



Winter 2002

AUSTRALIAN NAVAL INSTITUTE Inc.

The Australian Naval Institute was formed and incorporated in the ACT in 1975. The main objectives of the Institute are:

- to encourage and promote the advancement of knowledge related to the Navy and the maritime profession; and
- to provide a forum for the exchange of ideas concerning subjects related to the Navy and the maritime profession.

The Institute is self-supporting and non-profit-making. Views and opinions expressed in the Institute's publications are those of the authors and not necessarily those of the Institute or the Royal Australian Navy. The aim is to encourage discussion, dissemination of information, comment and opinion and the advancement of professional knowledge concerning naval and maritime matters.

The membership of the Institute is open to:

- **Regular Members.** Regular membership is open to members of the RAN, RANR, RNZN, RNZNVR and persons who, having qualified for regular membership, subsequently leave the service.
- Associate Members. Associate membership is open to people not qualified to be Regular Members, who profess an interest in the aims of the Institute.
- Honorary Members. Honorary Membership is awarded to people who have made a distinguished contribution to the Navy, the maritime profession or the Institute.

FRIENDS AND SUPPORTERS OF THE AUSTRALIAN NAVAL INSTITUTE

The corporations listed below have demonstrated their support for the aims of the Australian Naval Institute by becoming Friends or Supporters of the Australian Naval Institute. The Institute is grateful for their assistance.

LOPAC Raytheon SAAB Systems Thales Underwater Systems

ISSN 0312-5807 Volume 28, Number 2, Winter 2002 The Australian Naval Institute - PO Box 29 RED HILL ACT 2603 A.B.N. 45 988 480 239

CONTENTS From the President From the Editorial Board **Subscription Information** Legal Issues Surrounding an Australian Coastguard Lieutenant Commander Cameron Moore, RAN Tactical Warfare Command in the RAN 13 Captain Allan du Toit, RAN One Earth, One Ocean, One Life: The Future Direction of Environment 17 Management in the RAN Lieutenant Commander Steve Cole, RANR and Colin Trinder 21 A Study in Command: RADM Woodward and the Falklands Conflict Commander Tom Mueller, RAN 30 Wreck Finding - Dreams and Reality Lieutenant Tom Lewis, RAN 34 Peace Monitoring Group Bougainville Douglas Ridd SHIPHANDLING CORNER: Manned Model Ship Simulation 38 Commander Ray Griggs, CSC RAN **BOOK REVIEWS:** Seapower as Strategy: Navies and National Interests Reviewed by Doug Steele That Magnificent 9th: An Illustrated History of the 9th Australian Division 1940-46 42

Reviewed by John Connor HMAS Sydney II: The Cruiser and the Controversy in the Archives of the UK Reviewed by LCDR Max Shean, DSO, RANR (Rtd)

Front Cover: Sea King helicopter Back Cover: HMAS Anzac off Heard Is

The Journal of the Australian Naval Institute is printed by New Millennium Print 1/38 Kembla Street, Fyshwick, ACT 2609 2

4

5

6

FROM THE PRESIDENT



Dear Members,

In my last letter I said that I would remain President of the ANI until such time as a suitable successor volunteered. A most suitable successor in the form of Commodore Warwick Gately has indeed volunteered. Formerly the Vice President of the Institute, Warwick assumed the Presidency on 5 July 2002. I know that he will be an excellent President.

I took over the President's job from Rear Admiral Bill Dovers in early 1999. At that time I remember very clearly the concern we shared as to the future viability of the Institute. As I leave the appointment I can note with a great deal of pleasure that the reinvigoration program implemented by the Council in recent years has borne fruit. In recent years the ANI has been fortunate to have a group of enthusiastic and keen volunteers in the Council who have grasped every opportunity to build on the foundation set by their predecessors to further improve the Institute. Membership has improved. Our administration is sound, with the very able work of committed Secretaries and Ms Jean Davit. Funding levels are, if not as comfortable as we would like, certainly adequate to ensure journal production and continuity in our core activities. The quality of journal articles remains high. Importantly, in LOPAC, Raytheon, Saab Systems and Thales Underwater Systems, the Institute is enjoying good corporate sponsorship from some of the most significant members of Australia's defence industry.

On my departure from Institute office (but not from membership!) I would like to thank all the councillors, members and supporters who helped ensure that the ANI achieved its goals during my Presidency.

I wish the Institute all the best in future.

FROM THE PRESIDENT



Dear Members,

At the most recent Council Meeting, Admiral Brian Adams tendered his resignation as President of the Australian Naval Institute. The subsequent election of Office Bearers, detailed fully below, resulted in my nomination for President being accepted. My first action on behalf of Institute members is to thank Admiral Adams for his outstanding contribution over the past three years - a period requiring significant commitment and leadership to reinvigorate the Institute and ensure its viability and relevance in the years ahead. The support provided by the Council in this regard must be acknowledged.

I have watched the Institute for many years from afar, always enjoying the Journal as a forum for discussion and encouraged by the pointed and often spirited contributions from our membership. Given the Journal is the "public face" of the Institute, its quality, in terms of written material and presentation, remain crucial to maintaining and increasing our membership base and the Editorial Board can be proud of their achievements.

On the matter of membership, we should all be active promoters of the Institute, recruiting new members at every opportunity.

For the period ahead, as we advance our knowledge of Navy and maritime issues generally, there remains much to be reported and debated - Navy's operational commitments are extensive and demanding, our future capability and infrastructure proposals are coming to fruition, all of which are underpinned by personnel and training issues.

I welcome onboard the new Council members and look forward to working with the Council in continuing to advance the objectives of the Australian Naval Institute.

President Vice President Secretary Treasurer Journal Editor Reserve Councillor Councillor Councillor Councillor Friendship Councillor Public Officer (non-Council Member)

Commodore Warwick Gately, AM RAN Captain Richard Menhinick, CSC RAN Commander Craig Pritchard, RAN Captain Rob Glanville, RANR Mr Andrew Forbes (vacant) Dr David Stevens Commander Kevin Corles, RNZN Commander Ray Griggs, CSC RAN Commodore James Goldrick, CSC RAN Lieutenant Darryn Mullins, RAN



FROM THE EDITORIAL BOARD

When Volume 28 comes to an end with the Summer Edition later this year, we plan to move to a simple numbering system to track editions of the Journal. As part of our preparation for this, we have reviewed holdings of the Journal and believe the following Editions were **never** printed: Vol 1 No 3 and No 4; Vol 24 No 4; Vol 25 No 3; and Vol 27 No 4. If members have these Editions, could they contact the Editor at the e-mail address provided below please?

There has been an ongoing debate concerning the creation of an Australian Coastguard for many years, particularly during the last federal election campaign. In this Edition, Lieutenant Commander Cameron Moore, RAN examines many of the legal issues associated with creation of a Coastguard and its impact upon the RAN.

We have two articles on the subject of Command. Firstly, Captain Allan du Toit, RAN the outgoing Commander Amphibious Task Group, provides an overview of the Task Group structure recently introduced by the Chief of Navy. As promised in the Autumn Edition, Commander Tom Mueller, RAN examines the command styles used by RADM Woodward during the Falklands Conflict and their relevance to the RAN.

The environment is a growing issue for governments everywhere and this is certainly the case in Australia. Environmental legislation will have a major impact on the manner in which the RAN operates now and in the future. Lieutenant Commander Steve Cole, RANR and Colin Trinder outline Navy's record on environmental stewardship and issues for the future.

The sinking and possible locations of HMAS *Sydney* (II) remain part of an ongoing public debate. Lieutenant Tom Lewis, RAN discusses the complexities and frustration when searching for wrecks.

With the increase in peacekeeping activities since the 1990s, Douglas Ridd has provided an article on his experiences as a civilian member of the Peace Monitoring Group in Bougainville.

One of the aims of the Journal is to be a forum for discussion about issues affecting the Navy. The Editorial Board is keen to receive letters and articles on any subject the readers think would be of interest to Institute members. The address for such correspondence is $\mathbf{a_n}$ i@bigpond.com

The Editorial Board

Chairman of the Editorial Board Editing Staff Member Reserve articles History articles New Zealand articles Shiphandling Corner Book Reviews Mr Andrew Forbes Lieutenant Stewart Muller, RAN Commodore Karel DeLaat, RANR Dr David Stevens Commander Kevin Corles, RNZN Commander Ray Griggs, CSC RAN Dr John Reeve

FEATURES	TIER 1 FRIEND	TIER 2 GOLD Supporter	TIER 3 SILVER Supporter	TIER 4 BRONZE Supporter	TIER 5 Shipmate
Corporate Membership	1	1	1	1	1
JANI Subscription	2	2	1	1	1
ANI Letterhead	yes	yes	Yes		
Ad in JANI	Colour Full Page	One B&W Full Page	One B&W 1/2 Page	One B&W 1/4 Page	Logo
Places at ANI Dinner	2	1	1	1	
Appear on ANI Website	yes	yes	yes	Yes	
COST (pa)	\$10,000	\$5000	\$2,500	\$1,000	\$500

BECOME A FRIEND OR SUPPORTER OF THE ANI

For more details contact Commodore James Goldrick via email: a_n_i@bigpond.com

	STRALIA	AN NAVA	L INSTITUT	E MEMBERSH	IP FORM
	То	o: The Secr PO Bo	etary, Australia x 29, RED HILI	an Naval Institute . ACT 2603	
Austral Austral Re	Australian D ian/New Ze sia-Pacific I st of World	Defence Ford caland Mem Membershij Membersh	ce Academy or S bership Rates p Rates - Annual ip Rates - Annua	Staff College student Annual: \$45. 2yrs: \$ I: \$57. 2yrs: \$109. 3 al: \$63. 2yrs: \$121. 3	s: \$30 yr 85. 3yrs: \$125. yrs: \$161. 3yrs: \$179.
 Regular persons w Associate who profe 	membershi ho have qua membersh ess an intere	p: open to alified for re nip: open to st in the ain	members of the egular membersh o all other persons of the Institute	RAN, RANR, RN nip subsequently and ons not qualified to e.	ZN and RNZVR and l leave the service. be regular members
Family name:				Initia	als:
Family name: Title:	_			Initia Organisation:	als:
Family name: Title: Address:				Initia Organisation:	als:
Family name: Title: Address: Town/City:				Initia Organisation: Postco	als:
Family name: Title: Address: Town/City: Email Addres	s:			Initia Organisation: Postee	als:
Family name: Title: Address: Town/City: Email Addres	s: I apply Please de	y for FULL/ ebit my BA	/ASSOCIATE m NKCARD/MAS	Initia Organisation: Postco embership of the Al TERCARD/VISAC	als: ode: NI. ARD
Family name: Title: Address: Town/City: Email Addres No.:	s: I apply Please de	y for FULL/ ebit my BA	/ASSOCIATE m NKCARD/MAS /	Initia Organisation: Postco membership of the Al TERCARD/VISAC Expiry date:	als: ode: NI. ARD
Family name: Title: Address: Town/City: Email Addres No.: with \$Aust	s: I apply Please de for	y for FULL/ ebit my BA	ASSOCIATE m NKCARD/MAS / r subscription.	Initia Organisation: Postco Postco tembership of the Al TERCARD/VISAC Expiry date:	als: ode: NI. ARD /
Family name: Title: Address: Town/City: Email Address No.: with \$Aust If accepted for	s: I apply Please de for for	y for FULL/ ebit my BA /yea	ASSOCIATE m NKCARD/MAS / r subscription.	Initia Organisation: Postco POStco POStco POStco POStco 	als: ode: NI. ARD / ws of the Institute.



In 2001, the then Opposition introduced the Australian Coast Guard Bill 2001 to the Commonwealth Parliament. While the House of Representatives was never likely to pass the Bill, it is still of significant importance to the RAN. It represents the first legal manifestation of the long and oft discussed Australian Coastguard and the Opposition still appears to favour a Coastguard as an idea. The aim of this article is to discuss some of the legal issues arising from the Bill, the issue of Australia's maritime law enforcement capability, and some alternative legal options for a Coastguard. The article is intentionally brief as its intention is to raise ideas rather than provide a complete exposition of the issues.

Deficiencies in Current Arrangements

There are a number of different Commonwealth agencies with responsibility for maritime law enforcement. It is important to emphasise that the focus of this paper is on enforcement, that is, physically maintaining adherence to the law, as opposed to surveillance, that is, detection of possible breaches of the law.¹ Whilst Coastwatch have responsibility for surveillance coordination, no one agency has effective responsibility for the maritime law enforcement function. There have been a number of reviews of coastal surveillance and enforcement, leading to commencement of the Coastwatch structure

in 1988. Nonetheless, no one agency has had coordinating responsibility for offshore enforcement policy and legislation. While the ADF has the bulk of the offshore capability it is not responsible for policy or coordination. Offshore law enforcement tasks are also only part of the fourth order priority for Defence of peacetime national tasks.² Coastwatch has responsibility for central coordination of enforcement operations. It receives requests from client agencies that it then prioritises into taskings for Coastwatch's own air assets, the ADF and the Customs Marine Unit. Coastwatch however is not responsible for policy or legislation. This is the responsibility of its client agencies, of which there are usually ten:

- Australian Fisheries Management Authority (fishing)
- Australian Quarantine Inspection Service (quarantine)
- Environment Australia (environment)
- Great Barrier Reef Marine Park Authority (Great Barrier Reef)
- Department of Immigration, Multicultural and Indigenous Affairs (migration)
- Department of Foreign Affairs and Trade (foreign/external affairs)
- Australian Maritime Safety Authority (maritime safety and pollution)
- Australian Federal Police (crime)
- Australian Customs Service (border control)

 Department of Industry, Science, Tourism and Resources (resource exploration and exploitation)³

This has a number of consequences.

