions of relevant employment legislation. For example, members of the navy are not able to withhold their labour to negotiate for improvements in their pay and conditions (strike), and at an individual level members of navies are not free to terminate their employment with the organisation to suit themselves – separation is only possible at certain specified times or with special permission.⁷

However, the legal technicalities of employment law are far from the differences between civilian and military life. The military has been described as a 'total institution' where military life extends far beyond standard work hours into a member's private life in a way that is not applicable to their civilian counterparts.⁸ Where a civilian employee's life outside the work environment is largely their own, a naval member's life has many constraints placed upon it. Their lives are governed by the extensive disciplinary system of the organisation, various administrative regulations, and the relevant government acts.⁹ In essence, citizens give up certain rights upon voluntary entry into the navy and take on certain obligations – including, importantly, that of placing oneself at risk if the situation warrants.¹⁰

In addition to the various acts and administrative policies that outline the expectations the navy has of its members, the organisation also expects their members to subscribe to its unique set of values, beliefs and traditions.¹¹ The common theme of the stated values of the subject navies is that they expect their members to mentally contract to display, at all times, loyalty, courage (both physical and moral), honesty, and to be trustworthy members of the team.¹² These values are encapsulated neatly, for example, in the Canadian Defence Force's Statement of Defence Ethics: 'Respect the Dignity of All Persons, Serve Canada Before Self, Obey and Support Lawful Authority'.¹³

The navy has very high expectations of its members. Service in each of the navies examined in this paper is voluntary, and so to join the Service, arguably, implies a unilateral acceptance and integration of the heavy demands of the organisation and its values. In the context of this paper's subject, this scenario begs the question of the congruence, or otherwise, of the navy's values and expectations with those of Generations X and Y. What adjustments, if any, might navies be prudent to make to the demands they place on Generation X and Y members, who, after all, are the future of the organisation? Before any consideration is given to making adjustments for the two generations, a look at the key human resource (HR) challenges faced by navies is important.

There are a number of HR challenges facing navies today. Among them are issues such as leadership, career development, responding to the growing demand for work and life balance, and flexible work initiatives.¹⁴ However, key among navies' current challenges are the wider issues of attraction, recruitment and retention – the latter being retention for lengths of time that enable key skills, experience and competencies to be developed and used.¹⁵

Generational Categories and Characteristics

The concept of generations was introduced into sociological theory during the 1950s by Karl Mannheim.¹⁶ A generation is commonly defined in the literature as an identifiable group of people who share a band of birth years and key life experiences as they move through life together.¹⁷ As they do so they are exposed to, and influenced by, a range of social, economic, and major events.¹⁸ The result of their shared experiences are certain generational characteristics.¹⁹ These generational characteristics, which are, necessarily, generalisations, act as a filter that influences the particular generation's attitudes to every aspect of their lives – from how they spend their money, attitudes to work and family, attitudes to authority, to expectations concerning how they will meet their various responsibilities.²⁰ As such, we can already begin to hypothesise that generational values may have implications for navies, which have their own values and expectations.

Many differing date ranges have been applied to the generations in the literature but for the purpose of this paper the following, commonly agreed upon, birth years will be used: Baby Boomers (1943-64), Generation X (1965-81), Generation Y (1982-95).²¹ The Baby Boomer generation is included here because many of the senior leaders and managers (and therefore policy-makers) in the navy today are from that generation. Any consideration of adapting to the changing expectations of Generations X and Y would, necessarily, be made by them – who of course are influenced by their own generational filter.

The Baby Boomers

The Baby Boomer generation grew up in a time of unprecedented economic expansion in the aftermath of World War II; they had an optimistic view of life and a strong sense of entitlement.²² They were affected by historical events such as the Civil Rights Movement, the Vietnam War, the assassinations of Martin Luther King and John F. Kennedy, Watergate, the first moon landing, and the sexual revolution, to name but a few.²³ The work attitudes and values that are commonly attributed to this generational cohort are: putting one's career before self; loyalty to the organisation; valuing promotions and prestigious positions (and the fringe benefits that go with them); and an inherent belief that the value of work is measured in terms of hours worked.²⁴ In terms of the navy today, the Baby Boomers are the senior officers and sailors who have served in the order of 20 years or more.