Whilst there is a Coastwatch Manual, it not do much more than discuss does coordination of surveillance effort and some procedural aspects of apprehension, and reproduce passages of legislation. It does not analyse and explain the legislation nor provide any guidance on the use of force in law enforcement, whether at an individual level or against vessels. Some of the legislation provides for firing at or into vessels but there is no coordinated policy or guidance on when that might occur.4 There is no coordinated guidance on the use of non-lethal weapons or policy on their procurement. Whilst the RAN's ABR 1920 addresses some of these issues, it is not coordinated with any of the other agencies involved in maritime law enforcement. A further point is that liaison with suitable foreign agencies, such as the US and regional coastguards, is not coordinated. Any benefit gained from current interaction is difficult to share across all relevant agencies.

There is no coherent approach to maritime law enforcement training. The Customs Marine Group has a short course run by the AFP, but RAN personnel have only limited legal training in law enforcement tasks. There is a four day Boarding Operations Law Course for Minor War Vessel Commanding Officers and Executive Officers Designate, which covers the main legal issues for patrol boat officers. However it does not address Major Fleet Unit (MFU) officers and there is no continuation training. Since 2000, there has been a five day provisional Use of Force course being delivered to patrol boat crews, and some courses at the Small Arms Training School HMAS Cereberus: some MFUs have received this course on an ad hoc basis. The course focuses on practical decision making and physical skills for applying force in law enforcement situations. It is based on the five week Customs Marine Unit course delivered by the AFP. This training is very limited for the scope and complexity of maritime law enforcement tasks when compared to the AFP. Customs or the US Coast Guard.5

Current legislation relating to maritime law enforcement on behalf of civilian agencies is very complicated. The ADF has powers under the *Fisheries Management Act* 1991, the *Torres Strait Fisheries Act* 1984, the *Customs Act* 1901, the *Migration Act* 1958, the *Crimes Act* 1914, the Environment Protection (Biodiversity Conservation) Act 1999 and the Petroleum (Submerged Lands) Act 1967.⁶ There are a number of other Acts relevant to maritime law enforcement, as well as a number of international law instruments that govern maritime law enforcement.⁷ The powers are diverse, inconsistent, difficult to find and understand, and, apart from fisheries and border protection powers, are often inadequate for the task.⁸

Implications of the Coastguard Bill

The Bill proposes a Coastguard that would be a civilian maritime police agency, which would come under ADF command during "times of war". The Coastguard's functions would include police services, border protection, surveillance of Australia's maritime zones, coordination of search and rescue, and environmental incident response.⁹

The Bill as it stands does not address the current deficiencies in Australian maritime law enforcement. Through creating a single agency, it may provide for better coordination of Commonwealth policy, but most of the significant legal issues would remain unaddressed.

The Bill does not address the existing maritime law complexity of enforcement legislation. Rather than providing a clear consolidation of powers, it simply refers to powers in existing legislation. In so doing though it limits the powers to only those specified, rather than the full range of powers that would be available under the existing Act. This results in less power being available than there would normally be under the Act in question. For example, section 5(c) of the Bill provides officers "the powers and duties in relation to search and seizure; pursuit boarding, detention and transfer of aircraft and ships; and questioning, detention, transfer and arrest of persons that are conferred or imposed under the Fisheries Management Act 1991 on fisheries officers". This does not include the power to lift gear from the sea under the Fisheries Management Act. This power therefore would not be available to Coastguard Officers under the current reference of power given in the Bill. The Bill also limits the function of the Coastguard to "the provision of border protection and police services upon Australia's coastal area, contiguous zone and exclusive economic zone".10 This could conceivably limit its utility in enforcement upon the high seas of the UN Fish Stocks Agreement and piracy laws, as well as cooperation with regional neighbours in the Pacific and Southeast Asia.

While a Coastguard could focus on more specific maritime law enforcement training, it would have to duplicate the weapons skills of the ADF. Customs and the AFP. This would be a particular issue with respect to gunnery from ship-mounted weapons, training would be required to enable lawful, safe and effective use of these weapon systems. The Explanatory Memorandum only discusses the transfer of Fremantle class patrol boats." Any task requiring larger vessels, such as Southern Ocean fisheries patrols and Operation RELEX type activities, would still require RAN capability. The requirement to train RAN personnel in maritime law enforcement would not be relieved by the existence of a Coastguard.

"Time of War" has a precise meaning within the Defence Act 1903 and requires a proclamation of war, and "War" means essentially an attack on Australia.12 The circumstances in which the Coastguard would come under command of the ADF would therefore be very limited. Nonetheless, under the Law of Armed Conflict (LOAC), or the Laws of War, all military assets (other than medical and religious personnel and assets) are effectively legitimate targets.¹³ It is prohibited to attack civilian emergency services, coastal rescue craft and pollution control vessels.14 Having such capabilities within a Coastguard that became a part of the military during time of war would unnecessarily increase their exposure to attack. Civilian vessels with deck mounted weapon systems would also be vulnerable in this regard. It would seem prudent either not to arm such vessels, as Customs vessels are unarmed, or to have such vessels in the Navy with a proper warfighting role. Placing the Coastguard in the ADF during armed conflict would also incur a legal responsibility for ADF commanders to have such forces under appropriate discipline and properly aware of their LOAC obligations.15 ADF command and control for the Coastguard would only be effective after a proclamation of a "time of war", at which point the legal obligations would already apply. This would mean that the ADF would have a training responsibility in peacetime for a civilian organisation that it did not control.

Other Relevant Issues

The ADF does not generally conduct maritime law enforcement against Australian citizens or vessels. There is no legal prohibition on doing so, indeed the constitution and most relevant legislation grants power for the ADF to do so.¹⁶ The authority for this policy is also unclear but probably stems from a traditional reluctance to use the military for local law enforcement. Nonetheless, ADF practice is reasonably consistent. Given public and parliamentary concern during the passage of The Defence Force Aid to the Civil Authority (DFACA) legislation in 2000.¹⁷ it would appear prudent for the ADF to continue to not enforce the law against Australian citizens and vessels. For the most part Customs, the AFP and AFMA carry this responsibility, which minimises the risk of adverse public reaction to ADF maritime law enforcement activities. Any proposal for a future Coastguard should take this issue into account.

The proposition that the RAN should not conduct maritime law enforcement so that it can concentrate on warfighting roles may not take into account all of the legal considerations arising from other RAN roles. Maritime law enforcement requires the application of minimum force to achieve the objective. It also requires an understanding of evidence and prosecution procedures. The use of force against anyone or anything other than a combatant or military objective (in an armed conflict) requires skill and knowledge in the use of minimum force, and an understanding of evidence and prosecution procedures. The RAN is required to apply such skills and knowledge in roles that include, but are not limited to:

- enforcing UN sanctions (such as Operation DAMASK in the Persian Gulf);
- other peace operations such as East Timor, Bougainville and the Solomons;
- service Protected and Assisted Evacuations (such as the Solomon Islands in 2000);
- anti-piracy activities;
- force protection of ships, wharves and other facilities, (including anti-terrorism security measures, such as Operation GOLD for the Sydney Olympics);
- · prisoner of war handling; and
- maintaining order during humanitarian assistance tasks.¹⁸

The expertise that the RAN gains by conducting maritime law enforcement can be applied directly to the above tasks. Any proposal for a Coastguard should also take this into account.

Enhancing Maritime Law Enforcement

There are a number of possible options for enhancing maritime law enforcement through the creation of a Coastguard, keeping it as a mix of Defence and civilian capability and preserving the practice of the ADF not enforcing the law against Australian citizens or vessels at sea. They are listed in order of least to most change.

Enhance Coastwatch. This approach could see existing civilian structures remain in place but with a greater emphasis on maritime law enforcement capability in the ADF and coordination of civilian agencies. This could be achieved administratively by enhancing the staff of Coastwatch with ADF and civilian personnel (and possibly retitling the organisation to Coastguard), with the role of consolidating maritime law enforcement policy, doctrine, training and legislation at the strategic level for both the ADF and civilian agencies. Whilst HQ Northern Command (HQNORCOM) and the Patrol Boat Force Element Group (Patrol Boat FEG) carry most of the operational maritime law enforcement burden, there are still significant tasks undertaken by MFUs, the RAAF and Army elements that are directed at a higher operational level by HQ Australian Theatre (HQAST). The Customs Marine Group and the AFP also operate alongside this structure. This requires a strategic perspective to provide policy, doctrine, training and coordination support to the entire maritime law enforcement effort. A distinct integrated ADF and civilian organisation, such as an enhanced Coastwatch staff, could take responsibility for whole of Government policy coordination, training, doctrine and legislation. It could also liaise closely with the US and regional coastguards and marine police organisations.19 This proposal would not mean a change n operational control. Assets could remain with their particular FEGs and civilian agencies, and under the direction of operational headquarters and existing Coastwatch.

Consolidation of powers under legislation in a Maritime Law Enforcement Act could also clarify the maritime law enforcement role and powers considerably. This approach would retain offshore capability in the ADF and enhance the conduct of maritime law It would enforcement. not necessarily consolidate civilian agencies but this may not be as important if their powers are consolidated and their roles better coordinated. This option essentially adds strategic direction and training to current operational capability.

Patrol Boat FEG to Coastwatch. This could see the same changes as above but create a new line of reporting from the Patrol Boat FEG to Coastwatch for patrol boat capability matters. The Patrol Boat FEG could receive distinctive uniforms and paint schemes. This could be achieved administratively. The main advantage would be a clearer public profile for the "coastguard" component of the Navy. Other possible advantages could be a clearer possible career progression for those involved and a clear strategic between the link and operational/tactical levels facilitate to development of training and doctrine. The disadvantage would be overlaying existing reporting lines with a potentially confusing new chain of authority.

New arm of the Navy. This approach would be similar to the one above. The main difference would be an amendment to s.19 of the Naval Defence Act 1910 to create a fourth part of the Navy, called the Coastguard. The other parts are the PNF, the Standby Reserve and the ANR. The head of the Coastguard could be appointed by CN and service in the Coastguard deemed to be service in the PNF. Alternatively, there could be different conditions of service for all or certain members of the Coastguard.20 This could address retention issues. It would also make the Coastguard less subject to reorganisation or disbanding by virtue of its statutory basis. Whilst there are significant air and land aspects of maritime law enforcement, the most specialised work is done by the RAN. Having the Coastguard within the RAN, as opposed to ADF more generally, could still be consistent with a joint approach. The RAN could be the ADF authority for maritime law enforcement in much the same way as the RAAF is responsible for flying training and standards for the ADF.

ADF Absorbs this Function

It is worth considering some models for absorbing the civilian maritime law enforcement capability into the ADF in order to illustrate some of the potential difficulties.

Absorb Coastwatch into the RAN. This option would involve taking over the surveillance coordination function from Customs. It could be done administratively or through legislative change. This would place the strategic, operational and tactical elements of maritime surveillance and enforcement into one organisation. It may create efficiencies to colocate it with or absorb it into HQAST or HQNORCOM. An advantage of this approach would be to separate the strategic and operational levels of the organisation. It would also be consistent with the concept of having a two star ADF officer in charge. Such a move would create questions of the status of the organisation in an armed conflict however. By virtue of being military the organisation and its contracted air assets could be a target, thus limiting its ability to carry out its function. There would also be obvious issues of Customs sensitivities and the status of the current staff of Coastwatch. A greater disadvantage would be the likely lowering of the organisation's importance due to its role being only a fourth order priority for Defence.

New arm of ADF. An alternative legislative option could be to create another arm of the ADF through amendment of s.30 *Defence Act* called the Coastguard. This could be done with or without absorbing Coastwatch. The advantage of this option would that the new organisation could incorporate sea, land and air elements as it would not be environment specific. There could be a number of issues that could arise from a new service seeking to establish an independent identity though.

Absorb the Customs Marine Unit. This option would have the advantage of placing all maritime law enforcement agencies into one organisation. The disadvantages would be those outlined above with regard to absorbing Coastwatch, but with the additional issues of not having an offshore capable civilian option to enforce the law at sea against Australians.

Australian Coast Guard Bill 2001 model but within Defence. This option would "pull together existing coastal surveillance and operations resources from across government departments and agencies, particularly Coastwatch, the Australian Customs Service, Australian Maritime Search and Rescue, the Australian Fisheries Management Authority and the Department of Immigration and Multicultural Affairs."21 Apart from policy questions of duplication and resources, placing such an organisation within Defence would create the issues raised above concerning its relative importance within Defence priorities. LOAC, the lack of a civilian option for enforcement against Australians, the status of the staff and the creation of a new service.

Conclusion

Regardless of whether the Government wishes to create a Coastguard, the options outlined above of an enhanced Coastwatch staff, or the creation of a "coastguard" within the RAN on an administrative or legislative basis, could address current perceived legal deficiencies in the conduct of maritime law enforcement. These include lack deficiencies of strategic coordination, policy and doctrine, training and legislation. These options would also maintain some of the distinct advantages of a mix of Defence and civilian capability though. These are that Defence has the most offshore capability, is required to understand law enforcement anyway, and can readily adjust to the legal requirements of an armed conflict. The civilian component on the other hand is better able to enforce the law against Australian citizens and is less likely to be a legitimate target during an armed conflict. If a future government did wish to create a Coastguard, the RAN and Defence more broadly would be better placed to argue that the real issues had already been addressed, and a functioning, and visible, Coastguard capability already existed. A Coastguard along the lines of the Australian Coast Guard Bill 2001 could not add anything useful. In fact, such an organisation would add to the difficulties of coordination and create an impediment to Defence during times of armed conflict. In summary, the operational aspects of Australian maritime law enforcement apparently work well, the deficiencies are at the strategic level. What is needed is not a new operational organisation, but better strategic coordination and support for what already exists.

About the Author

Lieutenant Commander Cameron Moore, RAN is a Navy legal officer and has served in Naval Support Command HQ Sydney, HMAS Stirling, HMAS Torrens, the Defence Legal Service in Canberra, and is currently posted to Navy Headquarters. He is currently writing a Masters thesis through James Cook Law School on "Offshore law enforcement by the ADF",

¹ Search and rescue and responses to environmental incidents are not law enforcement tasks and will not be discussed.