Generation X

Generation X is an extremely diverse generation:²⁵ diverse family constellations, diverse races (resulting from liberalised immigration laws), and diverse and rapidly changing technologies.²⁶ In contrast to the Baby Boomers, their formative years were marked by economic, family and societal insecurity.²⁷ The Boomer's optimism was therefore replaced, in Generation X, with a general sense of insecurity – they are a generation who learned to take nothing for granted. As such, the work attitudes and values attributed to this cohort include: mobility and flexibility – they believe that security comes from being able to market one's skills and transfer them to new organisations as the need or desire arises; an expectation to balance work and family responsibilities; independence and resourcefulness; and a marked cynicism towards authority and organisations.²⁸ Interestingly, given the Generation Xer's cynicism towards authority, the single greatest motivator for them is a high quality of leadership.²⁹ The Generation X population of the navy range from people holding senior positions to those who have served up to 10 years and are probably entering middle management.

Generation Y

In many ways, the experiences of Generation Y could be said to be an amalgam of both the Baby Boomers and Generation X. Like the Baby Boomers, they are a large cohort – much larger than Generation X – and their early lives were marked by economic growth and prosperity.³⁰ However, they, arguably, have much more in common with Generation X. They too were brought up with diversity, and as a result are very comfortable with it. They have also been brought up with rapidly changing technology; 'absent' parents resulting from family breakdowns and/or dual income parents; the Gulf and Iraq wars; terrorism; and, although brought up in economically prosperous times, are maturing in an age of economic uncertainty and increasing violence.³¹

The work attitudes and values exhibited by Generation Y include: self-reliance and independence; flexibility (ie. a desire for part-time, and/or telecommuting options); a strong desire for work-life balance (Generation Y workers value their non-work lives highly); a desire for professional development opportunities; and a desire to work 'smarter' rather than 'harder'.³² However, in apparent contradiction to their independent spirit, Generation Y people value strong leadership and managerial support (including mentoring). They also desire collaboration; expect to be involved in decisions in the workplace; are strong team players; and are willing to fight for causes such as social justice, freedom and the environment.³³ To this latter end, Generation Y people tend to join organisations that they perceive to reflect their own ideals.³⁴ The Generation Y population of the navy are those that have served up to 10 years (middle management) or below. They are also the generational cohort who will make up the future entrants to the organisation, and at whom recruiting strategies will be aimed.

Navy Values vs Values of Generations X and Y

After both the examination of the demands and values of the navy, and those of Generations X and Y, the question of similarities and differences between all three arises. Is there a case to be made for navies to adapt to the expectations of Generations X and Y? The answer to this question – the *why* question – would seem, in simple terms, to lie in the inherent age-diversity of the modern navies' workforces.

The three generational cohorts bring a range of different attitudes, values and demands to today's navies. There are some arguable similarities to each other and to the current demands of naval life; for example, the desire for flexibility, work-life balance, and strong leadership among Generations X and Y; the courage to fight for causes (Generation Y and the navy); and the desire for teamwork (Generations X and Y and the navy). However, as the literature suggests, the generational 'filters' used by each cohort to interpret and manage their work lives are, necessarily, different and imply that the differences need to be accounted for.

In essence, if navies are to meet their respective HR challenges of attraction, recruitment and retention, it is apparent that there is a case to be made for them to recognise and accommodate the demands of their age-diverse workforces. The remaining question is, how should navies go about the task?

A Human Resource Strategy to Accommodate Generations X and Y

The age-diverse workforce of the modern navy, and the many possible implications arising from it cannot be denied; however, to what extent the diversity impacts on the key challenges of navies (attraction, recruitment, and retention), is something that is open to question. At this point it is important to recognise this unanswered question

because the answers to it have possible implications for the development of any far-reaching HR strategy that attempts to address the issue of adapting to Generations X and Y. There is an argument in the literature, for example, to suggest that generational labels do not prove that the accompanying differences impact sufficiently on workplace behaviour to justify discrete policies to manage them.³⁵ Therefore, without a quantifiable answer to the question, navy HR strategists may not have sufficient information to justify a far-reaching strategy that includes resource-intensive policies and practices. The scope of this paper does not include an answer to the question because an answer would need to come from focused empirical research. However, the gap in knowledge is accounted for in the framework that follows.

As with any strategy that attempts to address a set of circumstances, the strategy must address the whole issue rather than a part or parts of it in isolation. In the case of navies adapting to the changing expectations of Generations X and Y, it would perhaps be tempting to base a strategy on a comparison of the generations' similarities and differences to the expectations of the navy. However, to do this would probably result in a series of disconnected HR policies and programs to target one or more of the sub-issues (such as work-life balance and flexible work practices), and in so doing, fail to address the wider issue of diversity. This is not to say that a range of HR incentives should not be considered – indeed this would probably be as counterproductive as considering them in isolation. However, a broader framework that recognises the central issue of diversity is paramount, as this would allow supporting HR policies and practices to be considered in the appropriate context.