² It comes after the roles, firstly, of defending against any armed attack on Australia, secondly, contributing to the security of our immediate neighbourhood, and,

thirdly, supporting wider interests *Defence 2000*, Canberra, 2000, pp.46-53.

 ³ "Coastwatch: An Overview - January 2001" Australian Customs Service website www.customs.gov.au/protect/coast1.htm₄ p. 2.
 ⁴ eg *Fisheries Management Act* 1991 s.84
 ⁵ This information derives from the personal knowledge of the author.

⁶ Fisheries Management Act 1991 s.4, all members of the ADF. Torres Strait Fisheries Act 1984 s.42, all members of the ADF. Environment Protection (Biodiversity Conservation) Act 1999 s.403, commanders of Commonwealth ships and aircraft, Petroleum (Submerged Lands) Act 1967 s.140A(1), any member of the ADF, Customs Act 1901 Part 12 Division 1, Migration Act 1958, s.189, s.198A & Division 12A, Crimes Act 1914 Part IV. This does not include Department of Defence portfolio legislation as this paper is concerned with law enforcement on behalf of civilian agencies.

⁷ For examples, see the National Oceans Office website www.oceans.gov.au

⁸ For example, s403 of the EPBC Act merely grants a power to direct a vessel to port upon suspicion of involvement in an offence. There is no explicit power to board or search.

s.4

10 S.4(3)(a)

11 Paragraph 5

12 Defence Act 1903 s.4

¹³ Protocol (1) Additional to the Geneva Conventions 1949 and Relating to the Protection of Victims of International Armed Conflicts (1977), ATS No.29 1991, being Schedule 5 to the Geneva Conventions Act 1957 Article 52-General protection of civilian objects 1. Civilian objects shall not be the object of attack or of reprisals. Civilian objects are all objects which are not military objectives as defined in paragraph 2.

2. Attacks shall be limited strictly to military objectives. In so far as objects are concerned, military objectives are limited to those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.

¹⁴ Unless they meet the definition of military objective at the time, that is, they are making an effective contribution to military action.

¹⁵ Additional Protocol 1, op cit, Article 87.
 ¹⁶ s.51vi Constitution

¹⁷ For example, see Alert Digest 10 of 2000 of the Senate Scrutiny of Bills Committee at p. 17. www.aph.gov.au/senate/committee/scrutiny

¹⁸ For examples see Royal Australian Navy, Australia's Maritime Doctrine, Canberra, 2000, pp. 65-70.

¹⁹ Mr Derek Woolner has advocated a similar proposal.

 ²⁰ The model would have legal similarities to the Womens Royal Australian Naval Service.
 ²¹ Australian Coast Guard Bill 2001 Explanatory Memorandum para.4.

The right solutions at the right time

Resolve for the Royal Australian Navy













www.raytheon.com.au



Last year the Chief of Navy appointed four Tactical Warfare Commanders responsible for the planning, conduct and command of tactical operations at sea. In this article, Captain Allan du Toit, RAN discusses these new arrangements following his experiences as Task Group Commander and Maritime Interception Operations Commander in the Arabian Gulf.

In June 2001, as part of a broader command and control restructure within Maritime Command, CN appointed Commander Amphibious Task Group (COMATG), the first of four new deployable Tactical Warfare Commanders responsible for contributing to the tactical planning and conduct of operations and the command of assigned forces at sea within a combined, joint or maritime task force. Within months, this new concept was put to the test with the deployment of an RAN task group (TG) led by COMATG to the Middle East as part of Operation SLIPPER, Australia's commitment to the international coalition against terrorism. Following the success of deploying a Tactical Warfare Commander (TWC) and supporting staff to the Gulf, where he was employed not only as national TG commander, but also as the Maritime Interception Operations (MIO) Commander, there have been two subsequent TWC rotations. It is expected that the RAN will continue the practice for as long as RAN units remain committed to the US-led war against terror.

TG command is by no means a new concept in the RAN and has been the

fundamental basis for conducting maritime operations at the tactical level of warfare for many decades.1 On occasions in the past, independent TG commanders, supported by a small staff, have been appointed on an ad hoc basis for specific exercises or operations. A good example of this was during the 1990-91 Gulf War.² The norm, however, has been for the commanding officer of the senior ship present to be assigned the duties as Commander Task Group (CTG) with little or no external staff support. Whilst the practice of assigning CTG duties to commanding officers' will continue, commensurate with the scale of the activity, the TWCs and their staff, who are not tied to a particular ship, will increasingly be employed

¹ The tactical level of warfare involves the direction of military resources to achieve operational objectives. The role of the tactical commander is to ensure the most effective use of units under his command or control.

² Whilst COMFLOT prepared the first TG and then deployed as the CTG with a small staff, a second CTG and staff had to be identified to work-up and command the second TG.

for the planning, conduct and command of tactical operations at sea.

The TWC concept is a significant element of the overall Maritime Command command and control (C2) arrangements and part of the important shift towards a fully integrated ADF warfighting capability. The Command is adopting a C2 structure that is organised for war and adapted for peace. The provision of the TWCs, with their primary role of TG command, is consistent with the efforts being made to reshape Maritime Headquarters in preparation for the eventual collocation of the Maritime Component to the future Headquarters Australian Theatre (HQAST). Recently the benefits of this new C2 structure, together with the stronger focus on maritime TG operations, has been demonstrated during the planning and execution of both operations and exercises. With successful parallel planning and execution at the operational level by the Maritime Component staff and at the tactical level by the TWC staff. this structure affords inherent flexibility and the ability to concurrently conduct operations and sustain at-sea training for subsequent rotations of maritime forces. In addition, the TWCs contribute to the warfare training continuum and the preparation of fleet units to fight and win at sea through the conduct and assessment of specific warfare training, appropriate to their areas of responsibility, particularly at the TG level.

All TWC appointments are at the midseniority Captain rank, with the exception of COMMCDTG, which is a Commander's position. The four TWCs and their core specialist staff form part of the integrated Sydney-based Deployable Joint Force Headquarters (Maritime), one of two ADF deployable joint force headquarters, the other being the larger Brisbane based DJFHQ (Land). DJFHQ(M) is headed by Commodore Flotillas (COMFLOT), supported by a small staff, in his dual-hatted capacity as Commander DJFHQ(M) responsible for tactical force employment. Each TWC is available to deploy as either a CTG, a Maritime Component Commander (MCC) in a Joint Task Force (JTF) or a JTF Commander for minor contingencies when required. Neither COMD DJFHQ(M) nor the TWCs (with the exception of COMSUBTG who has day to day SUBOPAUTH responsibilities) are permanently assigned assets. Rather, the MC assigns tactical command or control of units to them for specific

operations or exercises in the maritime and joint environments.

In a predominantly maritime national

The four new TWC positions and their principal areas of responsibility to the Maritime Commander (MC) are as follows:

- Commander Surface Task Group (COMSURFTG) - principal adviser on above water operations and the principal tactical commander for the above water battle space
- Commander Amphibious Task Group (COMATG) - principal adviser on amphibious and littoral operations and the principal tactical commander for the littoral battle space
- Commander Submarine Task Group (COMSUBTG) - principal adviser on submarine operational matters and the principal tactical commander for the undersea battle space, including fulfilling the day-to-day role of Submarine Operating Authority (SUBOPAUTH) on behalf of the Maritime Commander
- Commander Mine Warfare and Clearance Diving (COMMCDTG) principal adviser on mine warfare and clearance diving operational matters and the principal tactical commander for mine warfare and clearance diving operations

operation, COMFLOT would be expected to fulfill the role of JTF Commander, with the TWCs fulfilling the roles of Sea Combat Commander (SCC), Amphibious Task Force Commander (CATF), SUBOPAUTH and MCM Tasking Authority (MCMTA), depending on the nature and extent of the operation. The flexibility provided by the scalable and modular DJFHQ(M) construct also allows for the formation of minor JTF arrangements headed by one of the TWCs. The TWCs can either back up COMD DJFHQ(M) or conduct a relatively minor operation on their own. In essence, what you get at sea is the capacity to conduct up to three operations of limited size, but with the flexibility to come together for larger operations, fragment for lesser ones or, as in the case of current Gulf operations. to sustain commitment for as long as necessary by rotating command amongst the TWCs.

In a combined maritime operation, COMFLOT could fulfill the role of either Combined JTF or Deputy Combined JTF, and the various TWCs could act as either tactical warfare commanders or deputy commanders. Exercise TANDEM THRUST 01 was a good example of the latter where COMFLOT was appointed the Deputy CJTF to the US Commander 7th Fleet, the RAN provided a onestar SCC,³ COMATG filled the role of Deputy Combined CATF of the combined amphibious ready group and COMMCDTG performed the of MCMTA. Similar role command comprising HMA Ships Adelaide and Kanimbla, completed 99 days in theatre and made a significant and widely acknowledged contribution to MIO and the war on terrorism as part of coalition forces in the Gulf. As the first RAN officer to be MIO Commander in January-February 2002, COMATG not only commanded all RAN units in theatre - which included HMAS Sydney - but also US, British and Canadian units assigned for MIO in the Arabian Gulf. The deployment also enhanced interoperability between the ADF and the US armed forces to develop further the ADF's

If the deployed RAN CTG had been commanding officer of a private ship, the RAN would not have been given the opportunity to fulfill the role of MIO Commander.

arrangements are also regularly tested during the bi-annual RIMPAC series of exercises.

Alternatively, COMD DJFHQ(M) or one of the TWCs, supported by an appropriate mix of staff drawn from within the overall DJFHO(M) organisation, can fulfill the role of MCC to a major national or combined JTF commander. DJFHQ (M) staff regularly exercise with DJFHQ(L) to test the integration of a Maritime Component into a JTFHQ, based on DJFHQ(L), for the planning and conduct of operations in a combined and joint environment. Indeed, during operations in East Timor in 1999, COMFLOT, supported by a small staff, fulfilled the role of MCC to COMD DJFHQ(L), Major his INTERFET General Cosgrove, in Headquarters ashore in Dili.

The highly successful and ongoing deployment of TWCs to the Arabian Gulf, has provided an excellent opportunity to prove and benchmark the TWC concept, as well as providing the TWCs and their battle staff with sound operational experience and exposure. During his deployment to the Gulf, COMATG, as the inaugural RAN TWC, performed the role of both national CTG (CTG 627.1) and Maritime Interception Operations (MIO) Commander (CTU 50.0.9) embarked in a US destroyer. His twelve man staff and TG, capability to undertake effective combined and coalition operations in defence of our national interests.

During this first deployment, the TWC concept with a CTG at the Captain level, not tied to a particular unit, was validated and more than proved its worth. Firstly, . This is significant, as, at the time, COMATG was the only non-US tactical warfare commander in the Central Command maritime area, and the first non-US MIO Commander since UN sanctions against Iraq first began in 1991. Secondly, a TWC at the Captain level was most appropriate as it equates directly with our US Navy CTG counterparts who do not command individual units, but rather embark with a small staff for specific operations, exercises or deployments. In the Gulf, for example, the combined coalition task force is headed by a US Navy one-star officer, with the various tactical warfare commander appointments, such as SCC, CATF and MIO Commander, filled by officers of Captain's rank.

During the deployment, the LPA HMAS *Kanimbla* also proved its operational flexibility and potential as a command and control platform. In addition to its primary role as an amphibious unit, capable of embarking a CATF and Commander Landing Force (CLF), together with their joint staff, both LPAs have been equipped to alternatively, support either a JTF Commander or CTG and their respective battle staffs. This very useful capability will undoubtedly be further refined as operational

³ This was an ad hoc arrangement using an officer between appointments (COMDT ADFWC designate in this instance) as the COMSURFTG position in DJFHQ(M) had not yet been established

experience is gained. The challenge will, however, be to balance the competing demands placed upon the LPAs C2 capabilities in future contingencies.

Another challenge facing the RAN, with the demise of the Perth class DDGs, which were able to support a CTG and small battle staff, is the very limited ability to embark a CTG and battle staff in our current major surface combatants. This issue will need to be addressed in the short to medium-term. In the longer term, any new future surface combatant, in particular the new anti-air warfare destroyers, will need to fully support a CTG and staff. This is consistent with international trends where similar ships have the necessary operational spaces, communications and accommodation to support an independent CTG and staff.

The concept of independent CTGs and staff planning, conducting and commanding operations at the tactical level at sea, is also increasingly consistent with international trends, with the rank level of these CTGs normally established at either the Captain or one-star level. This is being largely driven by the need for conflict prevention and crisis management on a global scale in the post-Cold War era. The Royal Navy for example has two one-star tactical CTG positions, namely Commander UK Task Group and Commander Amphibious Task Group, who can be deployed with their respective battle staffs for surface and littoral operations. The independent CTG concept is also an integral part of conducting Canadian maritime operations, together with that of many other allied navies including Denmark, France, Germany, Japan. Italy, the Netherlands, South Africa and Spain, to name but a few.

Since the establishment of the TWC concept a little over a year ago, significant progress has been made. The shape, size and manning levels of DJFHQ(M), together with that of the TWCs, which is now the focal point for the tactical planning and conduct of operations and the command of assigned forces at sea within a combined, joint or maritime task force, have largely been finalised and a huge amount of work has already been done to flesh out the relevant processes and relationships. Furthermore, the ongoing deployment of TWCs to the Gulf has provided an excellent opportunity to prove and benchmark the TWC concept, as well as providing the TWCs and their battle staff with sound operational experience and exposure. However, some work still remains to be done, as the TWC construct matures and is refined through experience, if the new construct is to work well in the longer term and stand the test of time.

About the Author

Captain Allan du Toit, RAN is a Principal Warfare Officer and mine warfare sub-specialist and is currently serving as Commander Amphibious Task Group. His operational experience has included command of HMAS Tobruk during Operation BEL ISI in Bougainville in 1998, and most recently, RAN Task Group Commander and Coalition Maritime Interception Operations Commander in the Arabian Gulf. He is a graduate of the RAN Staff College and the Australian Joint Services Staff College and holds a Bachelor of Military Science and Master of Defence Studies degree. He is a keen naval historian and an avid student of maritime strategy and international naval developments. He has written two books on warships and naval history and is a regular contributor to various naval journals.



The recent release of the Defence Environment Policy is further recognition of the importance placed on protecting the environment and highlights the need for continuing vigilance by senior Defence managers to ensure that best practices environmental continue to be implemented throughout Defence. The new policy portrays Defence as an organisation focused on the need to recognise the importance of environmental sustainability in its activities. Defence has always been a leader in environmental stewardship and our vision is to be recognised for our achievements by the community.

Such a bold statement brings significant responsibilities and will, on occasions, cause some hardships, both physical and financial, if the outcome of a leading role in environmental management is not to be compromised. This article will discuss the history of environmental compliance in the RAN and future implications for operations. A future article will look at ship design and maintenance, and will focus on the likely ship configurations to meet increasingly stringent environmental guidelines.

RAN role in protection of Australia's environment

Most Navy personnel, and the general public would be surprised at the extent of Navy involvement in environmental protection, whilst carrying out day to day operations. The fleet of surface ships supports Coastwatch in border patrols to intercept potential illegal immigrants. Illegal entry to Australia carries with it the risk that vessels carrying diseased animals or harbouring pests that may escape. These scenarios have enormous potential to cause great damage to the Australian environment and to our agricultural and pastoral industries. The risk is very real as some human and animal diseases, though common throughout Southeast Asia, do not occur in Australia. Navy surface vessels perform a similar function for the Australian Fisheries Management Authority (AFMA) in controlling incursions by illegal fishers in the Australian Economic Exclusion Zone (EEZ). The EEZ extends 200nm offshore and the fleet of Navy vessels represents the pivotal enforcement option available to the Australian Government. Control of fishing in the EEZ is seen as fundamental to maintaining the sustainability of the resource stocks. It is likely

that as pressure on world fisheries resources grows, incursions into the Australian EEZ will also increase. The Navy will increasingly be tasked to deal with fisheries matters - and will be criticised when operational requirements mean that a response cannot be mounted.

These positive actions in support of resource management and border protection agencies, however, are largely taken for granted by the general public as the focus remains with environmental compliance of Defence activities at home and at sea.

History of environmental management

Traditionally navies around the world have responded to difficult environmental obligations by persuading Governments of their need for immunity from prosecution. Historically, the RAN has followed this international lead seeking protection under the umbrella of the Defence Act (1903). Increasingly, this position is becoming less tenable as it fails to reflect contemporary community values and aspirations. A number of factors, political and operational have acted in synergy to escalate the importance of proactively demonstrating the Navy's compliance with environmental guidelines aboard its fleet of vessels, and ashore at commissioned establishments. Whilst the Defence Act remains extant, evidence of some erosion of the protection formerly provided by that regime includes:

- extreme age and unfocused nature of the Defence Act with reference to environmental issues;
- advent of newer, binding and more powerful environmental legislation;
- international agreements to which Australia is a signatory; and
- impact of the media, increasing environmental awareness and public perception.

The EPBC Act

The Defence Act is rapidly approaching its centenary. It was written without direct reference to environmental issues, at a time when the concept of 'the environment' was not considered of significance, compared to the other threats at that time to the quality of human lives. Nor was environmental management technology advanced. The advent of new and powerful environmental legislation and government policy only highlights the limited role the Defence Act now plays in regulating day-to-day activity. The Environmental Protection and Biodiversity Conservation Act (1999) (EPBC Act) is the most powerful environmental legislation yet enacted by an Australian Government. The Act binds all Commonwealth agencies, including the RAN, to environmental best practices, regardless of where they operate in the world. For the first time Defence and its personnel could face injunctions from the community and/or other legal action, if its activities are not carried out in a way that demonstrates that such actions are environmentally sustainable.

EPBC The Act promotes the conservation of biodiversity by providing strong protection for listed threatened, migratory and protected species, and protected areas. The Act identifies threatening processes, and provides for protection of critical habitat. Defence activities identified as such will require a permit from Environment Australia. Where the Defence activity is likely to have a significant impact on a matter of national environmental significance, the activity will require the approval of the Environment Minister. If the activity is declared a controlled action, restrictions may be imposed on when and how the activity can be conducted.

Role of environmental awareness, media and public perception

For the past 35 years the environmental message has been finding a particular resonance with the Australian community. Awareness and expectations have grown and what was once acceptable is now unforgivable. As far as Defence is concerned Government organisations and the Australian community generally, are still prepared to draw distinctions between active, unusual or unique military operations, and the routine operational tasks or training activities Defence undertakes. Environmental compliance with legislated statutes would now be considered obligatory for all but the most pressing matters of national security. Only in the most extraordinary circumstances will Navy activities that are contrary to sound environmental management outcomes be acknowledged as necessary.

Sovereign exclusion

International agreements such as MARPOL generally include an exemption for sovereign warships. This exemption not only recognises the unique attributes of these vessels, compared to merchant ships, (specific purpose built, system intensive design, critical space limitations), but also the traditional 'right' of these vessels to use the oceans unencumbered by civil regulation. The weight of public opinion however erodes the value of sovereign exclusion for warships under these international agreements. The RAN voluntarily chooses to comply with all extant MARPOL regulations pertaining to pollution discharge at sea, despite the sovereign exemption clause.

The ADF generally, has collected a history of problematic environmental issues that continue to tarnish our reputation as a leader in environmental stewardship. Examples that continue to cause periodic concern include post-World War Two dumping of chemical warfare agents, remnant unexploded ordnance, noise complaints, management of training areas, and condition of shore bombardment ranges. This is despite the significant environmental gains made by the ADF in the past three decades. Contemporary issues also evolve as scientific knowledge improves. Concern about the impacts of underwater explosions and sonar on whales are examples of the creeping threshold of community intolerance.

However, since the 1980's the RAN has generated an enviable record of environmental compliance, and new environmental initiatives, including:

- HMAS Stirling established and operated within the framework of a national park;
- voluntary compliance with MARPOL;
- management of RAN operations in Jervis Bay, now a marine park;
- funding for a whale research program off the West Coast;
- development of tri-butyl-tin replacement antifouling paints;
- improved fuel efficiency of ships; and
- standardisation of ship fuel types (deletion of heavy bunker oil fuels).

Future Direction of Environmental Compliance

Public and media pressure for Defence to demonstrate accountability in environmental matters, increased environmental awareness within the organisation, international, federal and state legislation have contributed to the need for enhanced environmental management strategies. The RAN has developed a *policy of layered protection* for the environment, and these layers provide a positive synergistic effect to decrease the likelihood of damage to the environment. The layering of protection also acknowledges that potential environmental damage varies with both the scale and intensity of the activity, and the degree of risk. Therefore protection can be tailored for each activity. The layers of protection are:

- environmental awareness training for all employees;
- ships' Environmental Management Plans and activity Mitigation Procedures;
- training Area/Establishment Environmental Management Plans; and
- independent external review through Environment Australia/Minister of the Environment.

The RAN must assume that environmental constraints will become even more visible in the future. To that end Navy Environmental Management staff are reviewing trends in environmental legislation with the view to determining a Strategic Plan for environmental compliance, through to 2020.

Areas of immediate concern for the future include:

- operating in an environment populated with whales and other highly protected marine species;
- assessment of antifouling paints;
- IMO planned phaseout of single hulled tankers;
- sonar design, underwater explosions and use in operations/exercises;
- management of exercises involving underwater explosive devices;
- management of ballast water;
- exhaust gas emissions;
- ship borne waste management.

Part of the strategic environmental plan will be to develop a model for an environmentally compliant warship for 2020 with respect to the identified areas of future concern. This Navy funded project is being undertaken by the Centre for Maritime Policy at Wollongong University. When completed in late 2002, the project report will become the standard for design of ship borne pollution control and waste management systems. Features of design of environmentally compliant vessels are uniquely important to the RAN due to specialist constraints on warship design such as systems complexity, limitations of space, buoyancy and stability, and long life in commission.

Conclusion

Defence's position as a leader in environmental stewardship is appropriate and inevitable. It recognises that Defence activities are the subject of close public and media scrutiny. The RAN has so far answered the challenge, with significant positive outcomes for environmental conservation in a number of areas. However, the RAN needs to continue to monitor and evaluate all activities that may be constrained or prevented by changes to federal legislation and international treaties, or public pressure. We need to be cognisant of the fact that the Defence Act and sovereign warship exclusion clauses are no longer providing immunity from adverse community reaction nor from prosecution under the EPBC Act.

The Strategic Environmental Plan will assist the RAN to determine priorities and 'hotspots' of environmental interest likely to constrain training or operations. The environmentally compliant model ship for 2020 is of particular relevance to the RAN, if we are to continue to be both leaders in environmental stewardship and in meeting our mission to defend our country. Meeting the challenge of balancing environmental outcomes with critical Defence operations will become one of the most significant tests RAN will face this century.

About the Authors

Lieutenant Steve Cole has been a Seaman Officer in the Reserves for 17 years, with operational experience in GPVs and LCHs, and as Port Manager of Darwin Naval Base. As a civilian, he has an Honours degree in Marine Biology and a PhD in plant eco-physiology. Currently Steve is serving as the Deputy Director Navy Environmental Policy in Navy Headquarters. Colin Trinder is currently the Defence Environment Manager, responsible for Defence's environmental policy. He has over 20 years experience in both management and policy areas of the Commonwealth Government dealing with natural resource and environmental issues.



A STUDY IN COMMAND





Winter 2002

A key to success in the fast paced, split second world of missile age naval warfare is devolution of authority, which empowers subordinates to make decisions on weapons employment with minimum command interference. This is the embodiment of the principles of the transactional and democratic leadership styles. Close parallels also exist in the Werhmacht's auftragstaktik, from which the Australian Army concept of directive control is derived, where the aim is always to give subordinates authority to make decisions and get on with the job. In the Royal Navy (RN) the essential tenets of these concepts are encapsulated in the term 'command by negation', and Rear Admiral John 'Sandy' Woodward used these command concepts with his team during Britain's recovery of the Falkland Islands in 1982. Woodward exercised operational command of the naval forces supporting recapture of the Falklands under Operation CORPORATE. where his responsibilities, at their peak, spanned 35 ships and 25,000 men.

This article studies how RADM Woodward's commanded his forces, as there are similarities between the Falklands conflict and a range of credible contemporary Australian scenarios. That is, Woodward fought with an organisational structure similar to the RAN, with similar weapons and against a similar threat to what the RAN might face. In short, he fought a missile age naval campaign in littoral waters. Woodward and the Falklands therefore have great relevance to the RAN today and allow analysis of the application of the concept of 'command by negation'.

RAN Command

The Australian Defence Force (ADF) sees the command as overarching concept controlling two main functions. The first is concerned with the rational and mechanistic: that is the detailed planning and consideration of tactics and logistics. The second function is the process, through direct or indirect means, of influencing others to accomplish a mission by motivating and providing a vision that creates the environment for success. In the ADF this latter aspect is intimately linked to leadership while the former is a management function. This reveals a dichotomy that is central to understanding command in the military. Consequently, Woodward will be examined in two broad areas: the technical aspects of command (or battle management) and his people skills (or leadership).

One is now assailed by a question that explores the two strands of this discussion: is a good commander necessarily a good leader? In the naval context of this article, a corollary to the question might be offered: does a good commander in the contemporary navy need to be a good leader? This can be explored further by understanding the Australian context.

The RAN equivalent of 'command by negation' is 'command by veto'. It describes the relationship between a Commanding Officer (CO) and his Principal Warfare Officer (PWO). It implies much, for the nature of modern naval warfare is such that the PWO must react instantly to threats that develop in fractions of a second. It implies the CO's trust that the PWO is an expert whose training and previously demonstrated ability provide the basis for that faith. It promises that the CO will not interfere in the minutiae of the warrior's art, for he has been a PWO himself. It implies that he will keep his mind open to absorb the bigger picture, allowing the PWO to 'fight the ship' unencumbered. It promises that the CO will only interpose his power of veto if new information comes to hand or the PWO has missed something important. It is the essence of a good command relationship in the naval context. Although focused on the CO/PWO command relationship, this concept has broad application, lending itself equally well to the planning as well as the control of battle. Woodward used 'command by veto' to manage the Falklands campaign.

Command and Control

Two of Woodward's sharpest detractors played crucial roles in the Falklands Conflict. Commodore Michael Clapp was Commander of the Amphibious Forces (COMAW). He was in the thick of the action in San Carlos Water, between East and West Falkland Islands during the amphibious landings; this area became known as 'bomb alley' and most of the RN's ship casualties took place there. A major theme of his book is the importance of COMAW's freedom of action in amphibious operations. There is an unmistakable tension between the Clapp and Woodward over command of the amphibious phase of Operation CORPORATE. LCDR Nigel 'Sharkey' Ward was the CO of 801 Squadron, embarked in HMS Invincible. He was a very experienced Sea Harrier (SHAR) pilot,

having introduced the aircraft into RN service and evaluated it against a number of foreign fighters. His book paints him as a very capable pilot but also a fiery character, impatient with superiors. Ward's chief interest is SHAR operations and he is very critical of this aspect of Woodward's management of air defence in the Falklands campaign.

To understand the ambiguous context in which Woodward operated it is necessary to examine the Command and Control (C2) arrangements in place. The C2 architecture was fluid during April 1982, when much of the planning for Operation CORPORATE was undertaken. In early April, Woodward was placed wholly in command of British naval forces, barring three submarines, assigned to the to Woodward. The impact of this C2 structure on the Falklands campaign was felt repeatedly and affected how Woodward related to and led his peers and subordinates. Woodward was able to work around this on some occasions, but on others it limited his input.