The concept of diversity management is embedded in both the values and policies of the subject navies; as such, it is not a new concept to them. In broad terms, diversity management refers to 'the systematic and planned commitment by organisations to recruit, retain, reward, and promote a heterogeneous mix of employees'.³⁶ Nevertheless, generational differences are often ignored in the context of diversity management.³⁷ This seems unfortunate because of the potential the concept has to assist in the management of age-diverse workforces.³⁸

The diversity management framework, if it is expanded from the narrow 'race and gender' model,³⁹ has many advantages in terms of accommodating the expectations of Generations X and Y. First and foremost it provides a fresh perspective with which to view the generations – noting that the Baby Boomer generation are currently doing the 'viewing' most likely from their own generational perspective! From this fresh 'diversity' paradigm flows two major advantages: the creation of an inclusive and equitable environment that accounts for the needs and desires of all generations – a 'we' approach, rather than an 'us and them' approach,⁴⁰ and acknowledging and using members' generational differences (ie. experiences, views and skills) as strengths rather than liabilities⁴¹ – after all, Generations X and Y are the future of the navy.

Creating an inclusive and equitable work environment that uses generational differences as strengths – that is, where the three cohorts act as ‘generational informants’ for each other⁴² – would lead to HR strategies that deal with recruitment, reward and retention, as well as consideration of such issues as leadership and management styles. HR policies that provide for the increasing demand from Generations X and Y for such factors as a meaningful balance between work and life, and flexible work practices could also be accommodated within the diversity management framework. In essence, the navy would become a ‘generationally savvy’ organisation.⁴³

However, to be truly ‘generationally savvy’, there is, at least, one more element to the diversity model that is proposed here: research. A continual cycle of research that aims to first identify to what extent the organisation should adapt to the changing expectations of Generations X and Y; and second, continues the cycle of inquiry is needed. Without this inquiry any strategy may quickly become redundant and may not keep pace with how expectations are changing.⁴⁴

In summary, the framework that is offered in this paper to assist navies in adapting to the changing expectations of Generations X and Y is based on the diversity management framework. It is one that would offer a new way of thinking about and managing generational differences. Rather than casting a particular generation as a problem or liability, the diversity management framework has the capacity to encourage an ‘all of one company’ approach that respects differences and capitalises on them. Informing the framework and its strategies would be a continual cycle of review.

Conclusion

This paper began with what appeared to be a fairly simple question: How should navies adapt to the changing expectations of Generations X and Y? However, a review of the literature, set against the context of the nature of naval service, has shown that the question, although seemingly simple, does not have a simple answer. Rather, a search for an answer has indicated a need for some focused, primary research on the matter. Thus, in the absence of relevant research, this paper has offered a first-stage approach to the issue.

There is no denying that generational differences exist; the navy is made up of at least three generations (not just the subject Generations X and Y) all with their own views on the values, attitudes and demands of the navy. Therefore this paper puts forward the diversity management model as a suitable approach to the issue of adapting to the changing expectations of Generations X and Y. It has many advantages in that: navies are already familiar with it; it offers a new way of thinking about age-diversity, and has the capacity to encourage an ‘all of one company approach’. Ultimately, the diversity management framework offers flexibility and would be a supportive foundation from which future, fully researched initiatives could be built.

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

Warrant Officer (ET) Simon Kelly
Royal Australian Navy
2007 Winner Sailors' Section

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 surplus-ed 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.¹

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 governments' efforts to introduce cost savings into naval operations.² The Australian Defence Minister Brendan Nelson used the 'tooth to tail' description to explain how government policy was to redirect defence resources into combat and direct combat support positions.³

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 it is mandated by government legislation. Essentially, to place the Australian Defence Minister's comments into perspective, the theory behind the increased emphasis on outsourcing is so that naval personnel can concentrate 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 services 'cheaper, provide greater flexibility, and allow the military to focus on its core mission'.⁴

In his theory of why organisational accidents occur, Professor James Reason proposes that these accidents are a result of a 'Swiss cheese' principle.⁵ 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. Consequently, the instant that these 'holes' were aligned, it allowed the accident to eventuate. Reason's proposition, while 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.

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; 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.

Outsourcing Definition

Outsourcing has a number of negative connotations: the spectre of retrenchment, loss of asset capability control, quality reduction of the product or service, and even eventual rise in cost, just to name a few. These perceptions are not necessarily unfounded.