The Loss of Sir Galahad

It is now possible to examine a series of episodes in the Falklands campaign. The first shows how not everything went Woodward's way as is demonstrated by the loss of *Sir Galahad*. The arrival of an extra brigade in theatre and the loss of troop transport helicopters when *Atlantic Conveyor* was sunk combined to force an important decision point. In order to help bring the Scots' Guards into

'Admiral, you must do something!' Which is precisely what I should not be doing, I reckon. I reply, gently enough: 'No ... leave it be.'... What they [*Sheffield*] did not need was a stream of ill-informed questions and second-guessing from the Flag. Besides, I trusted them.

Falklands theatre.⁴ This gave him authority over CDRE Clapp and the Commander Land Forces representing a clearly delineated command structure. However, within a week this was overturned and the three officers became cocommanders of separate task groups under Admiral Sir John Fieldhouse, Commander, South Atlantic Task Force, located at Fleet Headquarters in Northwood.⁵ There was, therefore, no clear commander on the spot in the South Atlantic, which resulted in considerable tension between Clapp and Woodward, boding ill for the future.⁶

Control of submarine forces also caused Woodward difficulty, and he gives sound reasons for local control of the submarines *Spartan, Splendid* and *Conqueror*.⁷ Firstly, there was a senior, specialist submariner on Woodward's staff and Woodward was an expert submariner in his own right. Secondly, tasking amendments would be smoother and faster if done locally and, finally, HMS *Hermes* was fully equipped for the job. Northwood considered none of these factors of sufficient importance to transfer control of the submarines action early, Clapp acquiesced to a request from Major General Jeremy Moore, Commander Land Forces, to transfer them closer to the front by ship. This avoided a long walk from their landing point but required a short sea voyage from Port San Carlos to Bluff Cove. There were no escorts available so the voyage was undertaken without aircraft or warship protection. The result was that Sir Galahad and Sir Tristram were left unprotected, in open anchorages and in good flying weather for the Fuerza Aerea Argentina (FAA or Argentine Air Force). Over fifty soldiers died or were injured when the FAA attacked the ships: Sir Galahad was a total loss.

This was a tragedy that Woodward might have prevented had he prevailed upon Clapp not to undertake the job without air cover or escorts. He berates himself over this and is, to a limited extent, justified.⁸ However to put the matter into context, and as Clapp points out, he and Woodward were appointed peers or cocommanders of separate forces. Therefore he had no mandated authority to 'veto' Clapp. Furthermore, although Clapp accepted Woodward's status as *primus inter pares*,⁹ he makes it clear that this did not constitute legal military command and may well have declined to comply.¹⁰ Thus the mitigation of unworkable C2 relegates attribution of this sad event more to the 'fortunes of war' and less to Woodward's operational blunder.

A contributor to the loss of *Sir Galahad* was a lack of joint training leading to poor interservice understanding. Clapp alludes to this lack of 'jointness' a number of times.¹¹ It is suggested that Moore did not fully appreciate what he was asking for and that Woodward, applying the tenets of 'command by veto', wanted to let Clapp get on with the job. Clapp took a chance and relied on the weather to be too poor for Argentine flying - he was wrong.

The Sinking of the Belgrano

Misfortune did not always rule and Woodward had a crucial victory in the sinking of the General Belgrano. He was again hampered by C2 but this time managed to work around it to the benefit of Britain and detriment of Argentina. This was a major turning point in the war. Woodward engineered this success by deliberately exceeding his authority. His aim was to engage the two Armada Republica Argentina (ARA or Argentine Navy) capital ships: the carrier, Venticino De Mayo and the cruiser, General Belgrano. According to Woodward, two of the submarines, under Northwood's control, were poorly directed and missed the carrier.12 He uses this event to support his arguments for local control of the three submarines.

The lead-up to *Belgrano's* sinking was a British perception of an ARA attempt at a pincer engagement of the British carrier group. The Argentine carrier and escorts appeared poised to the north and the Exocet armed cruiser and escorts approached from the south. The evolving dual axis threat posed a major danger to the entire campaign. This was due to the British centre of gravity of the two carriers and their Sea Harrier (SHAR) squadrons. The loss or major degradation of the key enabler for ground operations - air defence - would have prejudiced recovery of the Falklands.¹³ Woodward was compelled to act to protect the carriers.

This situation developed quickly, necessitating an urgent change to the Rules of Engagement (ROE). However, the time taken to complete the formal process would have been excessive. Woodward, with no time to gain permission, simply signalled the CO of HMS to engage the Belgrano.14 Conqueror Woodward writes that he knew this was both exceeding his authority and outside the ROE. The former point was quite clear as the submarines were under Northwood's control. The latter point was less clear as Belgrano was not in the British declared Total Exclusion Zone vet still considered a legitimate target.15 More importantly, Woodward writes, he knew that the staff in Northwood would see his signal on the broadcast and be galvanised into action. This occurred and approval to engage was gained. Conqueror was ordered to attack, Belgrano was sunk and the result was a RN blockade of the main fighting elements of the ARA; they did not put to sea again.

There are more conventional ways in which approval to engage Belgrano could have been gained in a similar timeframe. Consequently, there are two interpretations to this event. Firstly, it could be seen as a genuine attempt to seize control of the submarines, as Northwood's management of them had frustrated Woodward. A second interpretation is to accept Woodward's assertion that his signal was merely a goad to Northwood and that he was not really trying to usurp control. Woodward needed to work around the C2 architecture and was prepared to use unorthodox methods to achieve his, and Britain's, ends.

Air Defence

Air defence was a major contributor to the success of the Falklands campaign. It had to be provided for the fleet during its approach, for amphibians during unloading and for soldiers ashore. Woodward came from a submarine background so he was not steeped in the intricacies of air warfare as a surface warrior might have been, but had to understand it nonetheless. This was one of the major challenges of his command. The air defence tactics employed by the British cannot be credited to Woodward alone, as there was an extensive pool of intellect on which to draw. His warfare staff possessed years of practice in their respective fields while subordinate and junior commanders also contributed experience and expertise. Notwithstanding the strength and support of his team, some key decisions were Woodward's responsibility. These were made in the face of powerfully competing priorities and

cost him much, in personal terms.¹⁶ Carrier positioning for air defence was one of them.

One great fear within the Task Group was the French, sea-skimming Exocet anti-ship missile. Argentina owned only a small number of weapons, however that was enough to give the British considerable pause for thought. Another concern was the proximity of the Argentine mainland, and the FAA, to the Falklands Area of Operations (AO). These factors militated against British achievement of air superiority. Consequently the FAA was never entirely quelled; only sufficiently hindered to allow British ground forces to go forward. To achieve this, the need for Combat Air Patrol (CAP) against FAA air raids had to be balanced with the need for preservation of

Woodward demonstrated a clear grasp of the fundamental importance air defence by protecting the capability. Brigadier Julian Thompson, Commander of 3 Commando Brigade, described Woodward's air battle management well when he wrote: " ... Woodward was the only person who could have lost the war in an afternoon. [his] handling of the Carrier Battle Group kept them safe and our air support intact."18 Although the decision on carrier positioning was critical, there were other air defence issues for Woodward to contend with. There was argument about the role of the SHAR and how to use it within the naval fighter community and, in particular, between the two carriers.19 Hermes, as the Flagship, contained Woodward and his staff as well as 800 and 899



the capability. Woodward had to tolerate a serious trade-off in this balancing act. The carriers had to be kept well back, out of range of the FAA, but to the detriment of CAP time over the AO due to extended transit distances. Ward argues that reduced coverage cost the RN a number of ships from FAA attack. Woodward took this decision in face of considerable criticism, including personal attacks in the British tabloid press accusing him of cowardice.¹⁷

Squadrons. His chief fighter adviser was the CO of *Hermes*, Captain Linley Middleton, who was an experienced naval fighter pilot but who had little experience of the SHAR. 801 Squadron, under the command of LCDR Ward, was on the *Invincible*, and they were well versed in the aircraft's idiosyncrasies and had evaluated the SHAR against American and European fighters with considerable success.²⁰ It is reasonable and logical to accept the veracity of Ward's claims of the experience with the aircraft.

Ward is critical of many aspects of SHAR operations.²¹ He argues that proper positioning of SHAR CAP would have prevented the loss of HMS *Sheffield*. He also claims that low altitude CAP stationing over the AO would have reduced the number of FAA attacks penetrating to the amphibious unloading area at Port San Carlos - thereby reducing RN ship casualties. Ward was unable to persuade Woodward's staff of the capability of the aircraft or the value of his ideas on CAP stationing.

There was also difficulty between Middleton and Woodward, centring on issues of SHAR pilot fatigue and duty rotations.²² Essentially, Middleton wanted to rotate the carriers in close to the Falklands, keeping one 'on task' and the other 'off task' resting the pilots and deck crews. Woodward argued that there would be sufficient natural breaks in the action imposed by the weather to allow the pilots adequate rest. In this he was to be proved correct, and he overrode Middleton. This friction between Middleton and Woodward may have contributed to Ward's inability to get his message through the staff and from Middleton to Woodward.

Command and Leadership

An assessment of Woodward's technical or battle management aspect of the command function may now be made. Using 'command by veto', he was able to maintain a good high comprehension of the operational level situation, whilst allowing subordinates to get on with the job. Woodward's decisions on carrier positioning and his rapid reaction to the dual axis threat of Belgrano and Venticino De Mavo are illustrative. They showed a great depth of perception in the first instance and rapid thinking and decisiveness in the second. However, his difficulties in dealing with Clapp and the tensions within the fighter community appear to reflect poorly on Woodward's leadership and people skills. Consideration of this last item forms a backdrop to the following discussion.

Woodward's failure to deal with the friction in the fighter community is a major issue. There were significant interpersonal rivalries there that he failed to appreciate. Further, blinded by tensions between himself and key staff, Woodward did not access experience and skills that could have benefited the air campaign. If he had investigated the matter some useful input to the war effort might have been unearthed. Woodward failed to see the people problem in the two carriers in his focus on managing the battle.

An important aspect of the Belgrano case study is the matter of moral courage. Woodward exceeded his delegated authority and tried to break the ROE to ensure survival of the mission. There are times when a commander must summon the moral courage to 'do what it is necessary to do' even in defiance of superior orders. Nelson's shade would have approved of Woodward's actions in this event but would have mourned the loss of Sir Galahad and Woodward's observance of the rules of the C2 structure. Woodward is difficult to judge in the loss of Sir Galahad. He had two difficulties; bound by the rules of the C2 structure he outranked Clapp but saw a problem requiring Despite personal resolution. misgivings Woodward took a transactional approach, setting the conditions for Clapp to do the job, and applied 'command by veto'. He did not interfere and wanted to trust that Clapp had everything well in hand.

The problem was one of inflexibility. That is to say that when Fieldhouse delegated equal authority to Clapp, forcing Woodward to adopt a democratic leadership style, Woodward was unable to switch back to autocratic leadership. He needed to ignore the niceties of the C2 structure and apply the bludgeon of rank to Clapp to resolve the problem. This would have had repercussions for their long-term relationship and Woodward might well have had an eye to this when he withheld the bludgeon. This, in turn, implies that Woodward wanted to preserve his informal authority by not giving Clapp the opportunity to refuse an instruction. Whilst this is mere supposition it does cast Woodward in a less heroic light. In sticking with one leadership style Woodward demonstrated an inability to change and this lack of flexibility is one cause of his problems in the Falklands. It is, however, inconsistent with how Woodward sees himself.

If one were to ask Woodward to describe his personal leadership style he would probably refer to 'command by negation' and trusting his team. He would rail at the 'truly ignorant who called battle stress cowardice'.²³ He might talk about realistic training being confidence building.²⁴ Woodward does not offer a personal leadership style in his book although he reminds the reader of his concern for the men

under his command. Yet Woodward always returns to the dictum that he must keep a clear mind and cannot allow concern for the suffering of his people to cloud his judgement.²⁵ As a consequence he was seen as severe and aloof by some of the men under his command.²⁶

Perhaps the most revealing is Woodward's description of the homecoming of the flagship, *Hermes*, weeks after his own return. Woodward flies out to greet his team but does not sail triumphantly into harbour with them. Rather, he departs quietly 'leaving them to *their* return'.²⁷ In this he was operating as a 'servant leader' and that, it is argued, is how Woodward really saw himself. leadership role model, Nelson was an enormously popular leader almost deified by his fleet and the British nation.²⁹ In naval warfare of that era one led by example, rallying sailors by personal demonstration. This was one of Nelson's strengths. However, leadership is more difficult in the relatively enclosed and compartmented ships of contemporary navies.

The modern sailor in battle is locked into a compartment with a small group of others and rarely sees his commander. This compartmental isolation aims to maintain the watertight integrity of the ship and better control battle damage but it also isolates people. The advent of radar and other long range



The British centre of gravity - RAF and RN Harriers flying over HMS *Hermes*. Rear Admiral Woodward's employment of his two aircraft carriers was central to the campaign and inevitably controversial. (RN Official)

Relevance to the Contemporary RAN

The relevance of this 'nasty little war'²⁸ to the RAN of today is great. The similarities in organisational structure, procedures and political context between the RN and RAN are self evident - even given the passage of 20 years. Leadership, it is argued, is an area where direct parallels can very easily be drawn for today and well into the future.

There is much talk and study of the leadership aspect of command in the contemporary navy. Often held up as a sensors and communications also put distance between the participants in battle. One consequence of these two factors is that naval battle is now a more cerebral exercise, conducted at long range with little human contact. It is aligned with the rational and mechanical aspects of command such as tactics and logistics. This emphasis on battle management is a stark contrast to Nelson's time. Typical of contemporary approaches to the disaggregated nature of modern command and control is 'command by veto'.

This leadership style will become increasingly relevant as participants in battle are moved even further apart when the fruits of network based warfare are harvested. The value of 'command by veto' has not yet been fully realised - but it will.

A discussion on lessons to be drawn would be incomplete without consideration of C2 in the Falklands. The question arises: how could the result have been improved by making Wooward the functional superior (as opposed to the informal superior) for Operation CORPORATE? To answer this question it is necessary to ask another: What would have gone differently in the *Belgrano* and *Sir Galahad* incidents?

The author argues that both incidents might have had better outcomes for Britain if Woodward had functional authority over all assets in the South Atlantic. In the *Belgrano* incident direct local control of strategic assets (the submarines) could well have resulted in the sinking of both of Argentina's capital ships. This offers the possibility of an earlier resolution to the war and supports current arguments in Australia for local control of RAN submarine assets.

In the *Sir Galahad* incident functional authority over COMAW would have removed some of the impediments to Woodward's application of his power of veto over Clapp's risk taking. The outcome might well have been a 'command veto' of Clapp's plan and less British lives lost. The author's overall assessment on the value of a hierarchical command structure in the Falklands is therefore; that the outcome would have been better for Britain if they had used one.

Conclusion

The RAN version of devolved decision making is 'command by veto' and Woodward exercised it throughout the Falklands campaign. Although this command style was used by Woodward at the operational level with his staff and ship captains, its application was the same as in the operations room of a warship. Once a plan was developed Woodward's subordinate commanders were able to execute it unhindered unless new information came to hand. This contributed much to the unity of purpose of British naval forces in the Falklands theatre and reflects the principles of transactional leadership. The quote on page 23 demonstrates how he applied this ethos upon hearing of the heavy damage to *Sheffield* after being struck by an Argentinian Exocet missile.

Here then, is the thesis of this article: the 'Nelsonian' model of personal leadership in battle is losing its broader relevance. That is not to say it has no place at all because personal leadership remains vital wherever a commander comes face-to-face with his team. However, the unseen modern naval commander must manage the battle knowing that his team will tolerate deprivations that they otherwise might not. He can do this because he has prepared them for their trial beforehand by face-to-face, personal leadership. Woodward was a very competent commander and knew intuitively what has been concluded about leadership in this article. He did not worry about the Nelsonian ideal of personal leadership in battle because it would have availed him little - after all who would have seen it?

In the final analysis Woodward is not the heroic figure that some envision; nor is he the incompetent that others portray. He was hampered by a poorly constructed C2 architecture that was, at best, a miscalculation by superiors and, at worst, the result of peer rivalry and interference. He worked earnestly to manage in a warfare discipline that was not his forte - air defence - yet was prevented from applying his expertise in one that was submarine operations. He relied heavily on and sincerely praised his staff yet did not see their weaknesses. He was prepared to ignore superior direction yet chose not to correct a junior's misjudgment when, in retrospect, he should have. He was a thoughtful, sensitive and considerate man yet over-extended his people without hesitation.

From this list of paradoxes Woodward emerges as something less than a hero but never a coward as some of the British tabloid press averred.³⁰ A hard-pressed, somewhat enigmatic commander beset by difficulties from above and within, Woodward succeeded against the odds. He sums up the Falklands War very well when he describes it as 'a damned close run thing'.³¹ Woodward had but to lose or heavily damage one carrier and the British effort would have foundered.

About the Author

Commander Tom Mueller works on future warfare concepts and experimentation in the Military Strategy Branch of Defence

Headquarters. He is a PWO(Direction) with 10 years experience in warfare practice and instruction. A graduate of the first tri-Service Staff Course in 2001, he holds a Masters in Management (Defence Studies).

¹ Expresses a command and control philosophy whereby

commanders specify to subordinates what to do, not how to do it. Places a premium on flexibility and subordinate commanders' initiative in tactical decision making. Directive control allows commanders to adapt to changing circumstances, exercise flexibility, demonstrate initiative and anticipate events to gain operational advantage. It relies on centralised planning and decentralised execution. http://eno-n6.hq.navy.mil/n6c/ac2/auftragstaktik_summary.htm ACSC, 2001, The Command, Leadership and Management Handbook, p. 1.3, Articles 1.9-1.11 ³ Michael Clapp & Ewen Southby-Tailyour, Amphibious Assault - The Battle for San Carlos Water, Orion Books Ltd, London, 1997, pp. 70-73. ibid, pp. 40-41. ibid. pp. 63-64. ibid, p. 83. ⁷ Admiral Sandy Woodward (with Patrick Robinson), One Hundred Days, The Memoirs of the Falklands Battle Group Commander, Naval Institute Press, Annapolis, 1992, pp. 122-23. ibid, p. 323. First among equals 10 Clapp, op cit, p. 64. 11 ibid, pp. 7-8, 338. 12 Woodward, op cit, p. 127. 13 ibid, p. xviii. 14 ibid, p. 154-55. ¹⁵ The legitimacy of the Belgrano sinking has been subject to debate but is immaterial to this discussion. 16 Woodward, op cit, pp. 204-205. 17 ibid, p. 343. 18 Brigadier Julian Thompson, No Picnic - 3 Commando Brigade in the South Atlantic: 1982, Leo Cooper in association with Secker & Warburg, London, 1985, pp. 69-71. ¹⁹ Commander 'Sharkey' Ward, Sea Harrier over the 19 London, 1993, pp. 179-Falklands, Orion Books Ltd, London, 1993, pp. 179-180, 355. 20 ibid, pp. 66-68. ²¹ ibid, pp. 357-358. 22 Woodward, op cit, p. 175. 23 ibid, p. 34. 24 ibid, p. 49. 25 ibid, pp. 16, 18, 21, 201, 203, 298. ²⁶ Discussion with Jim Kearns, a Chief Petty Officer serving onboard HMS Sheffield Woodward, op cit, p. 345. (emphasis in original) 28 ibid, p. 342 29 Michael A Palmer, 'The Soul's Right Hand', Command and Control in the Age of Fighting Sail, 1652-1827, The

Journal of Military History, 1997, p. 700.

30 Woodward, op cit, p. xvii.

31 ibid.



USS Peary in a tranquil moment before her violent end (US Navy)

F inding wrecks underwater is a very hard task, as this writer knows to his regret. For some three years, whilst exploring shipwrecks in Darwin, Navy Dive Team 11, under the command of Lieutenant Steve Cole, and with the writer providing research analysis, tried to find the wreck of the Boova. This is a 120' steel schooner lost with five people in Cyclone Tracy. We knew her location at 1600 on 24 December 1974; by morning of the next day she was lost, and has never been seen since. Dive Team 11 carried out occasional searches for her in a number of areas. You would be excused for thinking it could not be that hard. Darwin Harbour has in part been surveyed since Tracy. The harbour is extensively dived, and because of her steel hull, the wreck is probably intact. The harbour is not very deep, and we knew how long the Cyclone blew for and how far Boova could go and in what direction. But she eludes us still. Someone will find her one day, but it will probably be by accident.

Why is wreck finding so difficult? Firstly and rather simply - the sea is very big. Most land people don't realise the extent of oceans because they rarely go to sea, but once out of sight of land you begin to understand that the sea is very large and featureless. There are few navigation markers in the sea and we tend to navigate by surface markers. Navigation by looking at the seabed and understanding depth contours is of course possible, but highly unusual and rather difficult. So knowing where you are has been for centuries a vague approximation, which is not much good if you're looking for something a few hundred feet long and a few score wide.

What tells you that a wreck is underneath you? Not much - a depth sounder can give you some idea, but the seabed is not a smooth regular surface, and a large rock looks just the same on a depth sounder as a Spitfire or a small watercraft. Most wrecks are covered in mud. coral or weed, and quite often half sunk into the seabed. Many are broken up by the disaster that sent them to the bottom - running aground, collision, or an explosion. A single seat fighter like a Kittyhawk or Zero will usually crash into the sea with wheels up, as that is the standard way of crashlanding an aircraft in water. So if it is upright, that aircraft will only present a wreck around two meters tall, and over time the wings are silted over and the aircraft decreases in height above the surrounding seabed. A wreck like this is almost impossible to find unless you employ devices like a magnetic spectrometer, but even these can be thrown off depending on the composition of the surrounding seabed.

Most people trying to find wrecks use a combination of a depth sounder and a series of triangulations - that is, three points on shore lined up to give a datum point in the ocean. These can be semi-permanent markers or natural features - so Mountain X looking like Y and a cardinal marker on a nearby rock lined up with a house roof a kilometre behind it. Many of us

therefore mourned the move of a large set of chimneys from Darwin's wharf in the mid-1990s, for the disappearance of some good sets of 'marks'.

However, finding a wreck in this way is fine when you know it's there and you or someone else has established a good set of marks, although if the marks are too broad or the depth sounder too fine it can still be a frustrating time. Finding a wreck for the first time using just a depth sounder is nigh on impossible. Added to these difficulties is the fact that its footprint is quite small. Many will sweep an area of a few metres depending on the depth, but when you're looking for a small aircraft or boat you can easily miss the target. A boat loosely over the wreck site can track backwards and forwards for a long time without getting lucky and don't forget that a 'hit' means a fast stop and faster anchoring before the boat drifts, and then a descent by divers to check out the result. And the result can be both amusing and frustrating: 44 gallon drums; rocks; old cars; kelp beds or perhaps even nothing - a fish school that has moved. And that is a dive done and wasted.

Tracking by boat is also rather useless for a variety of other reasons. Firstly the wind and water movement such as currents or tides can mean that you are tracking over the same spot which you now think is a new one. The only real way to search systematically in this fashion is to mark your first line's beginning and end with buoys - and they had better be on the same lengths of line. Then a right angle turn to search a line along from it, and when you have done a series of lines smaller than the wreck you're after another two buoys to mark the other side of the square. Then another square and another two buoys; return and get the first two and so on. Better take lots of fuel, coffee and patience.

Divers can be used in this 'square search' technique. But once dived, the diver is inside the dive tables that mean a certain amount of surface time is needed before a certain depth can be exceeded, limitations that mean you need to use your divers slowly and carefully. Dived searches are really only for occasions when buoys can't be used - the current might be too strong - or you're reasonably sure that you're in the right place. A circular search is also useful. This involves a length of line - variable depending on the number of divers involved, and a descent to stretch the line out from one end, which is tied to the anchor. Even one diver can do this search, in that the wreck if found will snag the line. However, there's a limit to this -100 metres of rope will invariably be too unwieldy for one diver and get snagged on small rocks. So divers spaced out at regular intervals is preferred.

Of course, wreck finding by divers underwater is all very fine in good visibility. If you can see 15-20 metres or even more then a small ship on its side stands out quite well. If the divers are put down in 'zero visibility' or something close to it - one or two metres visibility - a wreck can be literally alongside and you won't see it. Added to the difficulties is the lack of colour. Reds and yellows quickly disappear and everything is a bluey-green. There's also sediment that quickly 'silts up' a wreck, so a bollard resembles a rock, and interesting sidelights such as wobbegong sharks; cruising groper and myriads of fish to provide much diversion. It's easy to be distracted and find such a search very frustrating.

However, it seems that nothing deters people in search of shipwrecks. Perhaps it's the mystery; perhaps it's the romance, but it seems logic disappears from human comprehension when wrecks are the subject.

The USS *Peary* was sunk on 19 February 1942 in Darwin Harbour. Interestingly, *Peary* also represents an example of the 'easilylost' shipwreck type. Although she was sunk at anchor, in view of hundreds if not thousands of people, her wreck was 'lost' and remained so despite the efforts of US War Graves Commission people after the war.

Eventually she was found by accident in 1956 in a 'hole' around 35 metres deep rather than the usual 20: testimony to the size, murk and difficulties of Darwin Harbour, and the ship probably dragging her anchor as she sank.

This so far sounds quite a depressing picture: wrecks are often not what they seem, and they're exceptionally difficult to find. So, what is the best way to find wrecks? The answer is expressed in one word: intelligence. The more you know about how, when and where a ship or aircraft went down the closer you are to narrowing your search, spending less time and money cruising about on a featureless ocean, and getting a lot less frustrated. The intelligence obviously comes from survivor reports; thirdparty controllers such as Air Traffic Control; shipping route managers and so on, and also from a fair bit of educated guesswork. So, for example, when the *Peary* went down interviews¹ with Mel Duke and Dallas Widick - two of the seamen survivors - would have revealed that she was anchored but in the process of raising that anchor when she was fatally hit in the stern by bombs. Dallas thinks the anchor was probably "short-stayed";² that is, the cable was pulled in to the extent where it was straight up and down, thus meaning the anchor was almost cleared from the seabed and not providing much purchase. We could also have told from local



Boova (Don Jorgensen)

newspapers what the tide was doing at the time of the attack (0956). Educated guesswork would reveal the ship therefore would be expected to move towards the harbour mouth, but not too far - and that indeed corresponds to the *Peary*'s final resting place.

That doesn't mean that intelligence work is always successful. George Tyers, a diver who was working around Darwin Harbour in the 1970s after Cyclone Tracy, came across a lifebuoy outside Darwin Harbour when returning from a dive site where he had been working.³ He saw the lifebuoy was tied to a rope descending into the water, and furthermore recognised it as belonging to the *Booya*. George tied his boat to the buoy, as he had enough air left in one of his tanks for a quick dive. He descended and found what looked like a large masted vessel on its side, but low visibility and little air meant that was the extent of the dive. He later registered a salvage claim but wasn't able to take it up. Years later, we took George to the very spot where he thought the wreck lay. However, despite divers and equipment being deployed, the search was fruitless.

Some people might think the answer lies in simply using better equipment, and indeed, there is much modern technology that can prove useful. However, it is usually extremely expensive to deploy, although often successful when it is. Around five years ago, I was researching the Florence D, a freighter of 2638 tons gross.⁴ She was north of Darwin on 19 February 1942 when attacked by aircraft from the ex-Pearl Harbor carrier group which had just bombed and strafed Darwin. Florence D sunk with the loss of three men, and the survivors made it to nearby Bathurst Island. A RAAF P3-C Orion was testing some new equipment in the area, and we were able to ask for trials to be conducted in the area where research thought the Florence D might be found. The Orion found the ship within two days. She lies in an area a considerable distance from Darwin however, and financially it has not yet proved feasible to visit her.