It is perceived that there are considerable benefits to outsourcing. As navies attempt to reduce operating costs, outsourcing is viewed as an opportunity to facilitate 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 and 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) that are not fundamental to achieving capability delivery.

Outsourcing is a process where activities previously conducted in-house 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, while the workload is now undertaken by the private sector, no government facilities ‘are transferred to the private sector’,⁶ thus ownership of the facilities remains with the government, permitting a significant amount of control over operations.

Military Outsourcing – A Historical Perspective

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 reveals how extensively outsourced support in the form of mercenaries have been used through the ages. When considering those activities that could be outsourced during medieval times, mercenaries were used extensively by ‘ancient Chinese, Greek and Roman armies’.⁷ Following the Treaty of Westphalia in 1648,⁸ mercenaries were used freely 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.⁹ Use of outsourced mercenaries was not limited to land

warfare – the use of privateers was prolific among the major (and at the time minor) maritime nations.

During the 1600-1800s privateers were privately owned vessels, either by an individual or consortium. These vessels were contracted to the governments legally, as ‘vessels belonging to a private owner, 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’.¹⁰ Privateers were also used to ‘rapidly expand maritime power in time of war’.¹¹ In this manner, England was able to counteract the threat from the Spanish Navy in the 16th and 17th centuries. Perhaps the most notable privateers of this time were Sir Francis Drake and Sir Walter Raleigh,¹² who were knighted for their efforts of plundering ‘Spanish ships and extorted large sums of ransom from settlements in Spanish America’.¹³

During the American War of Independence and the war of 1812, privateers were also used to good effect (primarily by the Americans). During 1778-83, 600 English ships were ‘captured or destroyed’,¹⁴ and during the War of 1812, 1300 ships were captured.¹⁵ Mahan notes that the American colonists could not compete with the British Fleet,¹⁶ and ‘were consequently forced to abandon the sea to them’.¹⁷ 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’.

Benefits of Outsourcing

The modern trend of outsourcing support and services to military forces had its genesis in the decentralisation initiatives of the Thatcher Government after its election in 1979 in the United Kingdom.¹⁸ It gained greater momentum following the breakdown of the former Soviet Union and the subsequent ‘peace dividend’,¹⁹ in which defence spending was reduced. This necessitated a rethink of how defence budgets were spent. While it could be argued the 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’.²⁰

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’s amphibious task group contained 26 Royal Navy Ships, 22 from the civilian-crewed Royal Fleet Auxiliary, and some 40 were privately-owned merchant vessels that were contracted for the duration of the conflict.²¹ For any future conflict the effectiveness of strategic sealift remains germane as the only effective manner of transporting bulky materiel.

Consequently, the benefits of outsourcing such a capability remains today. For smaller countries, the cost of acquiring and maintaining this strategic sealift capability can be prohibitive. Thomson argues that from an economic viewpoint 'why invest hundreds of millions, if not billions, of dollars on surge capabilities that are seldom required if they are available in the marketplace?'²² From an Australian perspective this has proven true, as almost every major deployment in the last ten years has relied on military and civilian 'combination of sea and air transport to move stores and equipment'.²³ Ignoring recent events in Iraq, there is also a political advantage to outsourcing support, whereby contractors can be used to provide 'tail-like' support.²⁴ 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 uses of contractors in this scenario allows forces to be freed up for 'mission critical military tasks'.²⁵ 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 employed.²⁶ The advantage of using contracted support in this fashion allows the flexibility of increasing or decreasing the level of support in 'response to changing requirements'.²⁷ 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.²⁸ Australia has embarked on such a program with the air warfare destroyer project.

Negative Perception of Outsourcing

The fundamental concern about 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 company may be unable to provide the service for which they are contracted. In parallel, losing control of a supporting function was the most commonly cited reason why civilian companies do not outsource logistic support.²⁹

This 'loss of control' of logistic support also has parallels in the defence industry; logistics support takes on a different emphasis to that of the commercial world. The primary purpose of the military logistician is to support the warfighter under all conditions anywhere in the world, and 'must take risks that no third-party logistic company is required to take'.³⁰ Essentially, defence-related logistic support ensures that the operational effectiveness (of the warfighter) is maintained. However, the risk of using civilian contractors in support of defence logistics operations is 'operational failure',³¹ that is, the inability or the reduced effectiveness of a capability in conducting the required mission.