Finance is also a considerable barrier to wreck searching with high technology such as the Orions' Magnetic Anomaly Detectors - the boom that projects from the tail of these aircraft, or the Navy's Laser Airborne Detection System. Similarly one cannot easily obtain a Navy vessel which is equipped with sidescan sonar, magnetic sensing gear. Remote Operated Vehicles and so on. One rule which does also relate to this area is that the deeper the sea the more difficult and the more expensive the search is. (The Florence D was found in waters only around 60 metres deep.) Scuba divers are limited to depths of around 60 metres; beyond that the equipment and skills needed are rarer and more expensive -'saturation' diving requires a recompression chamber, for example. Deep-sea hard suits are also ship dependent - that is, they require attendants and equipment on the surface which

scuba does not. Bathyscapes, ROVs and submarines are much more expensive still.

Another consideration is the further away from land the more costs are incurred - the ships employed have not only to be capable of finding the wreck but also must supply accommodation for a large and diverse ship's company. The cost equation is also often 'openended' - that is, a search for a wreck would not be very sensible if ships, personnel and equipment were deployed just for one or two days of searching. But at what point does the operation stop? After two weeks of fruitless searching there would always be that nagging suspicion that if one stopped now the object of the search might have been found with another hour of looking....

In summary, wreck finding is the stuff of dreams which most of the time don't measure up to reality. The practicalities of the techniques involved are difficult in many respects: skills necessities; equipment requirements; monetary considerations. There are number of multiplier factors that must be considered too: intelligence available; depth and distance to the target site even benefits returned from a successful search. Wreck finding - dreams and reality - is a subject that is practiced more in the breach than the observance.

About the Author

Lieutenant Tom Lewis teaches naval history, politics and strategic studies at the RAN College in Jervis Bay. For 11 years he researched ship and aircraft wrecks in the Northern Territory, leading to the publication of books such as Wrecks in Darwin Waters, Sensuikan I-124, and articles including 'The Navy and Cyclone Tracy'. A qualified divemaster, for many years he has scuba-dived around Australia and overseas. He contributed an article on possible Japanese submarine involvement to the most recent HMAS Sydney inquiry.

¹ The US War Graves Commission spent some time after WWII looking for the *Peary* to no avail. It is not known whether they interviewed survivors to determine the wreck position. *HMAS Quadrant* eventually found her by accident in 1956 by running over the top of the wreck with a depth sounder operating.

 ² Conversation with the author, 1995 Bombing of Darwin commemoration ceremony, Darwin.
 ³ Tvers, George, Diver around Darwin and the

⁴ *Florence D* was originally called *Lake Farmingdale*, and built in 1919 by the Superior Ship Building Company in Superior, Wisconsin. At the time of her sinking she was owned by Cadwallader-Gibson Lumber Company and was operating out of Manila with a Philippine crew.

Northern Territory. Interview and dives with the author, 1990-1999.



Douglas Ridd has just returned from a five-month deployment in Bougainville. In this article he describes his experiences.

In 1997, under a New Zealand brokered peace, an unarmed force lead by NZ was sent to Bougainville to monitor the peace settlement. This initial group was called the Truce Monitoring Group (TMG). In 1998, the Australian Government took control of the TMG and it was renamed it the Peace Monitoring Group (PMG). The PMG comprises members of the Australian Defence Force, Australian public servants, New Zealand Defence Force, Fijian Defence Force, and Ni-Vanuatu Police and Defence Force Officers.

I was one of fourteen civilians, as part of a large multinational force of seventy-five that were monitoring the fragile peace in Bougainville over the period December 2001-April 2002.

Initial Training

For civilians, the first stage of the Bougainville 'experience' is a two-week language course where we are instructed in Tok Pisin. This language is a version of Pidgin English and Pidgin Melanesian. It is a very simple and colourful language; though many English words are missing from Tok Pisin. As a consequence, much of Tok Pisin is spoken in order to get a point across. In English, often it is very easy to ask for something or to make a direct point. It is not so easy in Pisin as one must speak around something. Often a mistaken identity is assumed because there is no definite way of requesting something in Tok Pisin (as compared to English) and you have to listen to a long and lengthy conversation. To compound this, there is often more than one meaning for something and words can easily be mistaken if you miss part of a conversation.

After the language training, the civilian monitors are taken to far north Queensland for some familiarisation training. Often this is the first experience that civilian monitors have with the military and humidity, however, everyone is in high spirits as this is the real start of the Bougainville experience. Bamaga is ten days long - during this time the civilians are instructed on the use of compasses, maps, military radio procedures, first aid and the correct and most comfortable method for hiking in army boots. This is also the first time where we sleep in tents, on fold-up camp beds, and where we are introduced to Army ration packs.

After Bamaga, we deploy to Bougainville. We travel to Townsville where we board a RAAF C-130 Hercules transport to Bougainville. It is a 4-hour flight that is pretty uninteresting, except for when we fly over some of the pacific islands that proudly show off their magnificent blue water and brilliant white sand.

After touching down and being slapped in the face by humidity, I remember my feelings of angst as we were getting a brief from the transport Warrant Officer. He was providing a brief on the procedures if there was a roadblock on the way to the headquarters complex at Loloho. I remember keeping a keen eye out for any suspicious characters that may be lurking about or any trees that may be felled across the road.

Ground Liaison Officer

For the first three months I was the 'Ground Liaison Officer' (GLO), responsible for tasking helicopters to transport patrol members to particular areas in order to achieve the mandate of the PMG. Requests for flights would be submitted to me and then I would formulate daily flight details for the helicopters. The work itself was very demanding whilst I was there. Because the peace process was getting into its final stages, the PMG was doing a lot of support work to the United Nations in their mandate to disarm the island and to form a lasting peace. Thus many plans were changed at the last minute and one's sense of humour was often tested.

Air transport was contracted outside of defence to a private contractor. Hevilift is a PNG headquartered company that has been operating for 27 years and have a fleet of aircraft that operate around the world. Whilst I was in Bougainville, the Hevilift pilots came from NZ, Australia and a couple came from the USA. There were two dedicated twin engine Bell 212 Iroquois helicopters, capable of transporting 12 passengers and one ad-hoc Bell 206, capable of transporting 6 passengers. This smaller helo was used extensively by the UN and it was a helicopter that the PMG used from time to time.

Weapons Containment

On December 6, 2001, the very first weapons containment ceremony was scheduled to take place at the village of Piva in the district of Torokina. The community of Torokina had decided to show the world that they didn't require weapons as the crisis was now over. Weapons that were used during the crisis, many of which were weapons from the Second World War, including some Bren guns and American .303 rifles - in very serviceable and working order, were contained in small, grey trunks and then locked away in a large, white container.

Preparations for the ceremony were held over several weeks as the enormity of the ceremony was publicised around Bougainville and Papua New Guinea to garner further support and awareness. As a demonstration of good faith, representatives from the Government of Papua New Guinea, and, the Australian and New Zealand High Commissions were going to travel to Bougainville to support this positive and tangible development in the peace process.

As the GLO, it was my responsibility to organise helicopters to transport the delegation from the island of Buka in the north of Bougainville to the district of Torokina, located in the central west part of the island. There were 30 people expected in the delegation as well as many Bougainvilleans that needed transport from different locations around the island to witness this very historic occasion in Bougainville's history.

I had spent the entire day before the ceremony organising helicopter schedules and timings. I had, at my direction, the two Bell 212twin engine Huey's, and one Bell 206 helicopter - timings around the island are very precise.

It takes a certain amount of time to travel from one end of the island to the other and then you have to account for refuelling in order to make the distance back again. I had agreed with the pilots that the helicopter's would not stay on the ground any longer than the two minutes available at a particular location. In order to maximise the limited time available, if the designated passenger was not there within two minutes, the helicopter was to leave and travel to the next coordinates to collect the next person on the itinerary.

On the actual day, the first helicopter left the PMG headquarters at dawn. As a consequence of PNG restrictions, flying is permitted only during daylight hours. Traditionally, Bougainvilleans do not have the same conception of time as westerners - in fact, a well-known saying of the Bougainvilleans is that we have very fancy watches but we do not know the true meaning of time. However, much to my surprise, most of the Bougainvilleans did



make the helicopter-landing zone on time and boarded the helicopter as requested. There were a few that did not make the zone or went to the wrong location. However, these five people, by their absence, made things easier for me at the end of the day because the helicopter did not have to go to their village which allowed me to make up some time and distance in the rapidly deteriorating daylight hours.

In the end, the only part that was not really on time was the flight from Port Moresby (POM). However, all of the Hevilift helicopters were in Buka, waiting for the chartered flight from POM to arrive. Fortunately, there were some dignitaries that failed to arrive from POM on the charter. This allowed some seats on the helicopters to be made available to the huge number of media members that had tagged themselves onto the POM flight.

It was a very memorable sight - seeing three helicopters, filled to the brim with people, lift off in formation to attend the ceremony at Piva. It was also a personal reward to test my own planning limits in ensuring that the day was a success. At Piva, weapons were successfully contained and the whole transport scenario was played out again - though this time it was in reverse with the dignitaries returning after witnessing the very first weapons containment in Bougainville.

The last helicopter touched down at headquarters just after dusk. One of the contingencies that was debated was the possibility that some PMG members would have to be left in Torokina because there would not be enough daylight for a helo to fly to Piva to bring PMG members back. Fortunately, some Bougainvilleans decided to stay overnight in the village of Piva and then make their own way back to their home locations, thus freeing up some space on the helicopter to allow PMG members to return home.

The last two months I was employed to keep track of the various weapons that were being voluntarily handed in by the various factions from the crisis. Weapons were being contained as a positive demonstration of the peace process and of the genuine effort that was being made that Bougainville was now ready for peace. As an aside to this role, I also wrote a 10-15 minute daily radio bulletin for 'Radio Bougainville'; the only radio station in the country. This radio presentation was given during the evening and was a good way to inform the Bougainvilleans of what the PMG was doing and where we would be located.

Life with the PMG

Some of the non-work related functions that 1 experienced included Melbourne Cup celebrations, Christmas, New Years Eve, Australia Day, a birdman rally and a casino night. Every night there was a movie screened after dinner. There were always plenty of books to read and videos to watch. There were a lot of things to do when not on duty, although one was always on call in case something were to happen.

The PMG provides a large amount of employment opportunities for Bougainvilleans: cooks, cleaners, mechanics and security guards. This is due, in large part, to the drawdown of the number of PMG members; previously up to 300 personnel, now 75 members. In order to complete the same amount of work that was completed previously, locally employed civilians are used extensively. This is good for the PMG as many of the LEC's were former employees of the mine and have much experience in their trade. Much work is

completed for the PMG at the same quality and standard as work completed in Australia - but at a third of the cost. This is not an indication that the PMG pays its LEC's at very low rates - in fact, the rates that the PMG pays are very high. It's just that the standard of pay rate in Bougainville is quite low compared to Australia. On the flip side, items are pretty cheap in Bougainville - there are plenty of fish and fresh fruit and vegetables to buy at the local market.

Bougainville has been a great experience and one that I will remember for life. I will not forget how the people of Bougainville are trying to eke out a life from nothing and how they are trying very hard to make things better for themselves. It has been a very memorable and enlightening experience.

About the Author

Douglas Ridd works in Navy Headquarters, in the Directorate of Navy Strategy and Futures. Previously, he has worked for Corporate Services and within Air Force Headquarters. Douglas was part of the Department of Defence's 12-month Graduate Program moving from Victoria to Canberra in February 2000.





Shiphandling Corner

Manned Model Ship Simulation - Using technology in a different way.

By Commander Ray Griggs, CSC, RAN

We often think

of technologically advanced simulation simply in terms of computers and the amount of fidelity in the graphical presentation. In the maritime field, bridge or ship simulators have very much been viewed in this vein. In this edition I am going to look at fascinating shiphandling training facility which I was lucky enough to visit during a recent port visit to Newcastle. This facility puts a very different spin on the use of technology in shiphandling simulation.

The facility is the Australian Shiphandling Centre (more commonly known as Port Ash), which is located on the Pacific Highway north of Newcastle. The centre is represents the marriage of two passions for Captain Cliff Beazley, namely a lifelong passion for models and his passion for the sea, piloting and shiphandling. The centre consists of a 2-hectare port facility, two manned 1:25 scale ship models and a fleet of modern model tugs, which provide for very realistic tug control.

Manned model simulation is not a new phenomenon having its origins in the 1960s when Esso opened its Port Revel facility in the French town of Grenoble. In later years similar facilities were built in both Southampton and in Poland. The Australian facility, which was only opened last year, is the only one that offers year round training due to its temperate climate.

Aim of the Centre

The aim of the centre is to teach practical shiphandling skills, particularly shiphandling and control of ships at low speeds and in confined or shallow waters. There are a number of target markets, firstly harbour and coastal pilots, exempt masters and mates, nonexempt senior officers as well as the general merchant deck officer. Those aspiring to be harbour pilots who want to expand their experience base and update skills can do so in an safe environment.



Manoeuvring off the berth

The centre is also proving useful from a research and development perspective. At least one port authority has invested time and money in modelling a proposed port development using the Port Ash harbour. This included laying of representative breakwaters, wharves and other harbour features and generating realistic swell patterns to determine the impact of the proposed development on port operations.

What is taught?

The main course at Port Ash is a five day 40 hour course, normally conducted for two students at a time (so as to maximise the practical shiphandling exposure). Of course this can be modified as required by the centre to meet customer requirements.

The course covers shiphandling theory as well as practical exposure to wind and tidal stream, shallow water effects, bank, channel and interaction effects, tugs, anchors and thrusters as well as manoeuvring in narrow waters, navigating through bridges, buoywork and hot and cold berthing. The course can be easily tailored for specific needs.



Manly Cove connects up

Scale and its Impact

One thing that the student at Port Ash has to come to grips with is the compression of time that is attendant with working in 1/25th scale. Time is compressed by a factor of 5, that being the square root of the scale. As an example, an evolution that takes 24 minutes to conduct has a scale time of 2 hours. Likewise a speed of 4 knots represents a scale speed of 20 knots. I must say this concept made me a little wary before I actually started driving the ships around. Because the port facility has been meticulously scaled there is no doubt that it certainly feels like you are doing 15 knots when in reality you are doing only 3 knots. Notwithstanding, other scales can be used if required (1/25th is a little impractical for a warship design for example due to beam constraints).

The biggest mistake you can make is to view the scale model ships as 'toy boats'. The vessels accurately represent the real thing so the same amount of thinking ahead and planning that is required in reality is required at Port Ash. This was particularly so when it comes to reducing speeds at realistic distances. I must say I found myself immersed in the scale world within about 15 minutes and because there were real beacons, buoys, shoals and wharves I found it much more challenging and engrossing than computer generated simulation.

Port Facility

The port facility provides a wide range of challenges and opportunities (see the chartlet on page 41). It has a number of different types of wharves with different alignments and aspects providing a range of shelter or exposure to or from the wind. It also has a deep water section, a lengthy canal section with a 120 degree horseshoe turn, turning buoys, a dedicated section to exhibit the practical impact of bank effect and an anchor bay with gravel and sand bottoms to show the impact of differing bottom types when using an anchor as part of berthing and unberthing.

Another interesting feature is the number of advance and transfer transits, which help give an excellent appreciation of the actual distances traversed during particular manoeuvres.

Tidal stream can be simulated in a number of places by the placement of electric motors which generate the appropriate rate of stream, this can be used equally well for general manoeuvring in a stream, turning in and out of channel with a stream running or berthing with stream at different angles to the berth.

Two SPM moorings are at either end of the port and are very useful for buoy approach practice.

The Ships

At present the centre has two scale ships, a 40000dwt Handymax vessel 'Triton' representing a 180m long, 32m beam and an 11m draft vessel with a single fixed pitch right hand turning propeller. Triton is also fitted with a 10 tonne bow thruster, which I found quite responsive and representative of other transverse thrusters I have used.



MV *Triton* with tugs in attendance. The students sit in the bridge area and immediately forward of it. A facilitating pilot is also onboard, as are two dedicated and experienced tug masters to control the tugs in a very realistic way.

The other vessel is the 70000dwt Panamax vessel *Mentor* 225m in length, 32m beam and 13m draft also fitted with a single fixed pitch right hand turning screw and a bow thruster.

They are supported by a number of tugs from conventional twin screw to a Z peller. These are controlled by experienced tug masters who can realistically give the right effect and importantly provide real time feedback on the effectiveness of particular configurations used and the impact of your orders or manoeuvres. The tugs themselves are radio controlled and I must say they require an enormous amount of concentration to work them safely.

Naval Application?

In its current form Port Ash provides some very useful training opportunities for the RAN. The command teams of the fleet's larger ships for example would find the facility a very good practical way to exercise a number of realistic scenarios. Officers posted to port services organisations would benefit from the greater fidelity offered in the practical shiphandling than in a simulator (the two of course would be used to complement each other). Most simulators struggle to realistically reproduce tug effects and if they do, they lack the deft touch or anticipation of an experienced tug master. For aspiring pilots development of these skills in a controlled environment is a rare commodity. Students on the advanced navigation course would also benefit from some of the advanced shiphandling that can be taught in this facility.



Port Ash living up to its name as an all weather facility

While there is much to recommend about Port Ash as it is, it is the potential development of a distinctively warship ship model that I believe is the most interesting aspect. A purpose built model could provide the RAN with a large amount of flexibility. A generic hull form with the ability to fit single (offset or centreline) or twin rudders and single or twin screws (fixed or controllable pitch) and either transverse or trainable thrusters allows for a realism in each major ship type in service. There are also significant R&D implications with a flexible configuration where new rudder designs for example could be trialed in an operational environment.

With this sort of vessel the options then open up for basic seaman officer training as well as major Fleet Unit navigation courses, Advanced navigation courses and pre command practical refresher training. It is in this last area where I see the Port Ash concept as having a great deal of utility. While the bridge simulator is excellent for in company operations it has always been limited from a shiphandling perspective. Call me an analog man in a digital age but manned model simulation provides that last step, where real environmental effects, real interaction, real tugs and real bumps and grinds can be experienced without the consequences.

A naval variant of the Port Ash ships would cost in the vicinity of \$100,000. It would make our navigational and shiphandling training continuum more complete. After all, it only has to result in one less berthing incident a year to pay for itself many times over. As we all know shiphandling is an appropriate mixture of knowledge, experience and confidence but above all it is a sensory experience. Port Ash enhances all of these in a most effective way. This is a very cost effective and valuable training concept that Navy should examine with some seriousness.

The photographs and graphics in this article have been reproduced with the kind permission of Captain Cliff Beazley from the Australian Ship Handling Centre.



Winter 2002

BOOK REVIEWS

Seapower as Strategy: Navies and National Interests

By Norman Friedman Naval Institute Press, Annapolis, Maryland, 2001, hardcover, 342pp., illustrated, RRP US\$36.95

In the fields of naval strategy, history, and technology, there are few more credible and respected figures than Norman Friedman. His knowledge of these subjects is truly encyclopaedic. Many readers will no doubt be familiar with his previous publications, most notably *The Naval Institute Guide to World Naval Weapons Systems, The Fifty-Year War: Conflict and Strategy in the Cold War*, his illustrated warship design histories, and of course his monthly commentary on world naval developments in the US Naval Institute's *Proceedings. Seapower as Strategy* is his most recent book, and it certainly does not disappoint.



Seapower as Strategy exemplifies the maritime strategists' tried and true method of using historical case studies to support their discussion of concepts. This is clearly one of Friedman's strengths, and he uses it to great effect in describing the leverage provided by seapower under a variety of conditions throughout the last 250 years. When combined with his eminently readable, almost conversational style of writing, the selected case studies illustrate perfectly the choices which governments have made either in exploiting the seapower at their disposal or failing to utilise its advantages. Friedman's ability to distil his knowledge into text with remarkable clarity and deceptive simplicity makes his arguments all the more compelling.

There are two main themes evident in *Seapower as Strategy*. Firstly, Friedman seeks to demonstrate that the character of maritime strategy has shown a remarkable consistency over time. By its character, he means qualities of seapower such as its utility across the spectrum from peacetime to conflict, its flexibility, mobility and endurance, its tendency towards an indirect approach, its ability to provide control of escalation and so on. Essentially, these are the characteristics that allow seapower to offer a wide range of policy and operational choices which land forces and airpower cannot. There are few who would find issue with this view. On the other hand, *Seapower as Strategy*'s second major theme is somewhat more controversial.

Friedman observes that 'in some important ways...the new world of the early twenty-first century recalls the world before the two world wars, a world in which wars were generally limited, and in which seapower was dominant.' Based on this premise, the second major theme of the book is that 'post-Cold War changes are making seapower more important for all countries able to maintain it; in effect these changes are devaluing airpower and ground power while increasing the impact of seapower, and of a maritime approach to national strategy.' It can be cogently argued that seapower offers a range of unique benefits and capabilities which will become much more prominent in future national security considerations. After all, if the management of uncertainty and instability is the challenge of the future, then the versatility of navies, their utility in situations short of actual conflict, their global reach, and their adaptability are all qualities which are particularly relevant to the current and emerging strategic environment. But is this true to the extent of devaluing airpower and ground power? Friedman leaves the final judgement here to the individual reader, and he chooses in the end to treat this aspect with more subtlety than this quotation suggests.

Students of strategy have much to gain from this book. Throughout Seapower as Strategy, the

breadth of Friedman's knowledge is brought to bear to provide examples of how politics, geography, technology, resources, personalities, interests and objectives all intersect to influence strategy. Similarly, professionals will find much food for thought in his treatment of current technological promises such as space-based sea surveillance ('commercial satellite systems are most unlikely to solve the problem'), network-centric warfare (Friedman is clearly an advocate, but still highlights what he calls some definite limitations), and unmanned combat aerial vehicles (he says that if the US fields them they will most likely be based at sea).

A word of advice: do not neglect the book's notes or you will miss much. While I am not normally one to do so, in this case I found myself eagerly shuffling backwards and forwards between the notes and the main text. The former do more than merely support the latter with references. They almost form the basis of chapters in their own right, containing a wealth of fascinating information about technology, history, strategy, and weapons and warship design. The majority reflect Friedman's self-professed interest in how technology and policy intersect. Together with the equally valuable appendices (on naval technology and on the shape of the fleet), they account for almost a third of the total length of the book and are well worth the effort.

Overall, Friedman's style and grasp of key issues make for a very engaging and easy read, which will appeal to the experienced professional as much as the casual reader. *Seapower as Strategy* is a key source, which illustrates how the capabilities of seapower can be uniquely valuable in a nation's political-military toolkit. Friedman concludes with the challenge (borrowed, if memory serves correctly, from Colin Gray) that the sea can be either a barrier or a highway and which one we encounter is ultimately the result of our own choices. It is an emotive challenge, but one worthy of serious contemplation.

I have no hesitation in highly recommending this book.

Reviewed by Doug Steele, Department of Defence.

That Magnificent 9th: An Illustrated History of the 9th Australian Division1940-46

by Mark Johnston. Allen & Unwin, Sydney, 2002, hardcover, xvi, 272 pp., illustrations, maps, index, RRP \$49.95

This book uses photographs - many never before published - to tell the story of the 9th Division in the Second World War, when its exploits in North Africa, New Guinea and Borneo made it the most famous division of the 2nd AIF.

There is definitely a naval dimension to the history of this division. Each of its major battles was influenced by naval operations. In 1941, the Division was able to hold out in Tobruk against Rommel because RN and RAN warships sustained the garrison. The book includes a photograph of HMAS *Vendetta* on one of its thirty-nine perilous voyages to the besieged port. In 1942, the Division played a crucial role in defeating Rommel at El Alamein and finally ending the German threat to the Suez Canal: the vital sea route between Britain and India. Allied naval ascendancy in the



Pacific enabled amphibious operations including the Division's landings at Lae and Finschhafen in New Guinea in1943 and at Tarakan and Labuan in Borneo in 1945.

Johnston acknowledges in his introduction the inherent difficulties in selecting war photographs. For obvious reasons few photographs are taken during actual combat, and most of the images from the field portray men of the 9th either before or after operations. Both soldiers and official photographers self-censor the images they record, so the horror of war is generally notable by its absences. For this book, Johnston faced two added problems: there are few official photographs of the 9th actually engaged in the Battle of Alamein - the images usally published being 'reconstructions'

staged far behind the lines, and there are few private photographs of the Division in New Guinea because soldiers found cameras an unnecessary weight to lug through the jungle. But Johnston has overcome these difficulties to produce an excellent illustrated history. The most striking images in the book are often from private collections, including a shot of an artillery officer during a bombardment at Alamein, catching him in the very act of shouting 'Fire!'. The ill-prepared state in which the 2nd AIF went to war is well illustrated photographically by the enforced widespread use of captured Italian equipment in North Africa in1941.

The only criticism one may make of this book can be laid at the door of the publisher. The book's design is based on Allen & Unwin's 1998 volume 200 Shots: Damien Parer and George Silk and the Australians at War in New Guinea. But That Magnificent 9th, however inexplicably, is printed on a smaller-sized page than 200 Shots. This means that the text and photographs reach almost to the edge of the paper, giving the book a cramped appearance. The general reader - especially anyone with a relative who served in the 9th - will find this book an excellent introduction to the history of the Division's service. The student of military history will also find interest in the photographic details.

Reviewed by John Connor, School of History, UNSW-ADFA

HMAS Sydney II: The Cruiser and the Controversy in the Archives of the United Kingdom Pepers In Australian Maritime Attains No.9

Edited by Captain Peter Hore, RN, RAN Sea Power Centre, Canberra, 2001, paperback, 311 pp., illustrated, available from the Naval History Directorate, (CP4-1-002, Canberra, ACT 2600)

This book is highly topical with further publicity being given to the question of how *HMAS Sydney* was lost. For many years I have been bugged by the so-called experts who think they know better than those who have concluded, after systematic study of available evidence, that the German auxiliary cruiser *Kormoran*, acting alone, was responsible.

Captain Peter Hore, RN, presents in this book the results of his research into British archives for records about the disappearance of *Sydney*. He has done a marvellous job, and in presenting his findings quotes each source in print where necessary. I found his arguments most convincing.



One aspect which should be more widely understood is that, while it is easy to blame Captain Burnett for his error of judgement in closing a suspect ship before establishing her identity, this is a 'Catch 22' situation wherein it is sometimes impossible to communicate with a merchantman from extreme gunnery range.

I can also understand Burnett's reluctance to break radio silence. Throughout my sea time in World War II, we knew that radio silence was most important and were shocked, on arriving in the Pacific in1945, to hear US ships chattering away freely. Many published accounts of this episode state that *Sydney* was not at action stations, but the available evidence indicates that she had guns trained on *Kormoran* so her crew must indeed have been closed up. It is also my experience with German war diaries and reports that these are meticulous in their accuracy. I therefore accept the mass of evidence from the German survivors. The details of other raider encounters are also most relevant.

In sum, I consider this a most valuable publication and one that should be read by everyone with an interest in RAN history. I am thankful that I was not in Captain Burnett's shoes.

Reviewed by LCDR Max Shean DSO, RANR (Rtd)

(Max Shean, author of *Corvette and Submarine*, was awarded the DSO as commander of X24 for the midget submarine attack on a floating dock in Norway in1944, receiving a second award for cutting the Hong Kong to Saigon and Singapore to Saigon cables in1945 while commanding XE4.)





Above: The High Speed Vessel, Experimental Craft One, (HSV-1), Joint Venture, prepares to get underway. Joint Venture is currently on a scheduled deployment in support of Operation Enduring Freedom. (USN)

Left: HMAS Westralia (RAN)