Furthermore, a 2001 United Kingdom (UK) Defence Paper 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.³²

There is also the physical risk (to the contractors themselves) associated with supporting a weapon system. While 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 for 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'.³³ 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'.³⁴

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 the number of public servants who oversaw defence procurement by 50 per cent, and outsourced these functions to private firms, whereby 'contractors were hired to manage contractors'.³⁵

Between 1997 and 2002, the US Navy planned to evaluate some 80,500 military and civilian positions for a projected saving of US\$2.5 billion.³⁶ 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 impact of the loss of shore positions that allowed sailors respite from serving at sea (if adequate shore positions in specific locations were available). This becomes a personnel retention issue, which exacerbates a retention issue already affected by outsourcing. The Government Accounting Office (GAO) further reported that the US Navy subsequently withdrew a number of areas from the planned outsourcing initiatives because of the effect 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.³⁷

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 work with or for private contractors can cause friction. A 2005 case study found that mixing US Navy uniformed personnel and Civilian Mariners (CIVMARs) in the same vessel, which allowed the uniformed personnel to concentrate on core military duties, also had the effect of a 'negative comparison among service members' with an increase in intentions to separate.³⁸ One particular aspect that struck a raw nerve was when sailors and CIVMARs were standing

watch together and the conversation (naturally) turned to remuneration. Imagine the sailors' indignation when they discovered the CIVMARs were being paid overtime, something a uniformed sailor will never receive.³⁹ Ultimately, in this mixed crew environment, sailors were comparing themselves negatively to the CIVMAR, which in turn did impact on their 'attitudes about remaining in military service'. 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' were the primary causes for dissatisfaction among uniformed personnel.⁴⁰

Western navies have progressively outsourced auxiliary maritime functions, such as tug operations and 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'.⁴¹ While the employment of CIVMARs allows sailors to concentrate on those core specialist activities and frees them from routine (boring) tasks, using CIVMARs introduces another complexity. The US Navy has commenced employing CIVMARs alongside uniformed personnel in warships (USS *Mount Whitney*). In doing so, they are potentially in contravention of the *United Nations Convention of the Law of the Sea, 1982* (LOSC). Under LOSC, warships must be, amongst other requirements, 'manned by a crew which is under regular armed forces discipline'.⁴²

While this initiative may seem innocuous, the implications to the CIVMARs could be catastrophic on the basis that under Geneva Convention and Laws of Armed Conflict - that 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 abolishing privateers; however, this new US initiative also may have the unintended implication of clouding the role that the CIVMAR plays in belligerent action. Not only will they lose immunity to attack, but there is 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'.⁴³ Certainly a method to avoid this situation, in times of hostilities, would be to make these CIVMARs join the navy as reservists - the UK Ministry of Defence has indicated they intend doing this with outsourced transport drivers. The potential for degradation of warfighting capacity is increased with the replacement of uniformed personnel with civilians, and careful implementation must be considered.⁴⁴

Managing the Risk

Navies investing in functions with high-levels of redundancy is a method to reduce risks; however, the decision to outsource a particular support service may itself be justified and sensible in that particular context. 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 Australian National Audit Office concluded that the Australian Department of Defence should 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'.⁴⁵

Conclusion

While 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. Rather than being afraid of contracting out support, outsourcing provides an opportunity for flexibility by reducing operating costs through eliminating non-essential support activities. Providing support when and where it is needed allows the transfer of allocated budget into combat capability.

While the failure of outsourcing initiatives present serious risks to navies, ensuring that expectations are clearly defined and agreed to by the contractor, and knowing the difference between what the contractor will (and will not) be providing, and when, are fundamental to the successful through-life support of a capability.

Outsourcing in a military sense is an attractive option when there are clear organisational benefits to no longer conducting activities in-house. Importantly, any decision to contract out a function must be measured against two yardsticks: outsourcing must provide value for money and not just be cheaper than conducting that activity in-house, and that by contracting out a function implies that this function can be done better by an external provider.

Contractors are here to stay, and they are increasingly diversifying into areas previously considered off-limits. Contractors are now providing critical support to areas that directly contribute to capability application, 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. While it may seem like semantics if a contractor is employed to allow combatants to be in a position to undertake action, the act of 'pushing the button' must be under strict controls, which only a uniformed member can provide.

Ultimately a decision to outsource requires an understanding of two main risks: that of control, or perhaps more succinctly the loss of control; and the risk associated with non-performance, that is, 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 to avoid system failures. As contracted support is increasingly being employed to support new capabilities, how these business decisions will affect the capability when used in operations must be paid close attention. 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, such as by private military companies, can have international implications.

Outsourcing has long been used to augment military forces, and the evidence points to outsourcing being effective as a force multiplier; however, the principle question remains one of risk, not necessarily one 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 made on the basis of providing long-term savings, and more significantly a net tactical advantage.

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